CABLE SOLUTIONS FOR AEROSPACE AND DEFENCE INDUSTRIES

CABLES FOR GLOBAL PERFORMANCE

CGP WORKS IN CLOSE LIAISON WITH THE MANUFACTURERS OF EQUIPMENTS FOR AEROSPACE AND DEFENCE INDUSTRIES

CABLES FOR GLOBAL PERFORMANCE

omerin

CGP SAS, Cables for Global Performance belongs to the OMERIN group

CABLE SOLUTIONS FOR AEROSPACE AND DEFENCE INDUSTRIES

www.omerin.com

A full range of products and solutions answering to the high requirements of cutting-edge sectors as aerospace and defence industries:

- *Lighter, smaller, more flexible and more reliable wires and cables*
- *High temperature, Fire, Abrasion, Arc tracking, Fluids resistant cables*
- *Products compliant with the most of international standards (EN, MIL, NEMA, SAE, NF ...)*
- *Customized solutions and support for complex and advanced designs*

CGP can today offer you an extensive range of over 600 product references under the major **ELECTROAIR®, CERAFIL®, OMBILIFLEX®, SPIRFLEX®, TWINLINK®, COAXTHERM®, MINOROC®, SILIGAINE®, SILITUBE®, SILIFLAM®, METALTRESSE®** and **COUPLIX®** brands and names.

AT CGP WE USE OUR KNOW-HOW AND TECHNOLOGY TO DEVELOP INCREASINGLY HIGH-PERFORMANCE PRODUCTS

CABLES FOR GLOBAL PERFORMANCE

www.cables-cgp.com

Technical expertise

Since 1947, CGP has acquired a full control of electrical cable manufacturing processes.

Our R&D Department is made up of experienced engineers specialising in metallurgy, plastics, electromagnetic compatibility, micromechanics, data transmission, etc.

Our laboratory is equipped to test and validate the physical, mechanical, chemical and electrical behaviours and fire resistance of the cables we produce.

Men and Women at your service

The technical expertise of our teams is at your disposal, providing responses and solutions to all your requirements.

Our Methods, Quality and Research & Development Departments work permanently together with the aim of constantly improving our products and processes.

All our staff subscribe to this approach with their involvement and constant self-checking at all stages of production.

CGP has been producing high performance cables for harsh environments since 1947

ALL THE TRADEMARKS LISTED BELOW ARE REGISTERED TRADEMARKS OF CGP

TRADEMARKS

CERAFIL®
Miniature ceramic insulated wires for very high temperatures

COAXTHERM®
High temperature coaxial cables

COUPLIX®
Miniature & high temperature thermocouple and extension cables

ELECTROAIR®
Aerospace & Defence wires and cables

ELECTROFEU®
Fire resistant cables for fire safety circuits

MINOROC®
Very high tensile strength synthetic cables

METALTRESSE®
High performance metallic braids

OMBILIFLEX®
High performance special multi-function cables

PLASTHERM®
Special thermoplastic insulated wires and cables

POWER CONNECT®
High performance power cords

TWINLINK®
High temperature controlled impedance twisted pair cables

SILIFLAM®
Very high safety cables for extreme temperatures

SILIGAINE®
High temperature sleeves

SILITUBE® X
High performance fireproof sleeves

SPIRFLEX®
High performance spiral cables

EN 9100
BUREAU VERITAS
Certification

Bureau Veritas Certification, confirms as an EN 9100 approved certification body, that the management system of CGP, has been assessed and found to be in accordance with the EN 9100:2016 / AS 9100:D - JISQ 9100:2016, for the activity of Design, Manufacturing, and Sales of special and standard wires, cables, cords for aviation, defence and space industries.

CABLES FOR GLOBAL PERFORMANCE

CONTENTS

OUR MARKETS & APPLICATIONS

1 HOOK-UP & AIRFRAME WIRES & CABLES

APPLICATIONS: Equipment Interconnect / Avionics / Lights / Actuators / Missile systems

ELECTROAIR® DM, CF, AGZ, NEMA HP4 K...

2 DATA TRANSMISSION CABLES

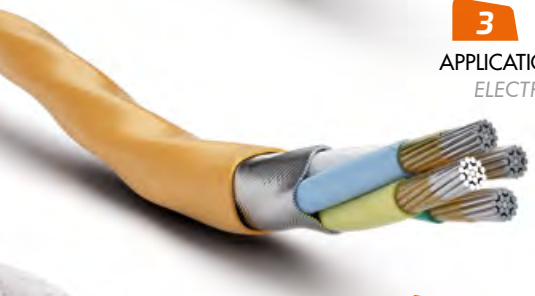
APPLICATIONS: Communication systems / Sensors / Avionics

TWINLINK® FP, FA / COAXTHERM® RG, KX

3 FLIGHT TEST CABLES

APPLICATIONS: Flight test systems

ELECTROAIR® AH 7080, 7083



4 FIRE RESISTANT CABLES

APPLICATIONS: Aircraft engines / High temperature area

ELECTROAIR® FR

5 ARMOURED PERSONNEL CARRIER CABLES

APPLICATIONS: Communication systems

ELECTROAIR® KQ

6 MINIATURE CERAMIC INSULATED WIRES

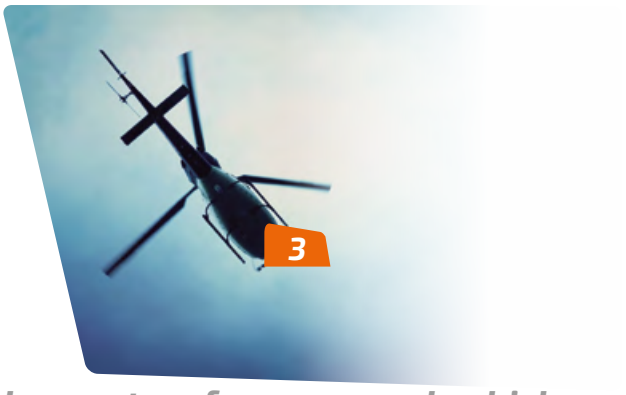
APPLICATIONS: Special winding for motors or sensors / Temperature measurement

CERAFIL® CN8

Civil & VIP / Aircrafts

Space thrusters

Helicopters



Bridge system for armoured vehicles

Fighter aircrafts

Missile systems

Defence tethered balloons

Armoured personnel carriers

7 THERMOCOUPLE & EXTENSION CABLES

APPLICATIONS: Temperature measurement

COUPLIX® K/KX-M-8, E/EX-M-8, KX-M-EE

8 METALLIC BRAIDS & FIREPROOF SLEEVES

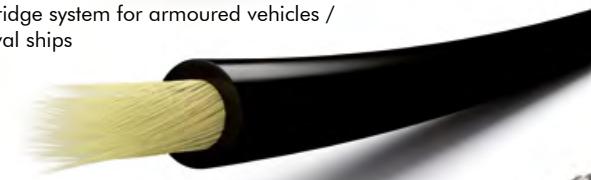
APPLICATIONS: Protection for cable harnesses against high temperature, fire, electromagnetic interferences

METALTRESSE® / SILITUBE® X / SILIGAINE® 33NHO

9 HIGH TENSILE STRENGTH SYNTHETIC CABLES

APPLICATIONS: Bridge system for armoured vehicles / Guard rail for naval ships

MINOROC® P, K



10 SPECIAL PRODUCTS

SILIFLAM® THS (High safety cables)

APPLICATIONS: Extreme temperature area

OMBILIFLEX® (Hybrid cables)

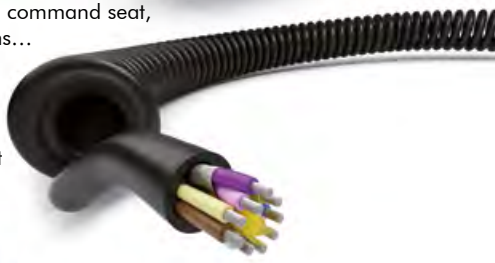
APPLICATIONS: Tethered balloons platforms, Machine tools (aircraft assembly)…

SPIRFLEX® (Spiral cables)

APPLICATIONS: Pilot helmet, command seat, Army communication systems…

POWER CONNECT®
(Power cables with lugs)

APPLICATIONS: High current or voltage area



PRODUCT LIST

HOOK-UP & AIRFRAME EN WIRES & CABLES

FIGHTER AIRCRAFT WIRES & CABLES

HOOK-UP & AIRFRAME NEMA WIRES & CABLES

HOOK-UP & AIRFRAME NF WIRES & CABLES

FLIGHT TEST CABLES

FIRE RESISTANT AND HIGH TEMPERATURE AREA CABLES

ARMOURED PERSONNEL CARRIER CABLES

HIGH TEMPERATURE CONTROLLED IMPEDANCE TWISTED PAIR CABLES

CABLES FOR GLOBAL PERFORMANCE

HIGH TEMPERATURE COAXIAL CABLES

MINIATURE INSULATED CERAMIC WIRES FOR VERY HIGH TEMPERATURES

HIGH TEMPERATURE & MINIATURE THERMOCOUPLE & EXTENSION CABLES

HIGH PERFORMANCE METALLIC BRAIDS

HIGH TEMPERATURE & FIREPROOF SLEEVES

VERY HIGH TENSILE STRENGTH SYNTHETIC CABLES

SPECIAL PRODUCTS ON REQUEST

HIGH PERFORMANCE SPECIAL MULTI-FUNCTION CABLES

VERY HIGH SAFETY CABLES FOR EXTREME TEMPERATURES

HIGH PERFORMANCE SPIRAL CABLES

HIGH PERFORMANCE POWER CORDS

PRODUCT INFORMATION

PRODUCT REFERENCE	STANDARD OR SPECIFICATION	AWG Min	AWG Max	NUMBER OF CORES	SHIELDED Spiral	SHIELDED Braid	JACKETED	PAGE
ELECTROAIR® EN 2266-003 CF Line	**EN 2266**	12	26	1 / 2 / 3 / 4				16
ELECTROAIR® EN 2713-007 CF Line	**EN 2713**	12	26	1 / 2 / 3 / 4	✓		✓	17
ELECTROAIR® EN 2267-007 DM Line	**EN 2267**	12	26	1 / 2 / 3 / 4				18
ELECTROAIR® EN 2714-011 DM Line	**EN 2714**	12	26	1 / 2 / 3 / 4	✓		✓	19
ELECTROAIR® DA6007	**DASSAULT**	10	26	1 / 2 / 3				24
ELECTROAIR® DA6010	**DASSAULT**	14	26	1 / 2 / 3	✓		✓	25
ELECTROAIR® NEMA HP3 ET	**NEMA HP3**	20	28	1				30
ELECTROAIR® NEMA HP3 E	**NEMA HP3**	10	28	1				31
ELECTROAIR® NEMA HP3 EE	**NEMA HP3**	14	28	1				32
ELECTROAIR® NEMA HP4 KT	**NEMA HP4**	20	32	1				33
ELECTROAIR® NEMA HP4 K	**NEMA HP4**	8	32	1				34
ELECTROAIR® NEMA HP4 KK	**NEMA HP4**	8	32	1				35
ELECTROAIR® M6BA-A6	**NEMA HP4 elements**	12	28	2 / 3 / 4		✓	✓	36
ELECTROAIR® MEEBA-AEE	**NEMA HP3 elements**	20	28	2 / 3 / 4		✓	✓	37
ELECTROAIR® KU 01, 03, 04	**NF C 93-524**	12	30	1 / 2 / 3				42
ELECTROAIR® KU 02, 05, 06	**NF C 93-524**	12	30	1 / 2 / 3		✓	✓	43
ELECTROAIR® M7-KU 01	**NF C 93-524 elements**	12	30	4 / 5 / 7			✓	44
ELECTROAIR® M7BE-KU 01	**NF C 93-524 elements**	12	30	4 / 5 / 7		✓	✓	45
PLASTHERM® E40-FR, M-E40-FR	**NF C 93-524**	12	30	1 / 2 / 3				46
PLASTHERM® E40BE40-FR, M40BE-E40-FR	**NF C 93-524**	12	30	1 / 2 / 3		✓	✓	47
ELECTROAIR® AGZ 04	**NF C 93-523 Alternative**	20	32	1				48
ELECTROAIR® AGZ 05	**NF C 93-523 Alternative**	12	32	1				49
ELECTROAIR® AGZ 06	**NF C 93-523 Alternative**	8	32	1				50
ELECTROAIR® M-AGZ 04	**NF C 93-523 Alternative**	20	28	2 / 3 / 4				51
ELECTROAIR® M-AGZ 05	**NF C 93-523 Alternative**	12	28	2 / 3 / 4				52
ELECTROAIR® M-AGZ 06	**NF C 93-523 Alternative**	14	26	2 / 3 / 4				53
ELECTROAIR® AGZ 55, 67, 79	**NF C 93-523 Alternative**	20	32	1 / 2 / 3		✓	✓	54
ELECTROAIR® AGZ 57, 69, 81, 93	**NF C 93-523 Alternative**	12	32	1 / 2 / 3 / 4		✓	✓	55
ELECTROAIR® AGZ 59, 71, 83	**NF C 93-523 Alternative**	12	32	1 / 2 / 3		✓	✓	56
ELECTROAIR® AGF 05	**NF C 93-523 Alternative**	8	32	1				57
ELECTROAIR® M-AGF 05	**NF C 93-523 Alternative**	12	28	2 / 3 / 4				58
ELECTROAIR® AGF 57, 69, 81, 93	**NF C 93-523 Alternative**	12	28	1 / 2 / 3 / 4		✓	✓	59
ELECTROAIR® KZ 04, 07	**NF C 93-523**	12	32	1				60
ELECTROAIR® KZ 05, 08	**NF C 93-523**	12	32	1				61
ELECTROAIR® KZ 06, 09	**NF C 93-523**	12	32	1				62

CABLES FOR GLOBAL PERFORMANCE

PRODUCT REFERENCE	STANDARD OR SPECIFICATION	AWG Min	AWG Max	NUMBER OF CORES	SHIELDED Spiral	SHIELDED Braid	JACKETED	PAGE
ELECTROAIR® AH7080	**AIRBUS HELICOPTERS**	10	26	1 / 2 / 3 / 4				67
ELECTROAIR® AH7083	**AIRBUS HELICOPTERS**	16	24	1 / 2 / 3 / 4	✓		✓	67
ELECTROAIR® FR	**BMS 1367**	*Only on request*				✓	✓	71
ELECTROAIR® KQ	**DGA - SEFT 027**	10	26	3 to 54		✓	✓	77
TWINLINK® FP	**CGP INNOVATION**	22	26	2		✓	✓	82
TWINLINK® FA	**CGP INNOVATION**	22	26	2		✓	✓	83
ELECTROAIR® MIL-STD-1553 W WJC	**MIL-STD-1553**	24		2		✓	✓	84
COAXTHERM® W5BA5 - 50	**CGP INNOVATION**	43		1		✓	✓	90
COAXTHERM® RG 178 BU	**MIL-DTL-17/93**	30		1		✓	✓	91
COAXTHERM® RG 178 BU / PFA	**MIL-DTL-17/93**	30		1		✓	✓	92
COAXTHERM® KX 21A	**NF C 93-550**	30		1		✓	✓	93
COAXTHERM® KX 22A	**NF C 93-550**	26		1		✓	✓	94
COAXTHERM® RG 316 U	**MIL-DTL-17/113**	26		1		✓	✓	95
COAXTHERM® RG 316 U / PFA	**MIL-DTL-17/138**	26		1		✓	✓	96
COAXTHERM® RG 303 U	**MIL-DTL-17/111**	19		1		✓	✓	97
COAXTHERM® RG 142 BU	**MIL-DTL-17/60**	19		1		✓	✓	98
COAXTHERM® RG 400 U	**MIL-DTL-17/128**	20		1		✓	✓	99
COAXTHERM® KX 23	**NF C 93-550**	20		1		✓	✓	100
COAXTHERM® RG 304 U	**MIL-DTL-17/112**	16		1		✓	✓	101
COAXTHERM® RG 115 U	**MIL-DTL-17/92**	12		1		✓	✓	102
COAXTHERM® RG 165 U	**MIL-DTL-17/65**	12		1		✓	✓	103
COAXTHERM® RG 393 U	**MIL-DTL-17/127**	12		1		✓	✓	104
COAXTHERM® RG 225 U	**MIL-DTL-17/86**	12		1		✓	✓	105
COAXTHERM® KX 24A	**NF C 93-550**	12		1		✓	✓	106
COAXTHERM® WABA5 - 75	**NF C 93-550**	38		1		✓	✓	107
COAXTHERM® RG 179 BU	**MIL-DTL-17/94**	30		1		✓	✓	108
COAXTHERM® RG 179 BU / PFA	**MIL-DTL-17/139**	30		1		✓	✓	109
COAXTHERM® RG 59 MINI HT 200C	**CGP INNOVATION**	30		1		✓	✓	110
COAXTHERM® KX 25	**NF C 93-550**	22		1		✓	✓	111
COAXTHERM® KX 6A HT 180C	**NF C 93-550**	24		1		✓	✓	112
COAXTHERM® RG 302 U	**MIL-DTL-17/302**	22		1		✓	✓	113
COAXTHERM® RG 144 U	**MIL-DTL-17/62**	18		1		✓	✓	114
COAXTHERM® KX 8 HT 180C	**CGP INNOVATION**	18		1		✓	✓	115
COAXTHERM® RG 180 BU	**MIL-DTL-17/95**	30		1		✓	✓	116
COAXTHERM® RG 180 BU / PFA	**MIL-DTL-17/137**	30		1		✓	✓	117
CERAFIL® CN8	**CGP INNOVATION**	18	41	1				121
COUPLIX® K/KX-M-8, E/EX-M-8	**CGP INNOVATION**	24	32	2				124
COUPLIX® KX-M-EE	***Inspired of EN 2714***	20		2	✓		✓	125

PRODUCT REFERENCE	STANDARD OR SPECIFICATION	DIAMETER		NUMBER OF CORES	BRAIDED	JACKETED	PAGE
METALTRESSE® GTCA150 & GTCA200	**CGP INNOVATION**	2 mm	20 mm	NA	✓		129
SILIGAINE® 33NHO	**CGP INNOVATION**	1 mm	20 mm	NA	✓		132
SILITUBE® X	**CGP INNOVATION**	8 mm	127 mm	NA	✓		133
MINOROC® P	**CGP INNOVATION**	3 mm	13,5 mm	NA		✓	138
MINOROC® K	**CGP INNOVATION**	5 mm	11 mm	NA		✓	139

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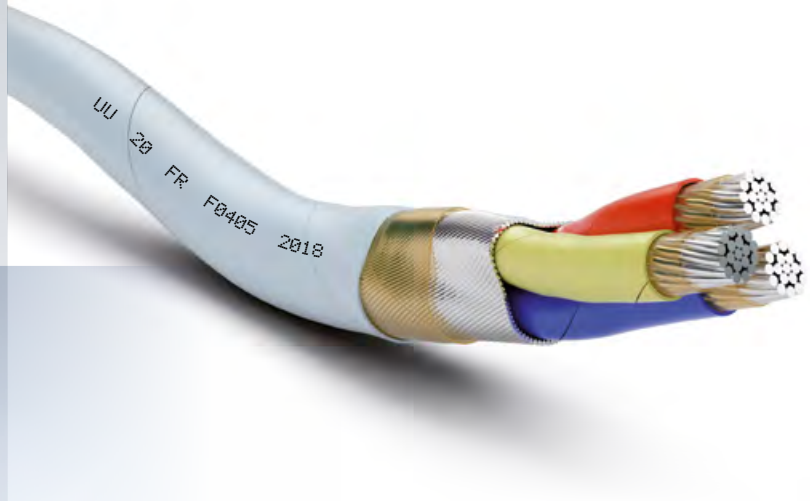


HOOK-UP & AIRFRAME EN WIRES & CABLES

Civil & VIP aircrafts

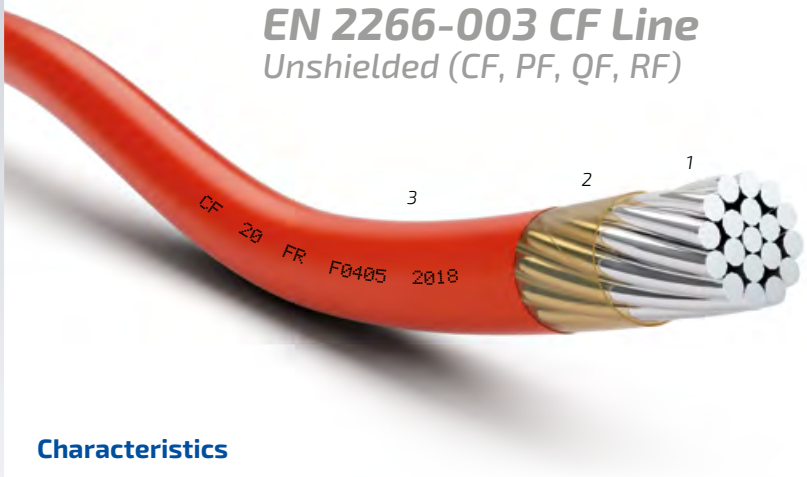
CABLES FOR GLOBAL PERFORMANCE

HOOK-UP & AIRFRAME
EN WIRES & CABLES

CGP reference	Number of cores	Core	Insulation	Shield	Outer sheath	Operating temperature (°C) Mini	Operating temperature (°C) Maxi	Operating Voltage (V RMS)	Cut-through resistance	Abrasion resistance	Aircraft fluids resistance	Flame retardant	Arc tracking resistance
ELECTROAIR® EN 2266-003 **CF-CF**	1	CuNi	Polyimide			-55	+200	600	✔	✔	✔	✔	
ELECTROAIR® EN 2266-003 **CF-PF**	2	CuNi	Polyimide			-55	+200	600	✔	✔	✔	✔	
ELECTROAIR® EN 2266-003 **CF-QF**	3	CuNi	Polyimide			-55	+200	600	✔	✔	✔	✔	
ELECTROAIR® EN 2266-003 **CF-RF**	4	CuNi	Polyimide			-55	+200	600	✔	✔	✔	✔	
ELECTROAIR® EN 2713-007 **CF-SJU**	1	CuNi	Polyimide	CuNi	Polyimide	-55	+200	600	✔	✔	✔	✔	
ELECTROAIR® EN 2713-007 **CF-TKU**	2	CuNi	Polyimide	CuNi	Polyimide	-55	+200	600	✔	✔	✔	✔	
ELECTROAIR® EN 2713-007 **CF-UDU**	3	CuNi	Polyimide	CuNi	Polyimide	-55	+200	600	✔	✔	✔	✔	
ELECTROAIR® EN 2713-007 **CF-VLU**	4	CuNi	Polyimide	CuNi	Polyimide	-55	+200	600	✔	✔	✔	✔	
ELECTROAIR® EN 2267-007 **DM-DMA**	1	CuNi	Polyimide + PTFE			-55	+260	600	✔	✔	✔	✔	✔
ELECTROAIR® EN 2267-007 **DM-PN**	2	CuNi	Polyimide + PTFE			-55	+260	600	✔	✔	✔	✔	✔
ELECTROAIR® EN 2267-007 **DM-QL**	3	CuNi	Polyimide + PTFE			-55	+260	600	✔	✔	✔	✔	✔
ELECTROAIR® EN 2267-007 **DM-RK**	4	CuNi	Polyimide + PTFE			-55	+260	600	✔	✔	✔	✔	✔
ELECTROAIR® EN 2714-011 **DM-GJ**	1	CuNi	Polyimide + PTFE	CuNi	Polyimide + PTFE	-55	+260	600	✔	✔	✔	✔	✔
ELECTROAIR® EN 2714-011 **DM-MH**	2	CuNi	Polyimide + PTFE	CuNi	Polyimide + PTFE	-55	+260	600	✔	✔	✔	✔	✔
ELECTROAIR® EN 2714-011 **DM-UU**	3	CuNi	Polyimide + PTFE	CuNi	Polyimide + PTFE	-55	+260	600	✔	✔	✔	✔	✔
ELECTROAIR® EN 2714-011 **DM-VV**	4	CuNi	Polyimide + PTFE	CuNi	Polyimide + PTFE	-55	+260	600	✔	✔	✔	✔	✔

ELECTROAIR®

EN 2266-003 CF Line
Unshielded (CF, PF, QF, RF)



1 • Nickel plated copper
or nickel plated copper alloy core
2 • Polyimide tape
3 • Fluoropolymer top coat
Available twisted conductors: by pair, triple or quad

Standards and approvals

Construction:
- EN 2266-003
- EN 2266-002
- EN 2083

Performances:
- EN 3475
- FAR 25

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Electrical
Operating voltage: 600 V RMS

• Mechanical
Cut-through resistance: ★★★★☆
Resistance to abrasion: ★★★★☆
EN 3475

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★
EN 3475

• Fire-smoke
Flame retardant
Low smoke density
EN 3475 / FAR 25

Marking *(ink-jet printable)*

1. On customer specification
2. Inspired of EN 2084:
"TR6058 code Gauge Country
CGP NATO Code Manufacturing Year"

Colour code

- Single core – CF: Red, Blue, Yellow, Green, White, Black, Orange
- Two cores – PF: Blue / Red
- Three cores – QF: Blue / Red / Yellow
- Four cores – RF: Blue / Red / Yellow / Green

For any other request: please contact us

Options

Other cross-sections or constructions on request

Applications

General-purpose airframe wires and cables used throughout the aircraft (retro-fit): on the flight deck, in the passenger area, in the wings and surfaces

CGP Reference

EN 2266-003 CF Line:
EN 2266-003A (single core) = **CF CF**
EN 2266-003B (two cores) = **CF PF**
EN 2266-003C (three cores) = **CF QF**
EN 2266-003D (four cores) = **CF RF**

CF CF 1X

AWG	Stranding (n x mm)	Code EN of nominal section	Cross section (mm²)	Cable outer diameter (mm) Mini	Cable outer diameter (mm) Maxi	Maximum linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
26	19 x 0.10	001	0.15	0.75	0.84	2.00	160.0
24	19 x 0.12	002	0.25	0.85	0.94	2.65	114.0
22	19 x 0.15	004	0.40	0.96	1.09	3.90	60.0
20	19 x 0.20	006	0.60	1.20	1.34	6.55	33.2
18	19 x 0.25	010	1.00	1.44	1.59	9.90	21.1
16	19 x 0.30	012	1.20	1.65	1.84	13.90	14.5
14	37 x 0.25	020	2.00	1.90	2.10	18.50	10.9
12	37 x 0.32	030	3.00	2.38	2.60	29.70	6.8

AWG	CF PF 2X		CF QF 3X		CF RF 4X		
	Cable outer diameter (mm) Maxi	Maximum linear weight (kg / km)	Cable outer diameter (mm) Maxi	Maximum linear weight (kg / km)	Cable outer diameter (mm) Maxi	Maximum linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
26	1.68	4.12	1.81	6.18	2.02	8.24	165.0
24	1.88	5.46	2.02	8.19	2.26	10.92	117.4
22	2.18	8.03	2.34	12.05	2.62	16.07	61.7
20	2.68	13.49	2.88	20.24	3.22	26.99	34.1
18	3.18	20.39	3.42	30.59	3.82	40.79	21.7
16	3.68	28.63	3.96	42.95	4.42	57.27	14.9
14	4.20	38.11	4.52	57.17	5.04	76.22	11.2
12	5.20	61.18	5.59	91.77	6.24	122.36	7.0

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CABLES FOR GLOBAL PERFORMANCE

www.omerin.com

ELECTROAIR®

EN 2713-007 CF Line

Shielded & Jacketed (SJU, TKU, UDU, VLU)

1 • One to four wires according to EN 2266-003A
2 • Nickel plated copper spiral shield
3 • Polyimide tape
4 • Fluoropolymer top coat

Standards and approvals

Construction:
- EN 2713-007
- EN 2713-002
- EN 2083

Performances:
- EN 3475
- FAR 25

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Electrical
Operating voltage: 600 V RMS

• Mechanical
Cut-through resistance: ★★★★☆
Resistance to abrasion: ★★★★☆
EN 3475

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★
EN 3475

• Fire-smoke
Flame retardant
Low smoke density
EN 3475 / FAR 25

Marking *(UV laser printable)*

1. On customer specification
2. Inspired of EN 2084:
"TR6058 code Gauge Country CGP NATO Code Manufacturing Year"

Colour code

Jacket: White colour except for AWG 24 / 20 / 16 in Azure blue
• Single core – SJU: White except for AWG 22 in Light Green & AWG 26 in Light Yellow
• Two cores – TKU: Red / Blue
• Three cores – UDU: Red / Blue / Yellow
• Four cores – VLU: Red / Blue / Yellow / Green
For any other request: please contact us

Options

Other cross-sections or constructions on request

Applications

General-purpose airframe wires and cables used throughout the aircraft (retro-fit): on the flight deck, in the passenger area, in the wings and surfaces

CGP Reference

EN 2713-007 CF Line:
EN 2713-007A (single core) = **CF SJU**
EN 2713-007B (two cores) = **CF TKU**
EN 2713-007C (three cores) = **CF UDU**
EN 2713-007D (four cores) = **CF VLU**

CF SJU 1X

AWG	Stranding (n x mm)	Code EN of nominal section	Cross section (mm²)	Cable outer diameter (mm) Maxi	Maximum linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
26	19 x 0.10	001	0.15	1.31	4.60	160.0
24	19 x 0.12	002	0.25	1.40	5.60	114.0
22	19 x 0.15	004	0.40	1.56	7.20	60.0
20	19 x 0.20	006	0.60	1.82	10.50	33.2
18	19 x 0.25	010	1.00	2.07	14.40	21.1
16	19 x 0.30	012	1.20	2.38	20.00	14.5
14	37 x 0.25	020	2.00	2.62	25.40	10.9
12	37 x 0.32	030	3.00	3.17	38.50	6.8

AWG	CF TKU 2X		CF UDU 3X		CF VLU 4X		
	Cable outer diameter (mm) Maxi	Maximum linear weight (kg / km)	Cable outer diameter (mm) Maxi	Maximum linear weight (kg / km)	Cable outer diameter (mm) Maxi	Maximum linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
26	2.15	8.00	2.28	10.80	2.53	14.20	165.0
24	2.34	10.00	2.52	14.20	2.76	17.70	117.4
22	2.65	13.10	2.88	19.00	3.13	24.00	61.7
20	3.20	20.60	3.48	29.50	3.78	38.10	34.1
18	3.73	28.50	4.04	41.80	4.48	53.40	21.7
16	4.25	39.50	4.59	56.10	5.13	75.00	14.9
14	4.83	50.50	5.15	75.10	5.84	102.00	11.2
12	5.88	79.40	6.35	119.80	-	-	7.0

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ELECTROAIR®

EN 2267-007 DM Line
Unshielded (DMA, PN, QL, RK)

1 • Nickel plated copper or nickel plated copper alloy core
2 • Polyimide tape
3 • PTFE tape
Available twisted conductors: by pair, triple or quad

Standards and approvals

Construction:
- EN 2267-007
- EN 2267-002
- EN 4434

Performances:
- EN 3475
- FAR 25

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +260°C**

• Electrical
Operating voltage: 600 V RMS

• Mechanical
Cut-through resistance: ★★★★☆
Resistance to abrasion: ★★★★☆
EN 3475

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★
EN 3475

• Fire-smoke
Flame retardant
Low smoke density
EN 3475 / FAR 25

• Arc tracking resistance
EN 3475

Marking *(ink-jet printable)*

1. On customer specification
2. Inspired of EN 2084:
"TR6058 code Gauge Country CGP NATO Code Manufacturing Year"

Colour code

- Single core – DMA: Red, Blue, Yellow, Green, White, Black, Brown, Orange, Purple, Grey
- Two cores – PN: Blue / Red
- Three cores – QL: Blue / Red / Yellow
- Four cores – RK: Blue / Red / Yellow / Green

For any other request: please contact us

Options

Other cross-sections or constructions on request

Applications

General-purpose airframe wires and cables used throughout the aircraft (retro-fit): on the flight deck, in the passenger area, in the wings and surfaces

CGP Reference

EN 2267-007 DM Line:
EN 2267-007A (single core) = **DM DMA**
EN 2267-007B (two cores) = **DM PN**
EN 2267-007C (three cores) = **DM QL**
EN 2267-007D (four cores) = **DM RK**

DM DMA 1X

AWG	Stranding (n x mm)	Code EN of nominal section	Cross section (mm²)	Cable outer diameter (mm) Mini	Cable outer diameter (mm) Maxi	Maximum linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
26	19 x 0.10	001	0.15	0.85	0.97	2.45	160.0
24	19 x 0.12	002	0.25	0.90	1.04	3.10	114.0
22	19 x 0.15	004	0.40	1.05	1.19	4.43	60.0
20	19 x 0.20	006	0.60	1.38	1.53	7.73	33.2
18	19 x 0.25	010	1.00	1.65	1.82	11.74	21.1
16	19 x 0.30	012	1.20	2.02	2.22	16.95	14.5
14	37 x 0.25	020	2.00	2.29	2.49	22.65	10.9
12	37 x 0.32	030	3.00	2.73	2.97	33.70	6.8

AWG	DM PN 2X Cable outer diameter (mm) Maxi	DM PN 2X Maximum linear weight (kg / km)	DM QL 3X Cable outer diameter (mm) Maxi	DM QL 3X Maximum linear weight (kg / km)	DM RK 4X Cable outer diameter (mm) Maxi	DM RK 4X Maximum linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
26	1.94	5.05	2.09	7.57	2.33	10.09	165.0
24	2.08	6.39	2.24	9.58	2.50	12.77	117.4
22	2.38	9.13	2.56	13.69	2.86	18.25	61.7
20	3.06	15.92	3.29	23.89	3.67	31.85	34.1
18	3.64	24.18	3.91	36.28	4.37	48.37	21.7
16	4.44	34.92	4.77	52.38	5.33	69.83	14.9
14	4.98	46.66	5.35	69.99	5.98	93.32	11.2
12	5.94	69.42	6.39	104.13	7.13	138.84	7.0

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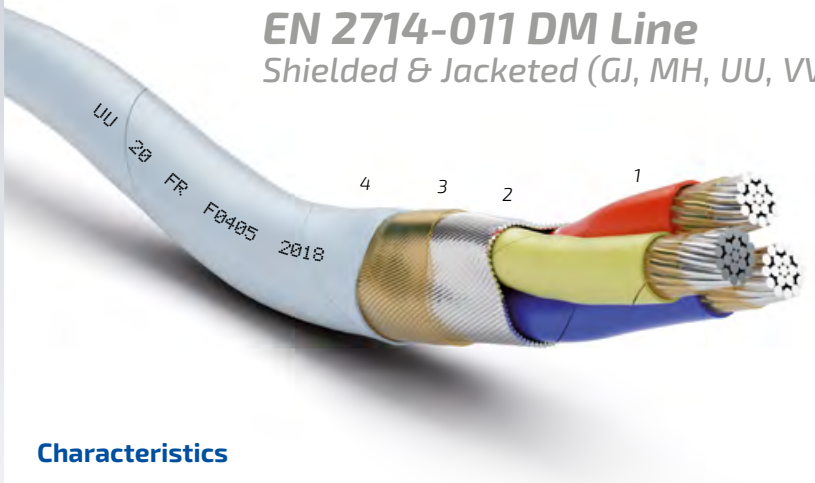
ELECTROAIR®

EN 2714-011 DM Line
Shielded & Jacketed (GJ, MH, UU, VV)



1 • One to four wires according to EN 2267-007A
2 • Nickel plated copper spiral shield
3 • Polyimide tape
4 • PTFE tape

Standards and approvals

Construction:
- EN 2714-011
- EN 2714-002
- EN 4434

Performances:
- EN 3475
- FAR 25

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +260°C**

• Electrical
Operating voltage: 600 V RMS

• Mechanical
Cut-through resistance: ★★★★☆
Resistance to abrasion: ★★★★☆
EN 3475

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★
EN 3475

• Fire-smoke
Flame retardant
Low smoke density
EN 3475 / FAR 25

• Arc tracking resistance
EN 3475

Marking *(UV laser printable)*

1. On customer specification
2. Inspired of EN 2084:
"TR6058 code Gauge Country CGP NATO Code Manufacturing Year"

Colour code

Jacket: White colour except for AWG 24 / 20 / 16 in Azure blue
• Single core – GJ: White except for AWG 22 in Light Green & AWG 26 in Light Yellow
• Two cores – MH: Red / Blue
• Three cores – UU: Red / Blue / Yellow
• Four cores – VV: Red / Blue / Yellow / Green
For any other request: please contact us

Options

Other cross-sections or constructions on request

Applications

General-purpose airframe wires and cables used throughout the aircraft (retro-fit): on the flight deck, in the passenger area, in the wings and surfaces

CGP Reference

EN 2714-011 DM Line:
EN 2714-011A (single core) = **DM GJ**
EN 2714-011B (two cores) = **DM MH**
EN 2714-011C (three cores) = **DM UU**
EN 2714-011D (four cores) = **DM VV**

DM GJ 1X

AWG	Stranding (n x mm)	Code EN of nominal section	Cross section (mm^2)	Cable outer diameter (mm) Maxi	Maximum linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
26	19 x 0.10	001	0.15	1.47	5.63	160.0
24	19 x 0.12	002	0.25	1.53	6.44	114.0
22	19 x 0.15	004	0.40	1.69	8.19	60.0
20	19 x 0.20	006	0.60	2.05	12.42	33.2
18	19 x 0.25	010	1.00	2.33	17.28	21.1
16	19 x 0.30	012	1.20	2.77	24.57	14.5
14	37 x 0.25	020	2.00	3.03	31.16	10.9
12	37 x 0.32	030	3.00	3.49	43.63	6.8

AWG	DM MH 2X		DM UU 3X		DM VV 4X		
	Cable outer diameter (mm) Maxi	Maximum linear weight (kg / km)	Cable outer diameter (mm) Maxi	Maximum linear weight (kg / km)	Cable outer diameter (mm) Maxi	Maximum linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
26	2.43	9.78	2.57	13.07	2.86	17.45	165.0
24	2.55	11.35	2.75	16.36	3.02	20.46	117.4
22	2.87	14.75	3.09	21.33	3.39	26.98	61.7
20	3.62	24.10	3.90	34.73	4.30	44.37	34.1
18	4.19	33.67	4.51	49.00	4.99	62.90	21.7
16	5.02	47.76	5.43	70.38	6.00	90.48	14.9
14	5.61	63.64	5.99	89.85	-	-	11.2

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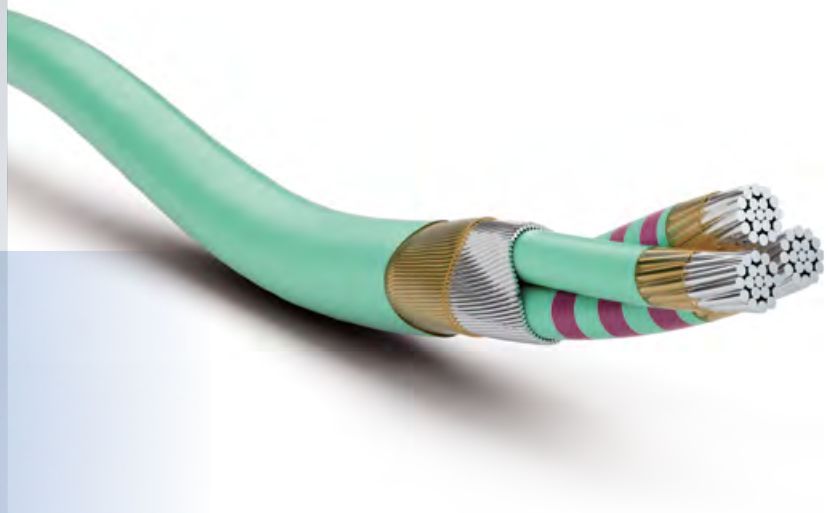


FIGHTER AIRCRAFT WIRES & CABLES

Fighter aircrafts

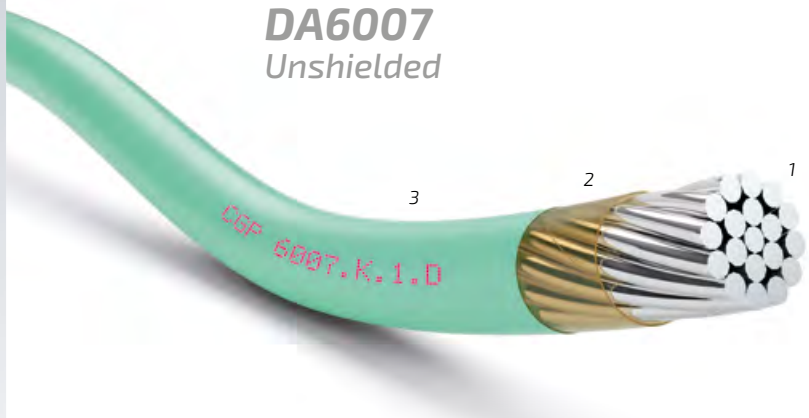
CABLES FOR GLOBAL PERFORMANCE

FIGHTER AIRCRAFT WIRES & CABLES

CGP reference	Number of cores	Core	Insulation	Shield	Outer sheath	Operating temperature (°C) Mini	Operating temperature (°C) Maxi	Operating Voltage (V RMS)	Cut-through resistance	Abrasion resistance	Aircraft fluids resistance	Flame retardant	Arc tracking resistance
ELECTROAIR® **DA6007**	1	CuAg	Polyimide + PTFE			-55	**+200**	600		✔	✔	✔	
ELECTROAIR® **DA6007**	2	CuAg	Polyimide + PTFE			-55	**+200**	600		✔	✔	✔	
ELECTROAIR® **DA6007**	3	CuAg	Polyimide + PTFE			-55	**+200**	600		✔	✔	✔	
ELECTROAIR® **DA6010**	1	CuAg	Polyimide + PTFE	CuSn	Polyimide	-55	**+150**	600		✔	✔	✔	
ELECTROAIR® **DA6010**	2	CuAg	Polyimide + PTFE	CuSn	Polyimide	-55	**+150**	600		✔	✔	✔	
ELECTROAIR® **DA6010**	3	CuAg	Polyimide + PTFE	CuSn	Polyimide	-55	**+150**	600		✔	✔	✔	

ELECTROAIR®

DA6007
Unshielded



1 • Silver plated copper
2 • Polyimide tape
3 • PTFE top coat
Available twisted conductors:
two or three twisted cores

Standards and approvals

Construction & performances:
• Standard AIR 4524/E BNAE File AIR N°6 418 600
• EN 2083
• Certified STPA File N°1797 (Letter N°42284/STPA/CIN.6 of 29/08/1986)

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Electrical
Operating voltage: 600 V RMS

• Mechanical
Cut-through resistance: ★★★★☆
Resistance to abrasion: ★★★★☆
AIR 4524/E

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★
AIR 4524/E

• Fire-smoke
Flame retardant
Oxygen index > 90%
FAR 25

Marking

"CGP 6007.K.N.D Manufacturing Year"
(N = number of cores)
For twisted conductors, only the first wire is marked

Colour code

• DA6007 1X (Single core):
Light Green, Pink or White
• DA6007 2X or 3X (Multicore):
A. First core: Light Green, Pink or White
B. Second core: same colour as first core and two coloured rings (Pink)
C. Third core: same colour as first core and three coloured rings (Pink)

Applications

Electrical lightweight cables for use in the on-board electrical systems of fighter aircraft

DA6007 1X

AWG	Stranding (n x mm)	Cable outer diameter (mm) Mini	Cable outer diameter (mm) Maxi	Maximum linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
26	19 x 0.10	0.74	0.80	1.85	149.0
24	19 x 0.12	0.82	0.90	2.52	106.0
22	19 x 0.15	0.96	1.06	3.74	55.3
20	19 x 0.20	1.21	1.32	6.33	31.0
18	19 x 0.25	1.44	1.57	9.50	19.6
16	19 x 0.30	1.71	1.84	13.40	13.6
14	37 x 0.25	1.97	2.11	18.10	10.2
12	37 x 0.32	2.50	2.65	29.00	6.4
10	61 x 0.32	3.12	3.30	47.52	3.9

DA6007 2X

AWG	Cable outer diameter (mm) Mini	Cable outer diameter (mm) Maxi	Maximum linear weight (kg / km)
26	1.48	1.60	3.70
24	1.64	1.80	5.04
22	1.92	2.12	7.48
20	2.42	2.64	12.66
18	2.88	3.14	19.00
16	3.42	3.68	26.80
14	3.94	4.22	36.20
12	5.00	5.30	58.00
10	6.24	6.60	95.04

DA6007 3X

Cable outer diameter (mm) Mini	Cable outer diameter (mm) Maxi	Maximum linear weight (kg / km)
2.22	2.40	5.55
2.46	2.70	7.56
2.88	3.18	11.22
3.63	3.96	18.99
4.32	4.71	28.50
5.13	5.52	40.20
5.91	6.33	54.30
7.50	7.95	87.00
9.36	9.90	142.56

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DA6010
Shielded & Jacketed

1 • One to three wires DA6007
2 • Tinned copper spiral shield
3 • Polyimide tape
4 • Fluoropolymer top coat
(colour of the outer sheath, see the table below)

Standards and approvals

Construction & performances:
• Standard AIR 4524/E – BNAE File AIR N°6 418 600
• EN 2083
• Certified STPA File N°1797 (Letter N°42284/STPA/CIN.6 of 29/08/1986)

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +150°C**
Available +200°C (see Options)

• Electrical
Operating voltage: 600 V RMS

• Mechanical
Cut-through resistance: ★★★★☆
Resistance to abrasion: ★★★★☆
AIR 4524/E

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★
AIR 4524/E

• Fire-smoke
Flame retardant
Oxygen index > 90%
FAR 25

Marking

No marking on the sheath
Wires are marked (see ref.DA6007 for more information)

Colour code

• DA6010 1X (Single core): Light Green, Pink or White
• DA6010 2X or 3X (Multicore):
A. First core: Light Green, Pink or White
B. Second core: same colour as first core and two coloured rings (Pink)
C. Third core: same colour as first core and three coloured rings (Pink)

Options

Operating temperature until +200°C for 6010 with a silver plated copper spiral shield

Applications

Electrical lightweight cables for use in the on-board electrical systems of fighter aircraft

WIRE (DA6007)

AWG	Stranding (n x mm)	Cable outer diameter (mm) Mini	Cable outer diameter (mm) Maxi	Maximum linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
26	19 x 0.10	0.74	0.80	1.85	149.0
24	19 x 0.12	0.82	0.90	2.52	106.0
22	19 x 0.15	0.96	1.06	3.74	55.3
20	19 x 0.20	1.21	1.32	6.33	31.0
18	19 x 0.25	1.44	1.57	9.50	19.6
16	19 x 0.30	1.71	1.84	13.40	13.6
14	37 x 0.25	1.97	2.11	18.10	10.2

DA6010

Number of cores & AWG	Cable outer diameter (mm) Mini	Cable outer diameter (mm) Maxi	Maximum linear weight (kg / km)	Sheath colour
1 x AWG 22	1.31	1.41	6.10	Light Green
1 x AWG 20	1.53	1.76	10.10	Pink
1 x AWG 18	1.84	2.03	14.20	White
1 x AWG 16	2.12	2.25	18.40	Light Green
1 x AWG 14	2.36	2.59	24.90	Pink
2 x AWG 26	1.80	2.10	6.80	Pink
2 x AWG 24	1.98	2.28	9.60	White
2 x AWG 22	2.28	2.58	12.20	Light Green
2 x AWG 20	2.76	3.06	19.90	Pink
2 x AWG 18	3.26	3.56	26.00	White
2 x AWG 16	3.86	4.16	38.50	Light Green
2 x AWG 14	4.30	4.70	51.10	Pink
3 x AWG 26	1.85	2.15	9.70	Pink
3 x AWG 24	2.11	2.41	14.00	White
3 x AWG 22	2.43	2.73	18.70	Light Green

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CGP reference	Number of cores	Core	Insulation	Shield	Outer sheath	Operating temperature (°C) Mini	Operating temperature (°C) Maxi	Operating Voltage (V RMS)	Cut-through resistance	Abrasion resistance	Aircraft fluids resistance	Flame retardant	Arc tracking resistance
ELECTROAIR® NEMA HP3 **ET**	1	CuAg	PTFE			-90	+200	250		✔	✔	✔	
ELECTROAIR® NEMA HP3 **E**	1	CuAg	PTFE			-90	+200	600		✔	✔	✔	
ELECTROAIR® NEMA HP3 **EE**	1	CuAg	PTFE			-90	+200	1,000		✔	✔	✔	
ELECTROAIR® NEMA HP4 **KT**	1	CuAg	FEP			-55	+200	250		✔	✔	✔	✔
ELECTROAIR® NEMA HP4 **K**	1	CuAg	FEP			-55	+200	600		✔	✔	✔	✔
ELECTROAIR® NEMA HP4 **KK**	1	CuAg	FEP			-55	+200	1,000		✔	✔	✔	✔
ELECTROAIR® **M6BA-A6**	2 to 4	CuAg	FEP	CuAg	FEP	-55	+200	600		✔	✔	✔	✔
ELECTROAIR® **MEEBA-AEE**	2 to 4	CuAg	PTFE	CuAg	PTFE	-90	+200	600		✔	✔	✔	

ELECTROAIR®

NEMA HP3 ET
Unshielded

1 • Silver plated copper core
2 • Fluorinated PTFE tape

Standards and approvals

Construction:
- NEMA HP3
- ex MIL-W-16878/20

Performances:
- IEC 60332-1
- C2 NF C 32-070
- EN 3475
- FAR 25

Characteristics

- Thermal
Continuous operating temperature: **-90°C to +200°C**

- Electrical
Operating voltage: 250 V RMS

- Mechanical
Resistance to abrasion: ★★★★★
EN 3475

- Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★
EN 3475

- Fire-smoke
Flame retardant
IEC 60332-1 / C2 NF C 32-070 / FAR 25

Colour code

Red, Blue, Yellow, Green, White, Black, Orange
For any other request: please contact us

Applications

Electrical lightweight cables used in electronic equipments for aircraft, missile systems or aeronautical test benches

CGP Reference

1. Standard: HP3
2. Type: ET
3. Type of insulation: W (wrapped)
4. Type of material: B (silver plated copper)
5. Conductor size AWG (C = 28, D = 26, E = 24, F = 22, G = 20)
6. Conductor stranding (B = 7x, E = 19x)

NEMA HP3 ET

AWG	Stranding (n x mm)	Code NEMA HP3	Cable outer diameter (mm) Mini	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
28	7 x 0.13	HP3 – ET – WBCB	0.63	0.73	1.3	208.7
28	19 x 0.08	HP3 – ET – WBCE	0.63	0.73	1.4	207.0
26	7 x 0.16	HP3 – ET – WBDB	0.74	0.84	2.0	130.2
26	19 x 0.10	HP3 – ET – WBDE	0.74	0.84	2.2	122.4
24	7 x 0.20	HP3 – ET – WBEB	0.86	0.96	3.0	80.4
24	19 x 0.13	HP3 – ET – WBEE	0.86	0.99	3.2	77.4
22	7 x 0.25	HP3 – ET – WBFB	1.02	1.12	4.4	51.2
22	19 x 0.16	HP3 – ET – WBFE	1.02	1.16	4.6	48.6
20	7 x 0.32	HP3 – ET – WBGB	1.22	1.32	6.3	32.2
20	19 x 0.20	HP3 – ET – WBGE	1.22	1.32	7.0	29.9

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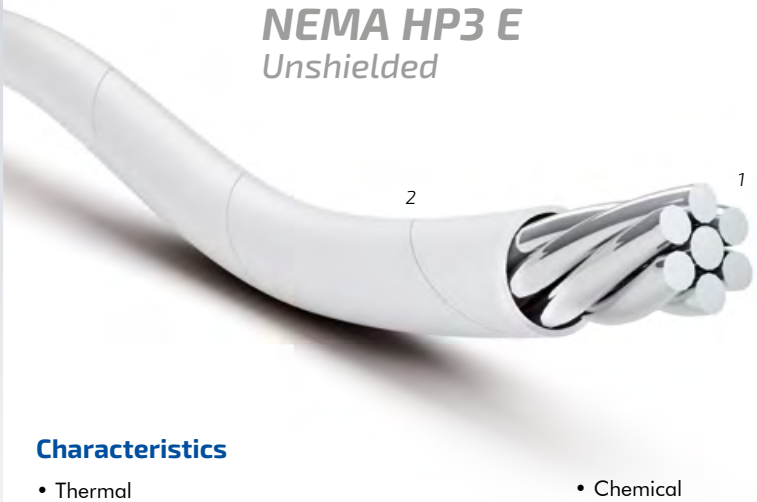
ELECTROAIR®

NEMA HP3 E

Unshielded

1 • Silver plated copper core
2 • Fluorinated PTFE tape



Standards and approvals

Construction:
- NEMA HP3
- ex MIL-W-16878/21

Performances:
- IEC 60332-1
- C2 NF C 32-070
- EN 3475
- FAR 25

Characteristics

- Thermal
Continuous operating temperature: **-90°C to +200°C**

- Electrical
Operating voltage: 600 V RMS

- Mechanical
Resistance to abrasion: ★★★★★
EN 3475

- Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★
EN 3475

- Fire-smoke
Flame retardant
IEC 60332-1 / C2 NF C 32-070 / FAR 25

Colour code

Red, Blue, Yellow, Green, White, Black, Orange
For any other request: please contact us

Applications

Electrical lightweight cables used in electronic equipments for aircraft, missile systems or aeronautical test benches

CGP Reference

1. Standard: HP3
2. Type: E
3. Type of insulation: W (wrapped)
4. Type of material: B (silver plated copper)
5. Conductor size AWG (C = 28, D = 26, E = 24, F = 22, G = 20, H = 18, J = 16, K = 14, L = 12, M = 10)
6. Conductor stranding (B = 7x, E = 19x, G = 37x)

NEMA HP3 E

AWG	Stranding (n x mm)	Code NEMA HP3	Cable outer diameter (mm) Mini	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
28	7 x 0.13	HP3 – E – WBCB	0.79	0.99	2.0	208.7
28	19 x 0.08	HP3 – E – WBCE	0.79	0.99	2.2	207.0
26	7 x 0.16	HP3 – E – WBDB	0.89	1.09	2.8	130.2
26	19 x 0.10	HP3 – E – WBDE	0.89	1.11	2.9	122.4
24	7 x 0.20	HP3 – E – WBEB	1.02	1.22	4.0	80.4
24	19 x 0.13	HP3 – E – WBEE	1.02	1.24	4.2	77.4
22	7 x 0.25	HP3 – E – WBFB	1.17	1.37	5.2	51.2
22	19 x 0.16	HP3 – E – WBFE	1.17	1.42	5.5	48.6
20	7 x 0.32	HP3 – E – WBGB	1.37	1.57	7.5	32.2
20	19 x 0.20	HP3 – E – WBGE	1.37	1.57	8.0	29.9
18	7 x 0.40	HP3 – E – WBHB	1.63	1.82	11.1	20.2
18	19 x 0.25	HP3 – E – WBHE	1.63	1.82	11.8	19.0
16	19 x 0.30	HP3 – E – WBJE	1.86	2.20	12.9	14.9
14	19 x 0.36	HP3 – E – WBKE	2.24	2.59	20.1	9.4
12	19 x 0.45	HP3 – E – WBLE	2.72	3.07	32.1	5.9
12	37 x 0.32	HP3 – E – WBLG	2.67	3.02	34.0	6.2
10	37 x 0.40	HP3 – E – WBMG	3.23	3.58	47.2	3.9

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CABLES FOR GLOBAL PERFORMANCE

ELECTROAIR®

NEMA HP3 EE
Unshielded

1 • Silver plated copper core
2 • Fluorinated PTFE tape

Standards and approvals

Construction:
- NEMA HP3
- ex MIL-W-16878/22

Performances:
- IEC 60332-1
- C2 NF C 32-070
- EN 3475
- FAR 25

Characteristics

- Thermal
Continuous operating temperature: **-90°C to +200°C**

- Electrical
Operating voltage: 1,000 V RMS

- Mechanical
Resistance to abrasion: ★★★★★
EN 3475

- Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★
EN 3475

- Fire-smoke
Flame retardant
IEC 60332-1 / C2 NF C 32-070 / FAR 25

Colour code

Red, Blue, Yellow, Green, White, Black, Orange
For any other request: please contact us

Applications

Electrical lightweight cables used in electronic equipments for aircraft, missile systems or aeronautical test benches

CGP Reference

1. Standard: HP3
2. Type: EE
3. Type of insulation: W (wrapped)
4. Type of material: B (silver plated copper)
5. Conductor size AWG (C = 28, D = 26, E = 24, F = 22, G = 20, H = 18, J = 16, K = 14, L = 12, M = 10)
6. Conductor stranding (B = 7x, E = 19x, G = 37x)

NEMA HP3 EE

AWG	Stranding (n x mm)	Code NEMA HP3	Cable outer diameter (mm) Mini	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
28	7 x 0.13	HP3 – EE – WBCB	1.05	1.24	2.7	208.7
28	19 x 0.08	HP3 – EE – WBCB	1.05	1.24	2.8	207.0
26	7 x 0.16	HP3 – EE – WBDB	1.15	1.34	3.5	130.2
26	19 x 0.10	HP3 – EE – WBDE	1.15	1.37	3.8	122.4
24	7 x 0.20	HP3 – EE – WBEB	1.27	1.47	4.0	80.4
24	19 x 0.13	HP3 – EE – WBEE	1.27	1.49	4.2	77.4
22	7 x 0.25	HP3 – EE – WBFB	1.42	1.62	6.3	51.2
22	19 x 0.16	HP3 – EE – WBFE	1.42	1.67	6.6	48.6
20	7 x 0.32	HP3 – EE – WBGB	1.63	1.82	8.8	32.2
20	19 x 0.20	HP3 – EE – WBGE	1.63	1.82	9.3	29.9
18	7 x 0.40	HP3 – EE – WBHB	1.88	2.13	12.6	20.2
18	19 x 0.25	HP3 – EE – WBHE	1.88	2.13	13.0	19.0
16	19 x 0.30	HP3 – EE – WBJE	2.11	2.41	14.5	14.9
14	19 x 0.36	HP3 – EE – WBKE	2.49	2.89	22.5	9.4
12	37 x 0.32	HP3 – EE – WBLG	2.92	3.32	34.5	6.2
10	37 x 0.40	HP3 – EE – WBMG	3.48	3.88	45.3	3.9

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CABLES FOR GLOBAL PERFORMANCE

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ELECTROAIR®

NEMA HP4 KT
Unshielded

1 • Silver plated copper core
2 • Fluorinated polymer FEP

Standards and approvals

Construction:
• NEMA HP4
• ex MIL-W-16878/13
Performances:
• IEC 60332-1
• C2 NF C 32-070
• FAR 25
• ABD0031
• EN 3475

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Electrical
Operating voltage: 250 V RMS

• Mechanical
Resistance to abrasion: ★★★★★
EN 3475

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★
EN 3475

• Fire-smoke
Flame retardant
IEC 60332-1 / C2 NF C 32-070 / FAR 25
Low smoke density
ABD0031

• Arc tracking resistance
EN 3475
(tested on wire NEMA HP4 K)

Colour code

Red, Blue, Yellow, Green, White, Black, Brown, Orange, Purple, Grey
For any other request: please contact us

Applications

Electrical lightweight cables used in electronic equipments for aircraft, missile systems or aeronautical test benches

CGP Reference

1. Standard: HP4
2. Type: KT
3. Type of material:
B (silver plated copper)
4. Conductor size AWG
(A = 32, B = 30, C = 28,
D = 26, E = 24, F = 22, G = 20)
5. Conductor stranding (B = 7x, E = 19x)

NEMA HP4 KT

AWG	Stranding (n x mm)	Code NEMA HP4	Cable outer diameter (mm) Mini	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
32	7 x 0.08	HP4 – KT – BAB	0.51	0.60	0.8	557.7
32	19 x 0.05	HP4 – KT – BAE	0.51	0.60	0.9	515.1
30	7 x 0.10	HP4 – KT – BBB	0.56	0.66	1.1	328.1
30	19 x 0.06	HP4 – KT – BBE	0.56	0.66	1.2	323.5
28	7 x 0.13	HP4 – KT – BCB	0.64	0.73	1.5	208.7
28	19 x 0.08	HP4 – KT – BCE	0.64	0.73	1.7	207.0
26	7 x 0.16	HP4 – KT – BDB	0.74	0.83	2.1	130.2
26	19 x 0.10	HP4 – KT – BDE	0.74	0.83	2.2	122.4
24	7 x 0.20	HP4 – KT – BEB	0.87	0.96	3.0	80.4
24	19 x 0.12	HP4 – KT – BEE	0.87	0.96	3.2	77.4
22	7 x 0.25	HP4 – KT – BFB	1.02	1.12	4.4	51.2
22	19 x 0.16	HP4 – KT – BFE	1.02	1.12	4.6	48.6
20	7 x 0.32	HP4 – KT – BGB	1.22	1.32	6.3	32.2
20	19 x 0.20	HP4 – KT – BGE	1.22	1.32	7.0	29.9

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CABLES FOR GLOBAL PERFORMANCE

ELECTROAIR®

NEMA HP4 K
Unshielded

1 • Silver plated copper core
2 • Fluorinated polymer FEP

Standards and approvals

Construction:
- NEMA HP4
- ex MIL-W-16878/11

Performances:
- IEC 60332-1
- C2 NF C 32-070
- FAR 25
- ABD0031
- EN 3475

Characteristics

- Thermal
Continuous operating temperature: **-55°C to +200°C**

- Electrical
Operating voltage: 600 V RMS

- Mechanical
Resistance to abrasion: ★★★★★
EN 3475

- Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★
EN 3475

- Fire-smoke
Flame retardant
IEC 60332-1 / C2 NF C 32-070 / FAR 25
Low smoke density
ABD0031

- Arc tracking resistance
EN 3475

Colour code

Red, Blue, Yellow, Green, White, Black, Brown, Orange, Purple, Grey
For any other request: please contact us

Applications

Electrical lightweight cables used in electronic equipments for aircraft, missile systems or aeronautical test benches

CGP Reference

1. Standard: HP4
2. Type: K
3. Type of material: B (silver plated copper)
4. Conductor size AWG (A = 32, B = 30, C = 28, D = 26, E = 24, F = 22, G = 20, H = 18, J = 16, K = 14, L = 12, M = 10, N = 8)
5. Conductor stranding (B = 7x, E = 19x, G = 37x, L = 133x)

NEMA HP4 K

AWG	Stranding (n x mm)	Code NEMA HP4	Cable outer diameter (mm) Mini	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
32	7 x 0.08	HP4 – K – BAB	0.66	0.86	1.4	557.7
32	19 x 0.05	HP4 – K – BAE	0.66	0.86	1.6	515.1
30	7 x 0.10	HP4 – K – BBB	0.72	0.91	1.7	328.1
30	19 x 0.06	HP4 – K – BBE	0.72	0.91	1.8	323.5
28	7 x 0.13	HP4 – K – BCB	0.79	0.99	2.0	208.7
28	19 x 0.08	HP4 – K – BCE	0.79	0.99	2.2	207.0
26	7 x 0.16	HP4 – K – BDB	0.89	1.09	2.7	130.2
26	19 x 0.10	HP4 – K – BDE	0.89	1.09	2.7	122.4
24	7 x 0.20	HP4 – K – BEB	1.02	1.21	3.7	80.4
24	19 x 0.13	HP4 – K – BEE	1.02	1.21	3.7	77.4
22	7 x 0.25	HP4 – K – BFB	1.17	1.37	5.1	51.2
22	19 x 0.16	HP4 – K – BFE	1.17	1.37	5.1	48.6
20	7 x 0.32	HP4 – K – BGB	1.38	1.57	7.8	32.2
20	19 x 0.20	HP4 – K – BGE	1.38	1.57	7.8	29.9
18	7 x 0.40	HP4 – K – BHB	1.63	1.87	12.0	20.2
18	19 x 0.25	HP4 – K – BHE	1.63	1.87	11.9	19.0
16	19 x 0.30	HP4 – K – BJE	1.86	2.20	16.8	14.9
14	19 x 0.36	HP4 – K – BKE	2.24	2.59	21.3	9.4
12	19 x 0.45	HP4 – K – BLE	2.72	3.07	36.0	5.9
12	37 x 0.32	HP4 – K – BLG	2.67	3.02	35.9	6.2
10	37 x 0.40	HP4 – K – BMG	3.23	3.58	50.3	3.9
8	133 x 0.29	HP4 – K – BNL	4.70	5.05	96.5	2.2

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CABLES FOR GLOBAL PERFORMANCE

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ELECTROAIR®

NEMA HP4 KK
Unshielded

1 • Silver plated copper core
2 • Fluorinated polymer FEP

Standards and approvals

Construction:
- NEMA HP4
- ex MIL-W-16878/12

Performances:
- IEC 60332-1
- C2 NF C 32-070
- FAR 25
- ABD0031
- EN 3475

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Electrical
Operating voltage: 1,000 V RMS

• Mechanical
Resistance to abrasion: ★★★★★
EN 3475

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★
EN 3475

• Fire-smoke
Flame retardant
IEC 60332-1 / C2 NF C 32-070 / FAR 25
Low smoke density
ABD0031

• Arc tracking resistance
EN 3475
(tested on wire NEMA HP4 K)

Colour code

Red, Blue, Yellow, Green, White, Black, Brown, Orange, Purple, Grey
For any other request: please contact us

Applications

Electrical lightweight cables used in electronic equipments for aircraft, missile systems or aeronautical test benches

CGP Reference

1. Standard: HP4
2. Type: KK
3. Type of material: B (silver plated copper)
4. Conductor size AWG (A = 32, B = 30, C = 28, D = 26, E = 24, F = 22, G = 20, H = 18, J = 16, K = 14, L = 12, M = 10, N = 8)
5. Conductor stranding (B = 7x, E = 19x, G = 37x, L = 133x)

NEMA HP4 KK

AWG	Stranding (n x mm)	Code NEMA HP4	Cable outer diameter (mm) Mini	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
32	7 x 0.08	HP4 – KK – BAB	0.89	1.09	2.1	557.7
32	19 x 0.05	HP4 – KK – BAE	0.89	1.09	2.1	515.1
30	7 x 0.10	HP4 – KK – BBB	0.97	1.17	2.3	328.1
30	19 x 0.06	HP4 – KK – BBE	0.97	1.17	2.4	323.5
28	7 x 0.13	HP4 – KK – BCB	1.05	1.24	2.7	208.7
28	19 x 0.08	HP4 – KK – BCE	1.05	1.24	2.8	207.0
26	7 x 0.16	HP4 – KK – BDB	1.15	1.34	3.6	130.2
26	19 x 0.10	HP4 – KK – BDE	1.15	1.34	3.7	122.4
24	7 x 0.20	HP4 – KK – BEB	1.27	1.47	4.6	80.4
24	19 x 0.13	HP4 – KK – BEE	1.27	1.47	4.8	77.4
22	7 x 0.25	HP4 – KK – BFB	1.43	1.62	6.2	51.2
22	19 x 0.16	HP4 – KK – BFE	1.43	1.62	6.5	48.6
20	7 x 0.32	HP4 – KK – BGB	1.63	1.82	8.8	32.2
20	19 x 0.20	HP4 – KK – BGE	1.63	1.82	9.3	29.9
18	7 x 0.40	HP4 – KK – BHB	1.88	2.13	12.8	20.2
18	19 x 0.25	HP4 – KK – BHE	1.88	2.13	13.1	19.0
16	19 x 0.30	HP4 – KK – BJE	2.11	2.41	17.4	14.9
14	19 x 0.36	HP4 – KK – BKE	2.49	2.89	24.6	9.4
12	19 x 0.45	HP4 – KK – BLE	2.97	3.37	36.8	5.9
12	37 x 0.32	HP4 – KK – BLG	2.93	3.32	36.0	6.2
10	37 x 0.40	HP4 – KK – BMG	4.70	3.88	53.3	3.9
8	133 x 0.29	HP4 – KK – BNL	5.06	5.56	99.0	2.2

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CABLES FOR GLOBAL PERFORMANCE

ELECTROAIR®

M6BA-A6

Shielded & Jacketed

1 • Two to four wires NEMA HP4 K
2 • Silver plated copper braid
3 • Fluorinated polymer FEP

Standards and approvals

Construction:
• Insulated cores according to NEMA HP4

Performances:
• IEC 60332-1
• C2 NF C 32-070
• FAR 25
• ABD0031
• EN 3475

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Electrical
Operating voltage: 600 V RMS

• Mechanical
Resistance to abrasion: ★★★★★
EN 3475

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★
EN 3475

• Fire-smoke
Flame retardant
IEC 60332-1 / C2 NF C 32-070 / FAR 25
Low smoke density
ABD0031

• Arc tracking resistance
EN 3475
(tested on wire NEMA HP4 K)

Colour code

• M6BA-A6 2X: White jacket and Blue / White cores
• M6BA-A6 3X: White jacket and Blue / White / Orange cores
• M6BA-A6 4X: White jacket and Blue / White / Orange / Black cores
For any other request: please contact us

Applications

Electrical lightweight cables used in electronic equipments for aircraft, missile systems or aeronautical test benches

WIRE (NEMA HP4 K)

AWG	Stranding (n x mm)	Code NEMA HP4	Cable outer diameter (mm) Mini	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
28	7 x 0.13	HP4 – K – BCB	0.79	0.99	2.0	208.7
26	7 x 0.16	HP4 – K – BDB	0.89	1.09	2.7	130.2
24	7 x 0.20	HP4 – K – BEB	1.02	1.21	3.7	80.4
22	7 x 0.25	HP4 – K – BFB	1.17	1.37	5.1	51.2
20	7 x 0.32	HP4 – K – BGB	1.38	1.57	7.8	32.2
18	7 x 0.40	HP4 – K – BHB	1.63	1.87	12.0	20.2
16	19 x 0.30	HP4 – K – BJE	1.86	2.20	16.8	14.9
14	19 x 0.36	HP4 – K – BKE	2.24	2.59	21.3	9.4
12	19 x 0.45	HP4 – K – BLE	2.72	3.07	36.0	5.9

M6BA-A6

	2X		3X		4X		
AWG	Cable outer diameter (mm) Maxi	Maximum linear weight (kg / km)	Cable outer diameter (mm) Maxi	Maximum linear weight (kg / km)	Cable outer diameter (mm) Maxi	Maximum linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
28	3.03	13.7	3.32	19.9	3.50	22.9	214.9
26	3.38	18.1	3.53	23.4	3.70	25.0	134.2
24	3.64	21.5	3.81	28.2	4.10	29.5	82.8
22	3.92	26.2	4.11	34.8	4.25	40.0	52.7
20	4.42	35.1	4.65	47.6	4.80	52.5	33.2
18	5.08	46.9	5.53	67.5	5.70	76.0	20.8
16	5.86	64.4	6.18	89.1	6.30	95.0	15.3
14	6.62	82.4	7.00	115.0	7.20	131.0	9.7
12	7.78	120.0	8.24	169.0	8.40	188.0	6.1

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ELECTROAIR®

MEEBA-AEE

Shielded & Jacketed

1 • Two to four wires NEMA HP3
2 • Silver plated copper braid
3 • Fluorinated PTFE tape

Standards and approvals

Construction:
• Insulated cores according to NEMA HP3

Performances:
• IEC 60332-1
• C2 NF C 32-070
• FAR 25

Characteristics

• Thermal
Continuous operating temperature: **-90°C to +200°C**

• Electrical
Operating voltage: 600 V RMS

• Mechanical
Resistance to abrasion: ★★★★★
EN 3475

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★
EN 3475

• Fire-smoke
Flame retardant
IEC 60332-1 / C2 NF C 32-070 / FAR 25

Colour code

• MEEBA-AEE 2X: White jacket and Blue / White cores
• MEEBA-AEE 3X: White jacket and Blue / White / Red cores
• MEEBA-AEE 4X: White jacket and Blue / White / Red / Yellow cores
For any other request: please contact us

Applications

Electrical lightweight cables used in electronic equipments for aircraft, missile systems or aeronautical test benches

WIRE (NEMA HP3 E)

AWG	Stranding (n x mm)	Code NEMA HP3	Cable outer diameter (mm) Mini	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
28	7 x 0.13	HP3 – E – WBCB	0.79	0.99	2.0	208.7
26	7 x 0.16	HP3 – E – WBDB	0.89	1.09	2.8	130.2
26	19 x 0.10	HP3 – E – WBDE	0.89	1.11	2.9	122.4
24	7 x 0.20	HP3 – E – WBEB	1.02	1.22	4.0	80.4
24	19 x 0.13	HP3 – E – WBEE	1.02	1.24	4.2	77.4
22	7 x 0.25	HP3 – E – WBFB	1.17	1.37	5.2	51.2
22	19 x 0.16	HP3 – E – WBFE	1.17	1.42	5.5	48.6
20	7 x 0.32	HP3 – E – WBGB	1.37	1.57	7.5	32.2
20	19 x 0.20	HP3 – E – WBGE	1.37	1.57	8.0	29.9

MEEBA-AEE

	2X		3X		4X		
AWG	Cable outer diameter (mm) Maxi	Maximum linear weight (kg / km)	Cable outer diameter (mm) Maxi	Maximum linear weight (kg / km)	Cable outer diameter (mm) Maxi	Maximum linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
28	2.80	13.4	3.19	19.5	3.40	22.4	214.9
26	3.10	17.7	3.31	22.9	3.60	24.5	134.2
26	3.10	17.7	3.33	22.9	3.60	24.5	126.0
24	3.30	21.0	3.57	27.6	3.80	28.9	82.8
24	3.30	21.0	3.61	27.6	3.80	28.9	79.8
22	3.62	25.7	3.91	34.1	4.30	39.2	52.7
22	3.70	25.7	4.00	34.1	4.30	39.2	50.0
20	4.02	34.4	4.34	46.6	4.70	51.5	33.2
20	4.02	34.4	4.34	46.6	4.70	51.5	30.8

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NF C 93-524 / -55°C to +150°C

CGP Reference	Number of cores	Core	Insulation	Shield	Outer sheath	Operating temperature (°C) Mini	Operating temperature (°C) Maxi	Operating Voltage (V RMS)	Halogen free	Abrasion resistance	Aircraft fluids resistance	Flame retardant	Arc tracking resistance
ELECTROAIR® **KU 01**	1	CuSn	ETFE			-55	+150	600		✔	✔	✔	
ELECTROAIR® **KU 03**	2	CuSn	ETFE			-55	+150	600		✔	✔	✔	
ELECTROAIR® **KU 04**	3	CuSn	ETFE			-55	+150	600		✔	✔	✔	
ELECTROAIR® **KU 02**	1	CuSn	ETFE	CuSn	ETFE	-55	+150	600		✔	✔	✔	
ELECTROAIR® **KU 05**	2	CuSn	ETFE	CuSn	ETFE	-55	+150	600		✔	✔	✔	
ELECTROAIR® **KU 06**	3	CuSn	ETFE	CuSn	ETFE	-55	+150	600		✔	✔	✔	
ELECTROAIR® **M7-KU 01**	2 to 7	CuSn	ETFE		ETFE	-55	+150	600		✔	✔	✔	
ELECTROAIR® **M7BE-KU 01**	4 to 7	CuSn	ETFE	CuSn	ETFE	-55	+150	600		✔	✔	✔	
PLASTHERM® **E40-FR**	1	CuSn	Special Thermoplastic			-40	+150	600	✔	✔			
PLASTHERM® **M-E40-FR**	2 and 3	CuSn	Special Thermoplastic			-40	+150	600	✔	✔			
PLASTHERM® **E40BE40-FR**	1	CuSn	Special Thermoplastic	CuSn	Special Thermoplastic	-40	+150	600	✔	✔			
PLASTHERM® **M40BE-E40-FR**	2 and 3	CuSn	Special Thermoplastic	CuSn	Special Thermoplastic	-40	+150	600	✔	✔			

Inspired of NF C 93-523 / -55°C to +200°C

ELECTROAIR® **AGZ 04**	1	CuAg	FEP			-55	+200	250		✔	✔	✔	✔
ELECTROAIR® **AGZ 05**	1	CuAg	FEP			-55	+200	600		✔	✔	✔	✔
ELECTROAIR® **AGZ 06**	2 to 4	CuAg	FEP			-55	+200	1 000		✔	✔	✔	✔
ELECTROAIR® **M-AGZ 04**	2 to 4	CuAg	FEP			-55	+200	250		✔	✔	✔	✔
ELECTROAIR® **M-AGZ 05**	2 to 4	CuAg	FEP			-55	+200	600		✔	✔	✔	✔
ELECTROAIR® **M-AGZ 06**		CuAg	FEP			-55	+200	1 000		✔	✔	✔	✔

Inspired of NF C 93-523 / -55°C to +200°C

CGP Reference	Number of cores	Core	Insulation	Shield	Outer sheath	Operating temperature (°C) Mini	Operating temperature (°C) Maxi	Operating Voltage (V RMS)	Halogen free	Abrasion resistance	Aircraft fluids resistance	Flame retardant	Arc tracking resistance
ELECTROAIR® **AGZ 55**	1	CuAg	FEP	CuAg	FEP	-55	+200	250		✔	✔	✔	✔
ELECTROAIR® **AGZ 67**	2	CuAg	FEP	CuAg	FEP	-55	+200	250		✔	✔	✔	✔
ELECTROAIR® **AGZ 79**	3	CuAg	FEP	CuAg	FEP	-55	+200	250		✔	✔	✔	✔
ELECTROAIR® **AGZ 57**	1	CuAg	FEP	CuAg	FEP	-55	+200	600		✔	✔	✔	✔
ELECTROAIR® **AGZ 69**	2	CuAg	FEP	CuAg	FEP	-55	+200	600		✔	✔	✔	✔
ELECTROAIR® **AGZ 81**	3	CuAg	FEP	CuAg	FEP	-55	+200	600		✔	✔	✔	✔
ELECTROAIR® **AGZ 93**	4	CuAg	FEP	CuAg	FEP	-55	+200	600		✔	✔	✔	✔
ELECTROAIR® **AGZ 59**	1	CuAg	FEP	CuAg	FEP	-55	+200	1 000		✔	✔	✔	✔
ELECTROAIR® **AGZ 71**	2	CuAg	FEP	CuAg	FEP	-55	+200	1 000		✔	✔	✔	✔
ELECTROAIR® **AGZ 83**	3	CuAg	FEP	CuAg	FEP	-55	+200	1 000		✔	✔	✔	✔
ELECTROAIR® **AGF 05**	1	CuAg *(extra flexible)*	FEP			-55	+200	600		✔	✔	✔	✔
ELECTROAIR® **M-AGF 05**	2 à 4	CuAg *(extra flexible)*	FEP			-55	+200	600		✔	✔	✔	✔
ELECTROAIR® **AGF 57**	1	CuAg *(extra flexible)*	FEP	CuAg	FEP	-55	+200	600		✔	✔	✔	✔
ELECTROAIR® **AGF 69**	2	CuAg *(extra flexible)*	FEP	CuAg	FEP	-55	+200	600		✔	✔	✔	✔
ELECTROAIR® **AGF 81**	3	CuAg *(extra flexible)*	FEP	CuAg	FEP	-55	+200	600		✔	✔	✔	✔
ELECTROAIR® **AGF 93**	4	CuAg *(extra flexible)*	FEP	CuAg	FEP	-55	+200	600		✔	✔	✔	✔
ELECTROAIR® **KZ 04**	1	CuAg	PTFE			-55	+200	250		✔	✔	✔	✔
ELECTROAIR® **KZ 05**	1	CuAg	PTFE			-55	+200	600		✔	✔	✔	✔
ELECTROAIR® **KZ 06**	1	CuAg	PTFE			-55	+200	1 000		✔	✔	✔	✔
ELECTROAIR® **KZ 07**	1	CuNi	PTFE			-55	+260	250		✔	✔	✔	✔
ELECTROAIR® **KZ 08**	1	CuNi	PTFE			-55	+260	600		✔	✔	✔	✔
ELECTROAIR® **KZ 09**	1	CuNi	PTFE			-55	+260	1 000		✔	✔	✔	✔

ELECTROAIR®

KU 01, 03, 04
Unshielded

1 • Tinned copper core
2 • Fluorinated polymer ETFE
Assembling version by pair (KU 03) / triple (KU 04)

Standards and approvals

Construction:
- NF C 93-524

Performances:
- IEC 60332-1
- C2 NF C 32-070
- FAR 25

Characteristics

- **Thermal**
Continuous operating temperature: **-55°C to +150°C**

- **Electrical**
Operating voltage: 600 V RMS

- **Mechanical**
Resistance to abrasion: ★★★★★

- **Chemical**
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★

- **Fire-smoke**
Flame retardant
IEC 60332-1 / C2 NF C 32-070 / FAR 25

- **Radiation proof**
Excellent resistance

Colour code

- KU 01 = Red, Blue, Yellow, Green, White, Black, Brown, Orange, Purple, Grey
- KU 03 = White / Blue
- KU 04 = White / Blue / Orange

For any other request: please contact us

Applications

Electrical lightweight cables used in electronic equipments for aircraft, missile systems or aeronautical test benches

KU 01

AWG	Cross Section (mm²)	Stranding (n x mm)	Cable outer diameter (mm) Mini	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
30	0.06	7 x 0.10	0.58	0.68	0.9	365.4
28	0.09	7 x 0.13	0.64	0.74	1.5	208.0
26	0.14	19 x 0.10	0.76	0.86	2.0	128.7
24	0.22	19 x 0.13	0.86	0.96	3.6	76.6
22	0.34	19 x 0.16	1.05	1.15	4.6	50.3
20	0.60	19 x 0.20	1.47	1.57	7.6	32.1
18	0.93	19 x 0.25	1.75	1.85	11.3	20.6
16	1.34	19 x 0.30	1.93	2.07	15.5	14.3
14	1.91	37 x 0.25	2.26	2.46	21.4	10.6
12	3.09	37 x 0.32	2.79	2.99	33.8	6.5

KU 03

AWG	Cable outer diameter (mm) Mini	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)
30	1.16	1.36	2.0
28	1.28	1.48	3.1
26	1.52	1.72	4.1
24	1.72	1.92	7.4
22	2.10	2.30	9.5
20	2.94	3.14	16.0
18	3.50	3.70	23.8
16	3.86	4.14	32.6
14	4.52	4.92	44.9
12	5.58	5.98	71.0

KU 04

Cable outer diameter (mm) Mini	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)
1.25	1.46	3.0
1.38	1.58	4.7
1.63	1.85	6.1
1.85	2.06	11.4
2.26	2.47	14.1
3.16	3.38	24.1
3.76	3.98	35.8
4.15	4.45	48.8
4.86	5.29	67.4
6.00	6.43	106.5

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ELECTROAIR®

KU 02, 05, 06
Shielded & Jacketed

1 • Tinned copper core
2 • Fluorinated polymer ETFE
Assembling version by pair (KU 05)
triple (KU 06)
3 • Tinned copper braid
4 • Fluorinated polymer ETFE

Standards and approvals

Construction:
• NF C 93-524
Performances:
• IEC 60332-1
• C2 NF C 32-070
• FAR 25

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +150°C**

• Electrical
Operating voltage: 600 V RMS

• Mechanical
Resistance to abrasion: ★★★★★

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★

• Fire-smoke
Flame retardant
IEC 60332-1 / C2 NF C 32-070 / FAR 25

• Radiation proof
Excellent resistance

Colour code

• KU 02 = White jacket and White core
• KU 05 = White jacket and Blue / White cores
• KU 06 = White jacket and White / Blue / Orange cores
For any other request: please contact us

Applications

Electrical lightweight cables used in electronic equipments for aircraft, missile systems or aeronautical test benches

KU 02

AWG	Cross Section (mm²)	Stranding (n x mm)	Cable outer diameter (mm) Mini	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
30	0.06	7 x 0.10	1.23	1.43	4.0	365.4
28	0.09	7 x 0.13	1.29	1.49	5.3	208.0
26	0.14	19 x 0.10	1.41	1.61	5.5	128.7
24	0.22	19 x 0.13	1.61	1.81	8.8	76.6
22	0.34	19 x 0.16	1.86	2.06	10.0	50.3
20	0.60	19 x 0.20	2.28	2.48	14.8	32.1
18	0.93	19 x 0.25	2.61	2.91	21.4	20.6
16	1.34	19 x 0.30	2.81	3.11	29.7	14.3
14	1.91	37 x 0.25	3.17	3.47	34.5	10.6
12	3.09	37 x 0.32	3.70	4.00	48.8	6.5

KU 05

AWG	Cable outer diameter (mm) Mini	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)
30	1.98	2.22	8.5
28	2.10	2.34	11.7
26	2.32	2.62	12.1
24	2.62	2.91	18.8
22	2.99	3.30	21.1
20	3.81	4.13	29.2
18	4.36	4.72	39.3
16	4.76	5.12	49.5
14	5.52	5.92	65.7
12	6.53	7.03	96.7

KU 06

Cable outer diameter (mm) Mini	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)
2.19	2.43	11.4
2.31	2.55	14.6
2.54	2.82	15.7
2.74	3.05	23.8
3.15	3.46	26.4
4.06	4.38	39.8
4.66	4.98	53.7
5.09	5.40	68.7
5.87	6.31	92.8
7.01	7.47	137.4

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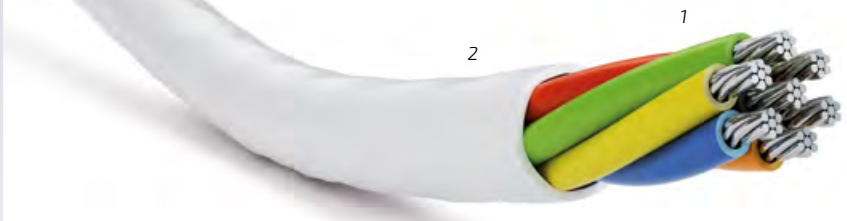
ELECTROAIR®

M7-KU 01
Jacketed

1 • One to seven wires KU 01
2 • Fluorinated polymer ETFE



Standards and approvals

Construction:
• Insulated core according to NF C 93-524
Performances:
• IEC 60332-1
• C2 NF C 32-070
• FAR 25

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +150°C**

• Electrical
Operating voltage: 600 V RMS

• Mechanical
Resistance to abrasion: ★★★★★

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★

• Fire-smoke
Flame retardant
IEC 60332-1 / C2 NF C 32-070 / FAR 25

• Radiation proof
Excellent resistance

Colour code

• M7-KU 01 (2 cores) = White jacket and Blue / White cores
• M7-KU 01 (3 cores) = White jacket and White / Blue / Orange cores
• M7-KU 01 (4 cores) = White jacket and White / Blue / Orange / Black cores
• M7-KU 01 (5 cores) = White jacket and White / Blue / Orange / Black / Green cores
• M7-KU 01 (7 cores) = White jacket and White / Blue / Orange / Black / Green / Yellow / Red cores
For any other request (> 7 cores): please contact us

Applications

Electrical lightweight cables used in electronic equipments for aircraft, missile systems or aeronautical test benches

WIRE (KU 01)

AWG	Cross Section (mm²)	Stranding (n x mm)	Cable outer diameter (mm) Mini	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
30	0.06	7 x 0.10	0.58	0.68	0.9	365.4
28	0.09	7 x 0.13	0.64	0.74	1.5	208.0
26	0.14	19 x 0.10	0.76	0.86	2.0	128.7
24	0.22	19 x 0.13	0.86	0.96	3.6	76.6
22	0.34	19 x 0.16	1.05	1.15	4.6	50.3
20	0.60	19 x 0.20	1.47	1.57	7.6	32.1
18	0.93	19 x 0.25	1.75	1.85	11.3	20.6
16	1.34	19 x 0.30	1.93	2.07	15.5	14.3
14	1.91	37 x 0.25	2.26	2.46	21.4	10.6
12	3.09	37 x 0.32	2.79	2.99	33.8	6.5

M7-KU 01

AWG	2X Cable outer diameter (mm) Mini	2X Maxi	3X Mini	3X Maxi	4X Mini	4X Maxi	5X Mini	5X Maxi	7X Mini	7X Maxi
30	1.40	1.80	1.50	1.90	1.60	2.00	1.60	2.00	2.20	2.60
28	1.60	2.00	1.70	2.10	1.90	2.30	2.10	2.50	2.30	2.70
26	1.80	2.20	1.90	2.30	2.10	2.50	2.30	2.70	2.60	3.00
24	2.00	2.40	2.10	2.50	2.30	2.70	2.60	3.00	2.90	3.30
22	2.40	2.80	2.50	2.90	2.80	3.20	3.10	3.50	3.50	3.90
20	3.20	3.60	3.40	3.80	3.80	4.20	4.20	4.60	4.70	5.10
18	3.80	4.20	4.10	4.50	4.50	4.90	5.10	5.50	5.60	6.00
16	4.20	4.60	4.50	4.90	5.00	5.40	5.60	6.00	6.20	6.60
14	4.90	5.30	5.30	5.70	5.90	6.30	6.60	7.00	7.30	7.70
12	6.00	6.40	6.40	6.80	7.20	7.60	8.00	8.40	-	-

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ELECTROAIR®

M7BE-KU 01

Shielded & Jacketed

1 • Four to seven wires KU 01
2 • Tinned copper braid
3 • Fluorinated polymer ETFE

Standards and approvals

Construction:
• Insulated core according to NF C 93-524

Performances:
• IEC 60332-1
• C2 NF C 32-070
• FAR 25

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +150°C**

• Electrical
Operating voltage: 600 V RMS

• Mechanical
Resistance to abrasion: ★★★★★

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★

• Fire-smoke
Flame retardant
IEC 60332-1 / C2 NF C 32-070 / FAR 25

• Radiation proof
Excellent resistance

Colour code

• M7BE-KU 01 (4 cores) = White jacket and White / Blue / Orange / Black cores
• M7BE-KU 01 (5 cores) = White jacket and White / Blue / Orange / Black / Green cores
• M7BE-KU 01 (7 cores) = White jacket and White / Blue / Orange / Black / Green / Yellow / Red cores

For any other request (> 7 cores): please contact us

Applications

Electrical lightweight cables used in electronic equipments for aircraft, missile systems or aeronautical test benches

WIRE (KU 01)

AWG	Cross Section (mm²)	Stranding (n x mm)	Cable outer diameter (mm) Mini	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
30	0.06	7 x 0.10	0.58	0.68	0.9	365.4
28	0.09	7 x 0.13	0.64	0.74	1.5	208.0
26	0.14	19 x 0.10	0.76	0.86	2.0	128.7
24	0.22	19 x 0.13	0.86	0.96	3.6	76.6
22	0.34	19 x 0.16	1.05	1.15	4.6	50.3
20	0.60	19 x 0.20	1.47	1.57	7.6	32.1
18	0.93	19 x 0.25	1.75	1.85	11.3	20.6
16	1.34	19 x 0.30	1.93	2.07	15.5	14.3
14	1.91	37 x 0.25	2.26	2.46	21.4	10.6
12	3.09	37 x 0.32	2.79	2.99	33.8	6.5

M7BE-KU 01

AWG	4X Cable outer diameter (mm) Mini	4X Cable outer diameter (mm) Maxi	5X Cable outer diameter (mm) Mini	5X Cable outer diameter (mm) Maxi	7X Cable outer diameter (mm) Mini	7X Cable outer diameter (mm) Maxi
30	2.25	2.50	2.45	2.75	2.55	2.90
28	2.50	2.75	2.55	2.85	2.85	3.20
26	2.80	3.05	2.85	3.25	3.20	3.55
24	3.00	3.25	3.15	3.45	3.50	3.85
22	3.40	3.65	3.75	4.05	4.10	4.40
20	4.35	4.65	4.95	5.25	5.40	5.75
18	5.15	5.45	5.80	6.20	6.25	6.70
16	5.60	6.00	6.30	6.70	6.80	7.25
14	6.40	6.80	7.10	7.50	-	-
12	7.80	8.20	8.70	9.10	-	-

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PLASTHERM®

E40-FR & M-E40-FR
Unshielded

1 • Tinned copper core
2 • Special thermoplastic

Standards and approvals

Construction:
• NF C 93-524
Performances:
• FAR 25
• ISO 6722
• UL94-V2
• NF F 16-101
• IEC 60754-1

Characteristics

• Thermal
Continuous operating temperature: **-40°C to +150°C**

• Electrical
Operating voltage: 600 V RMS

• Mechanical
Resistance to abrasion: ★★★★★

• Chemical
Resistance to chemical environments: ★★★☆☆

• Fire-smoke
Self-extinguishing
FAR 25 / ISO 6722 / UL94-V2 (material)
Low smoke toxicity
ITC = 10 according to NF C 16-101

• Halogen free
Yes

Colour code

• E40-FR = Red, Blue, Yellow, Green, White, Black, Brown, Orange, Purple, Grey
• M-E40-FR (2x) = White / Blue
• M-E40-FR (3x) = White / Blue /Orange
For any other request: please contact us

Applications

Electrical lightweight cables used in electronic equipments for aircraft, missile systems or aeronautical test benches

E40-FR

AWG	Cross Section (mm^2)	Stranding (n x mm)	Cable outer diameter (mm) Mini	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
30	0.06	7 x 0.10	0.58	0.68	0.9	365.4
28	0.09	7 x 0.13	0.64	0.74	1.5	208.0
26	0.14	19 x 0.10	0.76	0.86	2.0	128.7
24	0.22	19 x 0.13	0.86	0.96	3.6	76.6
22	0.34	19 x 0.16	1.05	1.15	4.6	50.3
20	0.60	19 x 0.20	1.47	1.57	7.6	32.1
18	0.93	19 x 0.25	1.75	1.85	11.3	20.6
16	1.34	19 x 0.30	1.93	2.07	15.5	14.3
14	1.91	37 x 0.25	2.26	2.46	21.4	10.6
12	3.09	37 x 0.32	2.79	2.99	33.8	6.5

M-E40-FR (2x)

AWG	Cable outer diameter (mm) Mini	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)
30	1.16	1.36	2.0
28	1.28	1.48	3.1
26	1.52	1.72	4.1
24	1.72	1.92	7.4
22	2.10	2.30	9.5
20	2.94	3.14	16.0
18	3.50	3.70	23.8
16	3.86	4.14	32.6
14	4.52	4.92	44.9
12	5.58	5.98	71.0

M-E40-FR (3x)

Cable outer diameter (mm) Mini	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)
1.25	1.46	3.0
1.38	1.58	4.7
1.63	1.85	6.1
1.85	2.06	11.4
2.26	2.47	14.1
3.16	3.38	24.1
3.76	3.98	35.8
4.15	4.45	48.8
4.86	5.29	67.4
6.00	6.43	106.5

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PLASTHERM®

E40BE40-FR & M40BE-E40-FR

Shielded & Jacketed

1 • Tinned copper core
2 • Special thermoplastic
3 • Tinned copper braid
4 • Special thermoplastic

Standards and approvals

Construction:
• NF C 93-524
Performances:
• FAR 25
• ISO 6722
• UL94-V2
• NF F 16-101
• IEC 60754-1

Characteristics

• Thermal
Continuous operating temperature: **-40°C to +150°C**

• Electrical
Operating voltage: 600 V RMS

• Mechanical
Resistance to abrasion: ★★★★★

• Chemical
Resistance to chemical environments: ★★★☆☆

• Fire-smoke
Self-extinguishing
FAR 25 / ISO 6722 / UL94-V2 (material)
Low smoke toxicity
ITC = 10 according to NF C 16-101

• Halogen free
Yes

Colour code

• (1x) = White jacket and White core
• (2x) = White jacket and Blue / White cores
• (3x) = White jacket and White / Blue / Orange cores
For any other request: please contact us

Applications

Electrical lightweight cables used in electronic equipments for aircraft, missile systems or aeronautical test benches

E40BE40-FR (1x)

AWG	Cross Section (mm²)	Stranding (n x mm)	Cable outer diameter (mm) Mini	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
30	0.06	7 x 0.10	1.23	1.43	4.0	365.4
28	0.09	7 x 0.13	1.29	1.49	5.3	208.0
26	0.14	19 x 0.10	1.41	1.61	5.5	128.7
24	0.22	19 x 0.13	1.61	1.81	8.8	76.6
22	0.34	19 x 0.16	1.86	2.06	10.0	50.3
20	0.60	19 x 0.20	2.28	2.48	14.8	32.1
18	0.93	19 x 0.25	2.61	2.91	21.4	20.6
16	1.34	19 x 0.30	2.81	3.11	29.7	14.3
14	1.91	37 x 0.25	3.17	3.47	34.5	10.6
12	3.09	37 x 0.32	3.70	4.00	48.8	6.5

M40BE-E40-FR (2x)

AWG	Cable outer diameter (mm) Mini	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)
30	1.98	2.22	8.5
28	2.10	2.34	11.7
26	2.32	2.62	12.1
24	2.62	2.91	18.8
22	2.99	3.30	21.1
20	3.81	4.13	29.2
18	4.36	4.72	39.3
16	4.76	5.12	49.5
14	5.52	5.92	65.7
12	6.53	7.03	96.7

M40BE-E40-FR (3x)

Cable outer diameter (mm) Mini	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)
2.19	2.43	11.4
2.31	2.55	14.6
2.54	2.82	15.7
2.74	3.05	23.8
3.15	3.46	26.4
4.06	4.38	39.8
4.66	4.98	53.7
5.09	5.40	68.7
5.87	6.31	92.8
7.01	7.47	137.4

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CABLES FOR GLOBAL PERFORMANCE

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ELECTROAIR®

AGZ 04
Unshielded

1 • Silver plated copper core
2 • Fluorinated polymer FEP

Standards and approvals

Construction:
• Inspired of NF C 93-523
Performances:
• NF C 93-523
• IEC 60332-1
• C2 NF C 32-070
• FAR 25
• ABD0031
• EN 3475

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Electrical
Operating voltage: 250 V RMS

• Mechanical
Resistance to abrasion: ★★★★★
EN 3475

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★
NF C 93-523

• Fire-smoke
Flame retardant
IEC 60332-1 / C2 NF C 32-070 / FAR 25
Low smoke density
ABD0031

• Arc tracking resistance
EN 3475
(tested on wire AGZ05)

Colour code

• Red, Blue, Yellow, Green, White, Black, Brown, Orange, Purple, Grey
For any other request: please contact us

Applications

Electrical lightweight cables used in electronic equipments for aircraft, missile systems or aeronautical test benches

Our range AGZ
is an alternative to KZ NF C 93-523
(similar performances with a FEP insulation instead of PTFE)

AGZ 04

AWG	Cross Section (mm^2)	Stranding (n x mm)	Cable outer diameter Maxi (mm)	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
32	0.03	7 x 0.08	0.58	0.9	546.0
30	0.06	7 x 0.10	0.66	1.3	349.0
28	0.09	7 x 0.13	0.73	1.8	201.0
26	0.14	7 x 0.16	0.84	2.4	132.0
24	0.22	7 x 0.20	0.96	3.4	86.0
22	0.34	7 x 0.25	1.11	5.0	54.4
20	0.60	7 x 0.32	1.40	8.3	31.3

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CABLES FOR GLOBAL PERFORMANCE

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ELECTROAIR®

AGZ 05
Unshielded

1 • Silver plated copper core
2 • Fluorinated polymer FEP

Standards and approvals

Construction:
• Inspired of NF C 93-523
Performances:
• NF C 93-523
• IEC 60332-1
• C2 NF C 32-070
• FAR 25
• ABD0031
• EN 3475

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Electrical
Operating voltage: 600 V RMS

• Mechanical
Resistance to abrasion: ★★★★★
EN 3475

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★
NF C 93-523

• Fire-smoke
Flame retardant
IEC 60332-1 / C2 NF C 32-070 / FAR 25
Low smoke density
ABD0031

• Arc tracking resistance
EN 3475

Colour code

• Red, Blue, Yellow, Green, White, Black, Brown, Orange, Purple, Grey
For any other request: please contact us

Applications

Electrical lightweight cables used in electronic equipments for aircraft, missile systems or aeronautical test benches

Our range AGZ
is an alternative to KZ NF C 93-523
(similar performances with a FEP insulation instead of PTFE)

AGZ 05

AWG	Cross Section (mm²)	Stranding (n x mm)	Cable outer diameter Maxi (mm)	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
32	0.03	7 x 0.08	0.84	1.7	546.0
30	0.06	7 x 0.10	0.91	2.1	349.0
28	0.09	7 x 0.13	1.00	2.6	201.0
26	0.14	7 x 0.16	1.10	3.4	132.0
24	0.22	7 x 0.20	1.22	4.5	86.0
22	0.34	7 x 0.25	1.37	6.2	54.4
20	0.60	7 x 0.32	1.62	9.5	31.3
18	0.93	7 x 0.40	1.92	14.1	20.5
16	1.34	19 x 0.30	2.27	20.0	13.9
14	1.91	19 x 0.36	2.66	27.0	10.0
12	3.09	19 x 0.45	3.24	42.5	6.0

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CABLES FOR GLOBAL PERFORMANCE

ELECTROAIR®

AGZ 06
Unshielded

1 • Silver plated copper core
2 • Fluorinated polymer FEP

Standards and approvals

Construction:
• Inspired of NF C 93-523
Performances:
• NF C 93-523
• IEC 60332-1
• C2 NF C 32-070
• FAR 25
• ABD0031
• EN 3475

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Electrical
Operating voltage: 1,000 V RMS

• Mechanical
Resistance to abrasion: ★★★★★
EN 3475

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★
NF C 93-523

• Fire-smoke
Flame retardant
IEC 60332-1 / C2 NF C 32-070 / FAR 25
Low smoke density
ABD0031

• Arc tracking resistance
EN 3475
(tested on wire AGZ05)

Colour code

• Red, Blue, Yellow, Green, White, Black, Brown, Orange, Purple, Grey
For any other request: please contact us

Applications

Electrical lightweight cables used in electronic equipments for aircraft, missile systems or aeronautical test benches

Our range AGZ
is an alternative to KZ NF C 93-523
(similar performances with a FEP insulation instead of PTFE)

AGZ 06

AWG	Cross Section (mm²)	Stranding (n x mm)	Cable outer diameter Maxi (mm)	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
32	0.03	7 x 0.08	1.09	2.6	546.0
30	0.06	7 x 0.10	1.16	3.0	349.0
28	0.09	7 x 0.13	1.24	3.7	201.0
26	0.14	7 x 0.16	1.34	4.6	132. 0
24	0.22	7 x 0.20	1.47	5.8	86.0
22	0.34	7 x 0.25	1.63	7.7	54.4
20	0.60	7 x 0.32	1.86	11.0	31.3
18	0.93	7 x 0.40	2.17	16.0	20.5
16	1.34	19 x 0.30	2.41	21.1	13.9
14	1.91	19 x 0.36	2.92	30.0	10.0
12	3.09	19 x 0.45	3.55	47.5	6.0
10	4.77	37 x 0.40	3.88	53.3	3.9
8	8.60	133 x 0.29	5.56	99.0	2.2

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ELECTROAIR®

M-AGZ 04

Unshielded & Assembling (2x to 4x)

Two to four assembling wires AGZ 04

Standards and approvals

Construction:
- Inspired of NF C 93-523

Performances:
- NF C 93-523
- IEC 60332-1
- C2 NF C 32-070
- FAR 25
- ABD0031
- EN 3475

Characteristics

- Thermal

Continuous operating temperature: **-55°C to +200°C**

- Electrical

Operating voltage: 250 V RMS

- Mechanical

Resistance to abrasion: ★★★★★
EN 3475

- Chemical

Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★
NF C 93-523

- Fire-smoke

Flame retardant
IEC 60332-1 / C2 NF C 32-070 / FAR 25
Low smoke density
ABD0031

- Arc tracking resistance

EN 3475
(tested on wire AGZ05)

Colour code

- Two cores: Blue / White cores
- Three cores: White / Blue / Orange cores
- Four cores: White / Blue / Orange / Black cores

For any other request: please contact us

Applications

Electrical lightweight cables used in electronic equipments for aircraft, missile systems or aeronautical test benches

Our range AGZ
is an alternative to KZ NF C 93-523
(similar performances with a FEP insulation instead of PTFE)

WIRE (AGZ 04)

AWG	Cross Section (mm²)	Stranding (n x mm)	Wire outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
28	0.09	7 x 0.13	0.73	1.8	201.0
26	0.14	7 x 0.16	0.84	2.4	132.0
24	0.22	7 x 0.20	0.96	3.4	86.0
22	0.34	7 x 0.25	1.11	5.0	54.4
20	0.60	7 x 0.32	1.40	8.3	31.3

M-AGZ 04

	2X		3X		4X		
AWG	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
28	1.46	2.6	1.57	5.4	1.75	7.2	211.0
26	1.68	4.8	1.81	7.2	2.02	9.6	138.0
24	1.92	6.8	2.06	10.2	2.31	13.6	90.0
22	2.22	10.0	2.39	15.0	2.67	20.0	57.0
20	2.80	16.6	3.01	24.9	3.37	33.2	33.0

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CABLES FOR GLOBAL PERFORMANCE

ELECTROAIR®

M-AGZ 05

Unshielded & Assembling (2x to 4x)

Two to four assembling wires AGZ 05

Standards and approvals

Construction:
- Inspired of NF C 93-523

Performances:
- NF C 93-523
- IEC 60332-1
- C2 NF C 32-070
- FAR 25
- ABD0031
- EN 3475

Characteristics

- Thermal

Continuous operating temperature: **-55°C to +200°C**

- Electrical

Operating voltage: 600 V RMS

- Mechanical

Resistance to abrasion: ★★★★★
EN 3475

- Chemical

Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★
NF C 93-523

- Fire-smoke

Flame retardant
IEC 60332-1 / C2 NF C 32-070 / FAR 25
Low smoke density
ABD0031

- Arc tracking resistance

EN 3475
(tested on wire AGZ05)

Colour code

- Two cores: Blue / White cores
- Three cores: White / Blue / Orange cores
- Four cores: White / Blue / Orange / Black cores

For any other request: please contact us

Applications

Electrical lightweight cables used in electronic equipments for aircraft, missile systems or aeronautical test benches

Our range AGZ
is an alternative to KZ NF C 93-523
(similar performances with a FEP insulation instead of PTFE)

WIRE (AGZ 05)

AWG	Cross Section (mm²)	Stranding (n x mm)	Wire outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
28	0.09	7 x 0.13	1.00	2.6	201.0
26	0.14	7 x 0.16	1.10	3.4	132.0
24	0.22	7 x 0.20	1.22	4.5	86.0
22	0.34	7 x 0.25	1.37	6.2	54.4
20	0.60	7 x 0.32	1.62	9.5	31.3
18	0.93	7 x 0.40	1.92	14.1	20.5
16	1.34	19 x 0.30	2.27	20.0	13.9
14	1.91	19 x 0.36	2.66	27.0	10.0
12	3.09	19 x 0.45	3.24	42.5	6.0

M-AGZ 05

	2X		3X		4X		
AWG	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
28	2.00	5.2	2.15	7.8	2.41	10.4	211.0
26	2.20	6.8	2.36	10.2	2.65	13.6	138.0
24	2.44	9.0	2.62	13.5	2.94	18.0	90.0
22	2.74	12.4	2.94	18.6	3.30	24.8	57.0
20	3.24	19.0	3.48	28.5	3.90	38.0	33.0
18	3.84	28.2	4.12	42.3	4.62	56.4	21.5
16	4.54	40.0	4.88	60.0	5.47	80.0	14.6
14	5.32	54.0	5.71	81.0	6.41	108.0	10.5
12	6.48	85.0	6.96	127.5	7.81	170.0	6.3

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M-AGZ 06

Unshielded & Assembling (2x to 4x)

Two to four assembling wires AGZ 06

Standards and approvals

Construction:
- Inspired of NF C 93-523

Performances:
- NF C 93-523
- IEC 60332-1
- C2 NF C 32-070
- FAR 25
- ABD0031
- EN 3475

Characteristics

- Thermal
Continuous operating temperature: **-55°C to +200°C**

- Electrical
Operating voltage: 1,000 V RMS

- Mechanical
Resistance to abrasion: ★★★★★
EN 3475

- Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★
NF C 93-523

- Fire-smoke
Flame retardant
IEC 60332-1 / C2 NF C 32-070 / FAR 25
Low smoke density
ABD0031

- Arc tracking resistance
EN 3475
(tested on wire AGZ05)

Colour code

- Two cores: Blue / White cores
- Three cores: White / Blue / Orange cores
- Four cores: White / Blue / Orange / Black cores

For any other request: please contact us

Applications

Electrical lightweight cables used in electronic equipments for aircraft, missile systems or aeronautical test benches

Our range AGZ
is an alternative to KZ NF C 93-523
(similar performances with a FEP insulation instead of PTFE)

WIRE (AGZ 06)

AWG	Cross Section (mm^2)	Stranding (n x mm)	Wire outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
26	0.14	7 x 0.16	1.34	4.6	132.0
24	0.22	7 x 0.20	1.47	5.8	86.0
22	0.34	7 x 0.25	1.63	7.7	54.4
20	0.60	7 x 0.32	1.86	11.0	31.3
18	0.93	7 x 0.40	2.17	16.0	20.5
16	1.34	19 x 0.30	2.41	21.1	13.9
14	1.91	19 x 0.36	2.92	30.0	10.0

M-AGZ 06

	2X		3X		4X		
AWG	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
26	2.68	9.2	2.88	13.8	3.23	18.4	138.0
24	2.94	11.6	3.16	17.4	3.54	23.2	90.0
22	3.26	15.4	3.50	23.1	3.92	30.8	57.0
20	3.72	22.0	4.00	33.0	4.48	44.0	33.0
18	4.34	32.0	4.66	48.0	5.23	64.0	21.5
16	4.82	42.2	5.18	63.3	5.81	84.4	14.6
14	5.84	20.0	6.27	30.0	7.03	40.0	10.5

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CABLES FOR GLOBAL PERFORMANCE

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ELECTROAIR®

AGZ 55, 67, 79
Shielded & Jacketed

1 • One to three wires AGZ 04
2 • Silver plated copper braid
3 • Fluorinated polymer FEP

AGZ 55 (single core)
AGZ 67 (two cores)
AGZ 79 (three cores)

Standards and approvals

Construction:
• Inspired of NF C 93-523
Performances:
• NF C 93-523
• IEC 60332-1
• C2 NF C 32-070
• FAR 25
• ABD0031
• EN 3475

Colour code

• AGZ 55: White jacket and White core
• AGZ 67: White jacket and Blue / White cores
• AGZ 79: White jacket and Blue / White / Orange cores
For any other request: please contact us

Applications

Electrical lightweight cables used in electronic equipments for aircraft, missile systems or aeronautical test benches

Our range AGZ
is an alternative to KZ NF C 93-523
(similar performances with a FEP insulation instead of PTFE)

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Electrical
Operating voltage: 250 V RMS

• Mechanical
Resistance to abrasion: ★★★★★
EN 3475

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★
NF C 93-523

• Fire-smoke
Flame retardant
IEC 60332-1 / C2 NF C 32-070 / FAR 25
Low smoke density
ABD0031

• Arc tracking resistance
EN 3475
(tested on wire AGZ05)

• Electromagnetic protection
Very good covering (shielding) > 85%

WIRE (AGZ 04)

AWG	Cross Section (mm^2)	Stranding (n x mm)	Wire outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
32	0.03	7 x 0.08	0.58	0.9	546.0
30	0.06	7 x 0.10	0.66	1.3	349.0
28	0.09	7 x 0.13	0.73	1.8	201.0
26	0.14	7 x 0.16	0.84	2.4	132.0
24	0.22	7 x 0.20	0.96	3.4	86.0
22	0.34	7 x 0.25	1.11	5.0	54.4
20	0.60	7 x 0.32	1.40	8.3	31.3

	AGZ 55		AGZ 67		AGZ 79	
	1X		2X		3X	
AWG	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)
32	-	-	2.36	8.0	2.44	9.8
30	-	-	2.52	9.3	2.61	11.7
28	-	-	2.62	10.8	2.76	13.7
26	2.05	8.1	2.88	13.0	3.15	18.7
24	2.17	9.7	3.27	17.9	3.40	23.1
22	2.32	11.9	3.57	22.5	3.73	29.6
20	2.60	16.5	4.15	31.7	4.35	42.7

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CABLES FOR GLOBAL PERFORMANCE

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ELECTROAIR®

AGZ 57, 69, 81, 93
Shielded & Jacketed

1 • One to four wires AGZ 05
2 • Silver plated copper braid
3 • Fluorinated polymer FEP

AGZ 57 (single core)
AGZ 69 (two cores)
AGZ 81 (three cores)
AGZ 93 (four cores)

Standards and approvals

Construction:
• Inspired of NF C 93-523
Performances:
• NF C 93-523
• IEC 60332-1
• C2 NF C 32-070
• FAR 25
• ABD0031
• EN 3475

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Electrical
Operating voltage: 600 V RMS

• Mechanical
Resistance to abrasion: ★★★★★
EN 3475

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★
NF C 93-523

• Fire-smoke
Flame retardant
IEC 60332-1 / C2 NF C 32-070 / FAR 25
Low smoke density
ABD0031

• Arc tracking resistance
EN 3475
(tested on wire AGZ05)

• Electromagnetic protection
Very good covering (shielding) > 85%

Colour code

• AGZ 57: White jacket and White core
• AGZ 69: White jacket and Blue / White cores
• AGZ 81: White jacket and Blue / White / Orange cores
• *AGZ 93: White jacket and Blue / White / Orange / Black cores*
For any other request: please contact us

Applications

Electrical lightweight cables used in electronic equipments for aircraft, missile systems or aeronautical test benches

Our range AGZ
is an alternative to KZ NF C 93-523
(similar performances with a FEP insulation instead of PTFE)

WIRE (AGZ 05)

AWG	Cross Section (mm²)	Stranding (n x mm)	Wire outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
32	0.03	7 x 0.08	0.84	1.7	546.0
30	0.06	7 x 0.10	0.91	2.1	349.0
28	0.09	7 x 0.13	1.00	2.6	201.0
26	0.14	7 x 0.16	1.10	3.4	132.0
24	0.22	7 x 0.20	1.22	4.5	86.0
22	0.34	7 x 0.25	1.37	6.2	54.4
20	0.60	7 x 0.32	1.62	9.5	31.3
18	0.93	7 x 0.40	1.92	14.1	20.5
16	1.34	19 x 0.30	2.27	20.0	13.9
14	1.91	19 x 0.36	2.66	27.0	10.0
12	3.09	19 x 0.45	3.24	42.5	6.0

	AGZ 57		AGZ 69		AGZ 81		AGZ 93	
	1X		2X		3X		4X	
AWG	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)
32	1.97	6.7	2.71	10.6	2.82	13.4	2.90	15.5
30	2.04	7.5	2.85	12.0	3.12	17.4	3.20	16.7
28	2.13	8.4	3.03	13.7	3.32	19.9	3.50	22.9
26	2.23	9.6	3.38	18.1	3.53	23.4	3.70	25.0
24	2.36	11.3	3.64	21.5	3.81	28.2	4.10	29.5
22	2.50	13.6	3.92	26.2	4.11	34.8	4.25	40.0
20	2.90	20.0	4.42	35.1	4.65	47.6	4.80	52.5
18	3.18	26.1	5.08	46.9	5.53	67.5	5.70	76.0
16	3.53	33.5	5.86	64.4	6.18	89.1	6.30	95.0
14	3.91	42.6	6.62	82.4	7.00	115.0	7.20	131.0
12	4.49	61.1	7.78	120.0	8.24	169.0	8.40	188.0

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CABLES FOR GLOBAL PERFORMANCE

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ELECTROAIR®

AGZ 59, 71, 83
Shielded & Jacketed

1 • One to three wires AGZ 06
2 • Silver plated copper braid
3 • Fluorinated polymer FEP

AGZ 59 (single core)
AGZ 71 (two cores)
AGZ 83 (three cores)

Standards and approvals

Construction:
• Inspired of NF C 93-523
Performances:
• NF C 93-523
• IEC 60332-1
• C2 NF C 32-070
• FAR 25
• ABD0031
• EN 3475

Colour code

• AGZ 59: White jacket and White core
• AGZ 71: White jacket and Blue / White cores
• AGZ 83: White jacket and Blue / White / Orange cores
For any other request: please contact us

Applications

Electrical lightweight cables used in electronic equipments for aircraft, missile systems or aeronautical test benches

Our range AGZ
is an alternative to KZ NF C 93-523
(similar performances with a FEP insulation instead of PTFE)

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Electrical
Operating voltage: 1,000 V RMS

• Mechanical
Resistance to abrasion: ★★★★★
EN 3475

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★
NF C 93-523

• Fire-smoke
Flame retardant
IEC 60332-1 / C2 NF C 32-070 / FAR 25
Low smoke density
ABD0031

• Arc tracking resistance
EN 3475
(tested on wire AGZ05)

• Electromagnetic protection
Very good covering (shielding) > 85%

WIRE (AGZ 06)

AWG	Cross Section (mm²)	Stranding (n x mm)	Wire outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
32	0.03	7 x 0.08	1.09	2.6	546.0
30	0.06	7 x 0.10	1.16	3.0	349.0
28	0.09	7 x 0.13	1.24	3.7	201.0
26	0.14	7 x 0.16	1.34	4.6	132.0
24	0.22	7 x 0.20	1.47	5.8	86.0
22	0.34	7 x 0.25	1.63	7.7	54.4
20	0.60	7 x 0.32	1.86	11.0	31.3
18	0.93	7 x 0.40	2.17	16.0	20.5
16	1.34	19 x 0.30	2.41	21.1	13.9
14	1.91	19 x 0.36	2.92	30.0	10.0
12	3.09	19 x 0.45	3.55	47.5	6.0

	AGZ 59		AGZ 71		AGZ 83	
	1X		2X		3X	
AWG	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)
32	2.22	8.8	3.36	16.4	3.51	20.9
30	2.28	9.4	3.48	17.7	3.64	22.7
28	2.37	10.6	3.66	19.9	3.83	25.8
26	2.47	11.9	3.86	22.6	4.05	29.6
24	2.60	13.6	4.12	26.1	4.33	34.5
22	2.90	18.2	4.42	31.4	4.65	42.1
20	3.14	22.7	4.90	40.2	5.34	57.6
18	3.43	29.2	5.64	55.6	6.15	76.2
16	3.68	35.4	6.16	68.1	6.60	94.8
14	4.19	46.8	7.08	90.7	7.59	127.0
12	5.00	70.4	8.34	133.0	8.94	188.0

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ELECTROAIR®

AGF 05

Unshielded & Extra flexible core

1 • Silver plated copper core (extra flexible)
2 • Fluorinated polymer FEP
Assembling version by pair / triple / quad

Standards and approvals

Construction:
• Inspired of NF C 93-523
Performances:
• NF C 93-523
• IEC 60332-1
• C2 NF C 32-070
• FAR 25
• ABD0031
• EN 3475

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Electrical
Operating voltage: 600 V RMS

• Mechanical
Resistance to abrasion: ★★★★★
EN 3475

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★
NF C 93-523

• Fire-smoke
Flame retardant
IEC 60332-1 / C2 NF C 32-070 / FAR 25
Low smoke density
ABD0031

• Arc tracking resistance
EN 3475
(tested on wire AGZ05)

Colour code

Red, Blue, Yellow, Green, White, Black, Brown, Orange, Purple, Grey
For any other request: please contact us

Applications

Electrical lightweight cables used in electronic equipments for aircraft, missile systems or aeronautical test benches

Our range AGF is an alternative to KZ NF C 93-523 in an "extra flexible core" version *(similar performances with a FEP insulation instead of PTFE and more flexible)*

AGF 05

AWG	Cross Section (mm²)	Stranding (n x mm)	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
32	0.03	19 x 0.05	0.84	1.7	515.0
30	0.06	19 x 0.06	0.91	2.1	323.5
28	0.09	19 x 0.08	1.00	2.6	196.3
26	0.14	19 x 0.10	1.10	3.4	122.4
24	0.24	19 x 0.13	1.22	4.5	77.4
22	0.38	19 x 0.16	1.37	6.2	48.6
20	0.60	19 x 0.20	1.62	9.5	31.3
18	0.93	19 x 0.25	1.92	14.1	20.5
16	1.34	19 x 0.30	2.27	20.0	13.9
14	1.91	19 x 0.36	2.66	27.0	10.0
12	2.98	37 x 0.32	3.24	42.5	6.0
10	4.77	37 x 0.40	3.60	50.3	3.9
8	8.60	133 x 0.29	5.50	96.5	2.2

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CABLES FOR GLOBAL PERFORMANCE

ELECTROAIR®

M-AGF 05

Unshielded & Assembling (2x to 4x)
Extra flexible core

1 • Silver plated copper core (extra flexible)
2 • Fluorinated polymer FEP
Assembling 2 cores to 4 cores

Standards and approvals

Construction:
• Inspired of NF C 93-523
Performances:
• NF C 93-523
• IEC 60332-1
• C2 NF C 32-070
• FAR 25
• ABD0031
• EN 3475

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Electrical
Operating voltage: 600 V RMS

• Mechanical
Resistance to abrasion: ★★★★★
EN 3475

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★
NF C 93-523

• Fire-smoke
Flame retardant
IEC 60332-1 / C2 NF C 32-070 / FAR 25
Low smoke density
ABD0031

• Arc tracking resistance
EN 3475
(tested on wire AGZ05)

Colour code

• Two cores: Blue / White cores
• Three cores: White / Blue / Orange cores
• Four cores: White / Blue / Orange / Black cores
For any other request: please contact us

Applications

Electrical lightweight cables used in electronic equipments for aircraft, missile systems or aeronautical test benches

Our range AGF is an alternative to KZ NF C 93-523 in an "extra flexible core" version *(similar performances with a FEP insulation instead of PTFE)*

WIRE (AGF 05)

AWG	Cross Section (mm²)	Stranding (n x mm)	Wire outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
28	0.09	19 x 0.08	1.00	2.6	196.3
26	0.14	19 x 0.10	1.10	3.4	122.4
24	0.24	19 x 0.13	1.22	4.5	77.4
22	0.38	19 x 0.16	1.37	6.2	48.6
20	0.60	19 x 0.20	1.62	9.5	31.3
18	0.93	19 x 0.25	1.92	14.1	20.5
16	1.34	19 x 0.30	2.27	20.0	13.9
14	1.91	19 x 0.36	2.66	27.0	10.0
12	2.98	37 x 0.32	3.24	42.5	6.0

M-AGF 05

AWG	2X		3X		4X	
	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)
28	2.00	5.2	2.15	7.8	2.41	10.4
26	2.20	6.8	2.36	10.2	2.65	13.6
24	2.44	9.0	2.62	13.5	2.94	18.0
22	2.74	12.4	2.94	18.6	3.30	24.8
20	3.24	19.0	3.48	28.5	3.90	38.0
18	3.84	28.2	4.12	42.3	4.62	56.4
16	4.54	40.0	4.88	60.0	5.47	80.0
14	5.32	54.0	5.71	81.0	6.41	108.0
12	6.48	85.0	6.96	127.5	7.81	170.0

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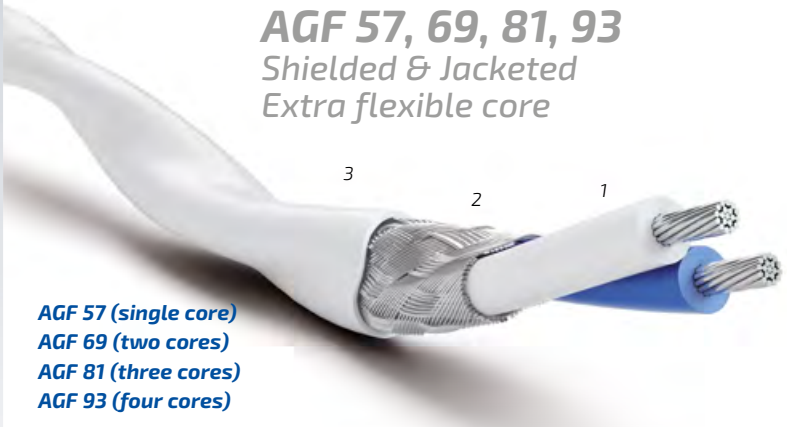
ELECTROAIR®

AGF 57, 69, 81, 93
Shielded & Jacketed
Extra flexible core



1 • One to four wires AGF 05
2 • Silver plated copper braid
3 • Fluorinated polymer FEP

AGF 57 (single core)
AGF 69 (two cores)
AGF 81 (three cores)
AGF 93 (four cores)

Standards and approvals

Construction:
• Inspired of NF C 93-523
Performances:
• NF C 93-523
• IEC 60332-1
• C2 NF C 32-070
• FAR 25
• ABD0031
• EN 3475

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Electrical
Operating voltage: 600 V RMS

• Mechanical
Resistance to abrasion: ★★★★★
EN 3475

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★
NF C 93-523

• Fire-smoke
Flame retardant
IEC 60332-1 / C2 NF C 32-070 / FAR 25
Low smoke density
ABD0031

• Arc tracking resistance
EN 3475
(tested on wire AGZ05)

• Electromagnetic protection
Very good covering (shielding) > 85%

Colour code

• AGF 57: White jacket and White core
• AGF 69: White jacket and Blue / White cores
• AGF 81: White jacket and Blue / White / Orange cores
• AGF 93: White jacket and Blue / White / Orange / Black cores
For any other request: please contact us

Applications

Electrical lightweight cables used in electronic equipments for aircraft, missile systems or aeronautical test benches

Our range AGF is an alternative to KZ NF C 93-523 in an "extra flexible core" version *(similar performances with a FEP insulation instead of PTFE and more flexible)*

WIRE (AGF 05)

AWG	Cross Section (mm²)	Stranding (n x mm)	Wire outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
28	0.09	19 x 0.08	1.00	2.6	196.3
26	0.14	19 x 0.10	1.10	3.4	122.4
24	0.24	19 x 0.13	1.22	4.5	77.4
22	0.38	19 x 0.16	1.37	6.2	48.6
20	0.60	19 x 0.20	1.62	9.5	31.3
18	0.93	19 x 0.25	1.92	14.1	20.5
16	1.34	19 x 0.30	2.27	20.0	13.9
14	1.91	19 x 0.36	2.66	27.0	10.0
12	2.98	37 x 0.32	3.24	42.5	6.0

	AGF 57		AGF 69		AGF 81		AGF 93	
	1X		2X		3X		4X	
AWG	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)
28	2.13	8.4	3.03	13.7	3.32	19.9	3.50	22.9
26	2.23	9.6	3.38	18.1	3.53	23.4	3.70	25.0
24	2.36	11.3	3.64	21.5	3.81	28.2	4.10	29.5
22	2.50	13.6	3.92	26.2	4.11	34.8	4.25	40.0
20	2.90	20.0	4.42	35.1	4.65	47.6	4.80	52.5
18	3.18	26.1	5.08	46.9	5.53	67.5	5.70	76.0
16	3.53	33.5	5.86	64.4	6.18	89.1	6.30	95.0
14	3.91	42.6	6.62	82.4	7.00	115.0	7.20	131.0
12	4.49	61.1	7.78	120.0	8.24	169.0	8.40	188.0

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ELECTROAIR®

KZ 04, 07
Unshielded

1 • Silver plated copper core (KZ 04)
or Nickel-plated copper core (KZ 07)
2 • Fluorinated PTFE tape

Standards and approvals

Construction:
• NF C 93-523

Performances:
• IEC 60332-1
• C2 NF C 32-070
• FAR 25

Characteristics

• Thermal
Continuous operating temperature: **-90°C to +200°C (KZ 04)**
-90°C to +260°C (KZ 07)

• Electrical
Operating voltage: 250 V RMS

• Mechanical
Resistance to abrasion: ★★★★★

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★

• Fire-smoke
Flame retardant
IEC 60332-1 / C2 NF C 32-070 / FAR 25

Colour code

Red, Blue, Yellow, Green, White, Black, Orange
For any other request: please contact us

Applications

Electrical lightweight cables used in electronic equipments for aircraft, missile systems or aeronautical test benches

KZ 04, 07

AWG	Cross Section (mm²)	Stranding (n x mm)	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)	
					CuAg	CuNi
28	0.09	7 x 0.13	0.73	1.8	201.0	225.0
26	0.14	7 x 0.16	0.84	2.4	132.0	148.0
24	0.22	7 x 0.20	0.96	3.4	86.0	96.5
22	0.34	7 x 0.25	1.11	5.0	54.4	60.8
20	0.60	19 x 0.20	1.40	8.3	31.3	35.0

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ELECTROAIR®

KZ 05, 08
Unshielded

1 • Silver plated copper core (KZ 05)
or Nickel-plated copper core (KZ 08)
2 • Fluorinated PTFE tape

Standards and approvals

Construction:
• NF C 93-523

Performances:
• IEC 60332-1
• C2 NF C 32-070
• FAR 25

Characteristics

• Thermal
Continuous operating temperature: **-90°C to +200°C (KZ 05)**
-90°C to +260°C (KZ 08)

• Electrical
Operating voltage: 600 V RMS

• Mechanical
Resistance to abrasion: ★★★★★

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★

• Fire-smoke
Flame retardant
IEC 60332-1 / C2 NF C 32-070 / FAR 25

Colour code

Red, Blue, Yellow, Green, White, Black, Orange
For any other request: please contact us

Applications

Electrical lightweight cables used in electronic equipments for aircraft, missile systems or aeronautical test benches

KZ 05, 08

AWG	Cross Section (mm²)	Stranding (n x mm)	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)	
					CuAg	CuNi
28	0.09	7 x 0.13	1.00	2.6	201.0	225.0
26	0.14	7 x 0.16	1.10	3.4	132.0	148.0
24	0.22	7 x 0.20	1.22	4.5	86.0	96.5
22	0.34	7 x 0.25	1.37	6.2	54.4	60.8
20	0.60	19 x 0.20	1.62	9.5	31.3	35.0
18	0.93	19 x 0.25	1.92	14.1	20.5	23.0
16	1.34	19 x 0.30	2.27	20.0	13.9	15.6
14	1.91	27 x 0.30*	2.66	27.0	10.0	11.2
12	3.09	45 x 0.30*	3.24	42.5	6.0	6.7

** Non-concentric cores*

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ELECTROAIR®

KZ 06, 09
Unshielded

1 • Silver plated copper core (KZ 06)
or Nickel-plated copper core (KZ 09)
2 • Fluorinated PTFE tape

Standards and approvals

Construction:
• NF C 93-523

Performances:
• IEC 60332-1
• C2 NF C 32-070
• FAR 25

Characteristics

• Thermal
Continuous operating temperature: **-90°C to +200°C (KZ 06)**
-90°C to +260°C (KZ 09)

• Electrical
Operating voltage: 1,000 V RMS

• Mechanical
Resistance to abrasion: ★★★★★

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★

• Fire-smoke
Flame retardant
IEC 60332-1 / C2 NF C 32-070 / FAR 25

Colour code

Red, Blue, Yellow, Green, White, Black, Orange
For any other request: please contact us

Applications

Electrical lightweight cables used in electronic equipments for aircraft, missile systems or aeronautical test benches

KZ 06, 09

AWG	Cross Section (mm²)	Stranding (n x mm)	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)	
					CuAg	CuNi
28	0.09	7 x 0.13	1.24	3.7	201.0	225.0
26	0.14	7 x 0.16	1.34	4.6	132.0	148.0
24	0.22	7 x 0.20	1.47	5.8	86.0	96.5
22	0.34	7 x 0.25	1.63	7.7	54.4	60.8
20	0.60	19 x 0.20	1.86	11.0	31.3	35.0
18	0.93	19 x 0.25	2.17	16.0	20.5	23.0
16	1.34	19 x 0.30	2.41	21.1	13.9	15.6
14	1.91	27 x 0.30*	2.92	30.0	10.0	11.2
12	3.09	45 x 0.30*	3.55	47.5	6.0	6.7

** Non-concentric cores*

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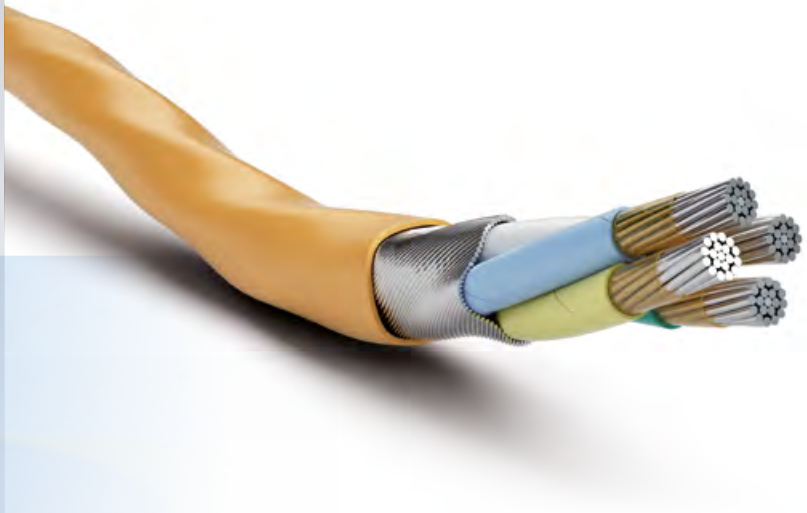


FLIGHT TEST CABLES

Helicopters

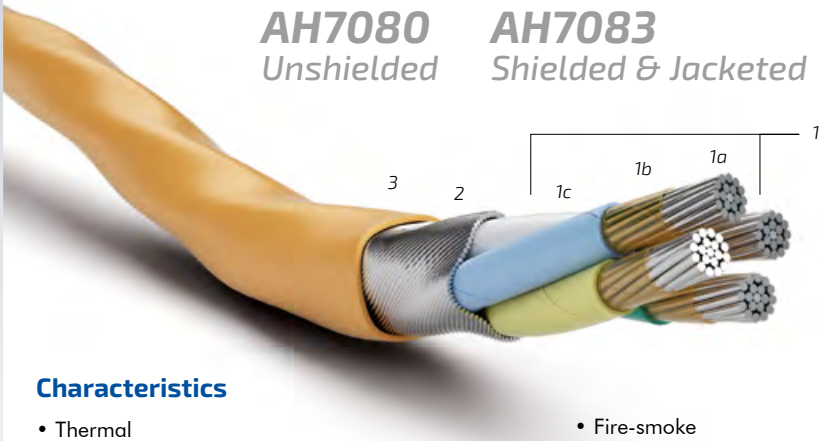
FLIGHT TEST CABLES

CGP reference	Number of cores	Core	Insulation	Shield	Outer sheath	Operating temperature (°C) Mini	Operating temperature (°C) Maxi	Operating Voltage (V RMS)	Cut-through resistance	Abrasion resistance	Aircraft fluids resistance	Flame retardant	Arc tracking resistance
ELECTROAIR® **AH7080**	1 to 4	CuSn	Polyimide +PTFE			-55	+150	600	✔	✔	✔	✔	✔
ELECTROAIR® **AH7083**	1 to 4	CuSn	Polyimide +PTFE	CuSn	Fluoropolymer	-55	+150	600	✔	✔	✔	✔	✔

CABLES FOR GLOBAL PERFORMANCE

ELECTROAIR®

AH7080 Unshielded AH7083 Shielded & Jacketed



1 • Conductors AH7080
1a. Tinned copper
1b. Polyimide tape
1c. PTFE tape
2 • Helical by covering with tinned copper braid
3 • Fluoropolymer top coat (standard colour: orange)

Standards and approvals

Construction:
dimensional according to
• EN 2267-007
• EN 4434
Performances:
• EN 3475
• FAR 25
• IEC 60332-1
• C2 NF C 32-070
• ABD0031

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +150°C**

• Electrical
Operating voltage: 600 V RMS

• Mechanical
Cut-through resistance: ★★★★☆
Resistance to abrasion: ★★★★☆
EN 3475

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★
NF C 93-523

• Fire-smoke
Flame retardant
IEC 60332-1 / C2 NF C 32-070 / FAR 25
Low smoke density
ABD0031

• Arc tracking resistance
EN 3475

Colour code

• AH7080: White or Orange core
• AH7083: Orange jacket
• 1x: White core
• 2x: White / Blue cores
• 3x: White / Blue / Yellow cores
• 4x: White / Blue / Yellow / Green cores
For any other request: please contact us

Options

Operating temperature until +200°C with a silver plated copper core and braid
Operating temperature until +250°C with a nickel plated copper core and braid

Applications

Flight test cables for helicopters

WIRE (AH7080)

AWG	Cross Section (mm²)	Stranding (n x mm)	Wire outer diameter (mm) Mini	Wire outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
26	0.15	19 x 0.10	0.85	0.97	2.45	160.0
24	0.25	19 x 0.12	0.90	1.04	3.10	114.0
22	0.40	19 x 0.15	1.05	1.19	4.43	60.0
20	0.60	19 x 0.20	1.38	1.53	7.73	33.2
18	1.00	19 x 0.25	1.65	1.82	11.74	21.1
16	1.20	19 x 0.30	2.02	2.22	16.95	14.5
14	2.00	37 x 0.25	2.29	2.49	22.65	10.9
12	3.00	37 x 0.32	2.73	2.97	33.70	6.8
10	5.00	37 x 0.40	3.33	3.61	53.10	4.2

Assembling of AH7080 by pair / triple / quad available

AH7083

Cross Section (mm²)	Cable outer diameter (mm) Mini	Cable outer diameter (mm) Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
1 x AWG 24	1.42	1.58	6.50	114.0
1 x AWG 22	1.60	1.76	8.80	60.0
1 x AWG 20	1.87	2.03	12.10	33.2
1 x AWG 18	2.17	2.33	18.00	21.1
1 x AWG 16	2.52	2.68	23.20	14.5
2 x AWG 24	2.60	2.80	13.40	117.4
2 x AWG 22	2.90	3.10	16.80	61.7
2 x AWG 20	3.20	3.40	24.40	34.1
2 x AWG 18	3.70	3.90	34.30	21.7
2 x AWG 16	4.40	4.60	44.30	14.9
3 x AWG 26	2.40	2.60	16.00	165.0
3 x AWG 24	2.50	2.70	16.70	117.4
3 x AWG 22	2.90	3.10	22.30	61.7
4 x AWG 24	3.00	3.20	21.00	117.0
4 x AWG 22	3.40	3.60	28.80	61.7
4 x AWG 20	3.70	3.90	43.60	34.1

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FIRE RESISTANT & HIGH TEMPERATURE AREA CABLES

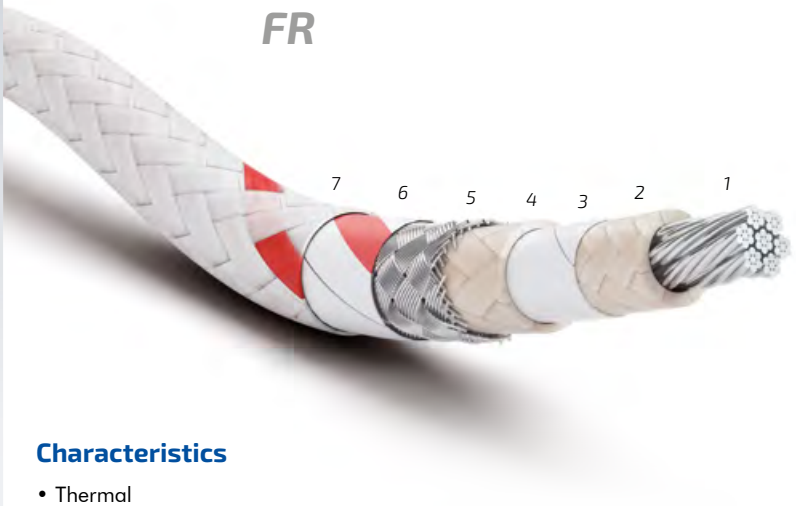
Aircraft engines
High temperature area

CABLES FOR GLOBAL PERFORMANCE

ELECTROAIR®

FR

1 • Nickel-plated copper core
2 • Braid in Mineral fibre
3 • PTFE tape
4 • Braid in Mineral fibre
5 • Nickel-plated copper braid
6 • PTFE tape
7 • Braid in Mineral fibre



Characteristics

• Thermal
Continuous operating temperature: **-65°C to +310°C**

• Electrical
Operating voltage: 600 V RMS

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★

• Fire resistant
BMS 13-67

For more technical information, please contact us

Applications

Fire zone and high temperature area cables

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CABLES FOR GLOBAL PERFORMANCE

CABLES FOR GLOBAL PERFORMANCE

ARMOURED PERSONNEL CARRIER CABLES

Armoured personnel carrier

CABLES FOR GLOBAL PERFORMANCE

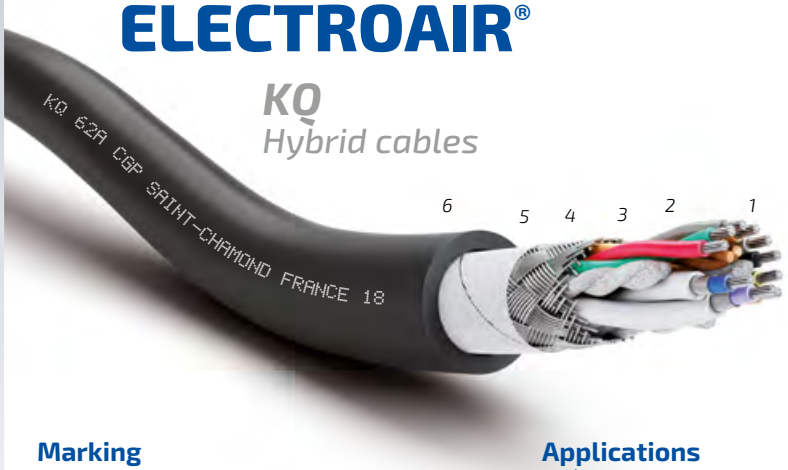
ARMOURED PERSONNEL CARRIER CABLES

CGP reference	Number of cores	Core	Insulation	Shield	Outer sheath	Operating temperature (°C) Mini	Operating temperature (°C) Maxi	Operating Voltage (V RMS)	Cut-through resistance	Abrasion resistance	Chemical resistance	Flame retardant	UV resistance
ELECTROAIR® **KQ 9A**	4	CuSn	Thermoplastic	CuSn	PU	-40	+85	600	✔	✔	✔	✔	
ELECTROAIR® **KQ 28A**	5	CuSn	Thermoplastic	CuSn	PU	-40	+85	250	✔	✔	✔	✔	
ELECTROAIR® **KQ 29A**	19	CuSn	Thermoplastic	CuSn	PU	-40	+85	600	✔	✔	✔	✔	
ELECTROAIR® **KQ 30A**	12	CuSn	Thermoplastic	CuSn	PU	-40	+85	250	✔	✔	✔	✔	
ELECTROAIR® **KQ 31A**	7	CuSn	Thermoplastic	CuSn	PU	-40	+85	600	✔	✔	✔	✔	
ELECTROAIR® **KQ 38A**	41	CuSn	Thermoplastic	CuSn	PU	-40	+85	600	✔	✔	✔	✔	
ELECTROAIR® **KQ 47A**	3	CuSn	Fluoropolymer	CuSn	PU	-40	+85	250	✔	✔	✔	✔	
ELECTROAIR® **KQ 48A**	6	CuSn	Fluoropolymer	CuSn	PU	-40	+85	250	✔	✔	✔	✔	
ELECTROAIR® **KQ 49A**	8	CuSn	Fluoropolymer	CuSn	PU	-40	+85	250	✔	✔	✔	✔	✔
ELECTROAIR® **KQ 50A**	19	CuSn	Fluoropolymer	CuSn	PU	-40	+85	350	✔	✔	✔	✔	✔
ELECTROAIR® **KQ 51A**	6	CuSn	Fluoropolymer	CuSn	PU	-40	+85	250	✔	✔	✔	✔	✔
ELECTROAIR® **KQ 52A**	22	CuSn	Fluoropolymer	CuSn	PU	-40	+85	350	✔	✔	✔	✔	✔
ELECTROAIR® **KQ 53A**	54	CuSn	Fluoropolymer	CuSn	PU	-40	+85	350	✔	✔	✔	✔	✔
ELECTROAIR® **KQ 55A**	3	CuSn	Fluoropolymer	CuSn	PU	-40	+85	250	✔	✔	✔	✔	✔
ELECTROAIR® **KQ 60A**	6	CuSn	Fluoropolymer	CuSn	PU	-40	+85	600	✔	✔	✔	✔	✔
ELECTROAIR® **KQ 61A**	6	CuSn	Fluoropolymer	CuSn	PU	-40	+85	350	✔	✔	✔	✔	✔
ELECTROAIR® **KQ 62A**	6	CuA1	Fluoropolymer	CuSn	PU	-40	+85	100	✔	✔	✔	✔	✔
ELECTROAIR® **KQ 63A**	4	CuSn	Fluoropolymer	CuSn	PU	-40	+85	100	✔	✔	✔	✔	✔
ELECTROAIR® **KQ 65A**	16	CuSn	Fluoropolymer	CuSn	PU	-40	+85	600	✔	✔	✔	✔	✔
ELECTROAIR® **KQ 66A**	6	CuSn	Fluoropolymer	CuSn	PU	-40	+85	100	✔	✔	✔	✔	✔

CABLES FOR GLOBAL PERFORMANCE

ELECTROAIR®

KQ
Hybrid cables



1 • Tinned or plain copper core (Table n°1)
2 • Securing cords in polyester (Table n°1)
3 • Insulation in thermoplastic or fluoropolymer (Table n°1)
4 • Tinned copper braid (general / individual or both - Table n°1)
5 • Polyester tape
6 • Polyurethane sheath

Standards and approvals

Construction:
• DGA specifications
Performances:
• SEFT 027

Marking
"N° KQ CGP SAINT-CHAMOND FRANCE
Manufacturing Year"

Applications
Audio
Data transmission
Remote control cables for armoured personnel carrier

Options
Other models on request

Characteristics

• Thermal
Continuous operating temperature:
-40°C to +85°C

• Electrical
Operating voltage: Depending on model *(see Table n°2)*

• Mechanical
Cut-through resistance: ★★★★★
Resistance to abrasion: ★★★★★
Alternate bending resistance: ★★★★★
SEFT 027

• Chemical
Immersion: Permanent AD8
Resistance to sea water: ★★★★★
Oil resistance: ★★★★★
Hydrocarbons resistance:★★★★★
Biological agents resistance: ★★★★★
SEFT 027

• Fire-smoke
Flame retardant
SEFT 027

• Outdoor use
UV resistance: ★★★★★

CONSTRUCTION INFORMATION

N° KQ	Cable composition	Number of cores	Copper Core	Insulation	Sheath
KQ 9A	(4 x 20 AWG) BI	4	Tinned	Thermoplastic	PU
KQ 28A	[5 x 20 AWG] BG	5	Tinned	Thermoplastic	PU
KQ 29A	[14 x 22 AWG + (5 x 22 AWG) BI] BG	19	Tinned	Thermoplastic	PU
KQ 30A	[8 x 22 AWG + (4 x 22 AWG) BI] BG	12	Tinned	Thermoplastic	PU
KQ 31A	[7 x 16 AWG] BG	7	Tinned	Thermoplastic	PU
KQ 38A	[(3 P 24 AWG) BI + (2 x 22 AWG) BI + 33 x 22 AWG] BG	41	Tinned	Thermoplastic	PU
KQ 47A	[3 x 16 AWG] BG	3	Tinned	Fluoropolymer	PU
KQ 48A	[6 x 20 AWG] BG	6	Tinned	Fluoropolymer	PU
KQ 49A	[8 x 16 AWG] BG	8	Tinned	Fluoropolymer	PU
KQ 50A	[19 x 12 AWG] BG	19	Tinned	Fluoropolymer	PU
KQ 51A	[3 P 22 AWG] BG	6	Tinned	Fluoropolymer	PU
KQ 52A	[11 P 24 AWG] BG	22	Tinned	Fluoropolymer	PU
KQ 53A	[27 P 24 AWG] BG	54	Tinned	Fluoropolymer	PU
KQ 55A	[3 x 20 AWG + SC] BG	3	Tinned	Fluoropolymer	PU
KQ 60A	[5 x 12 AWG + 20 AWG] BG	6	Tinned	Fluoropolymer	PU
KQ 61A	[5 x 10 AWG + 20 AWG] BG	6	Tinned	Fluoropolymer	PU
KQ 62A	[(2 x 26 AWG) BI + 4 P 26 AWG] BG	6	Plain	Fluoropolymer	PU
KQ 63A	[4 x 20 AWG] BG	4	Tinned	Fluoropolymer	PU
KQ 65A	[16 x 16 AWG] BG	16	Tinned	Fluoropolymer	PU
KQ 66A	[4 x 24 AWG + (2 x 24 AWG) BI + SC] BG	6	Tinned	Fluoropolymer	PU

BI = INDIVIDUAL SHIELDING OF EACH CONDUCTORS / BG = GENERAL SHIELDING / P = ASSEMBLING BY PAIR / SC = SECURING CORD

TECHNICAL INFORMATION

CGP Reference N° KQ	Operating Voltage (V RMS)	Cable outer diameter (mm) Mini	Maxi	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
KQ 9A	600	7.10	7.50	80.0	35.0
KQ 28A	250	7.30	7.90	110.0	34.0
KQ 29A	600	13.20	13.80	280.0	59.0
KQ 30A	250	12.80	13.80	330.0	60.0
KQ 31A	600	14.20	15.00	345.0	15.0
KQ 38A	600	18.10	18.90	241.0	96.0 (3P) / 59.0 (2x) / 54.0 (33x)
KQ 47A	250	6.40	7.00	90.0	17.0
KQ 48A	250	6.70	7.30	100.0	35.0
KQ 49A	250	10.20	10.80	300.0	17.0
KQ 50A	350	19.20	19.80	1,000.0	6.5.0
KQ 51A	250	8.10	8.70	200.0	55.0
KQ 52A	350	10.00	11.00	185.0	105.0
KQ 53A	350	15.40	17.00	440.0	105.0
KQ 55A	250	5.50	5.90	60.0	35.0
KQ 60A	600	12.80	13.80	330.0	34.0 (20 AWG) / 6.7 (12 AWG)
KQ 61A	350	14.50	16.50	523.0	34.0 (20 AWG) / 4.0 (10 AWG)
KQ 62A	100	6.70	7.30	70.0	210.0
KQ 63A	100	7.00	7.30	70.0	50.0
KQ 65A	600	12.70	13.70	380.0	15.0
KQ 66A	100	7.00	7.30	70.0	92.0

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HIGH TEMPERATURE CONTROLLED IMPEDANCE TWISTED PAIR CABLES

Defence and aerospace communication systems

CABLES FOR GLOBAL PERFORMANCE

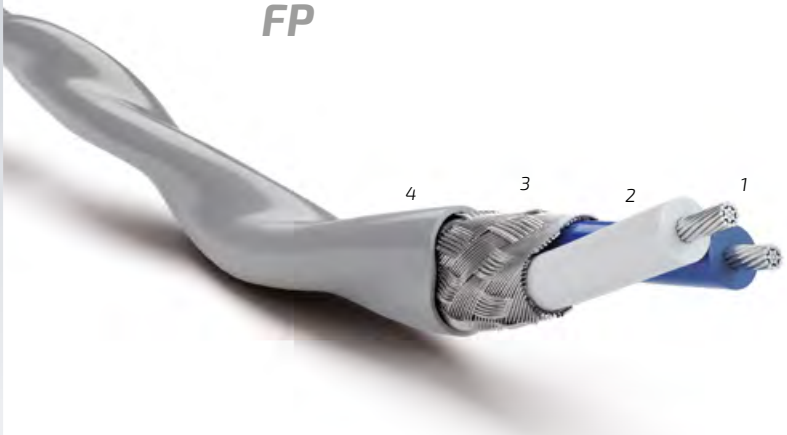
HIGH TEMPERATURE CONTROLLED IMPEDANCE TWISTED PAIR CABLES

CGP reference	Number of cores	Core	Insulation	Shield	Outer sheath	Operating temperature (°C) Mini	Operating temperature (°C) Maxi	Impedance (Ohms)	Cut-through resistance	Abrasion resistance	Aircraft fluids resistance	Flame retardant	Arc tracking resistance
ELECTROAIR® **FP 50**	2	CuAg	FEP	CuAg	FEP	--55	**+200**	50		✔	✔	✔	
ELECTROAIR® **FP 75**	2	CuAg	FEP	CuAg	FEP	-55	**+200**	75		✔	✔	✔	
ELECTROAIR® **FP 100**	2	CuAg	FEP	CuAg	FEP	-55	**+200**	100		✔	✔	✔	
ELECTROAIR® **FP 120**	2	CuAg	FEP	CuAg	FEP	-55	**+200**	120		✔	✔	✔	
ELECTROAIR® **FA 50**	2	CuAg	PFA	CuAg	PFA	-90	**+260**	50		✔	✔	✔	
ELECTROAIR® **FA 75**	2	CuAg	PFA	CuAg	PFA	-90	**+260**	75		✔	✔	✔	
ELECTROAIR® **FA 100**	2	CuAg	PFA	CuAg	PFA	-90	**+260**	100		✔	✔	✔	
ELECTROAIR® **FA 120**	2	CuAg	PFA	CuAg	PFA	-90	**+260**	120		✔	✔	✔	
ELECTROAIR® **MIL-STD-1553 W WJC**	2	CuAg	Fluoropolymer	CuAg	Fluoropolymer	-55	**+200**	77		✔	✔	✔	

TWINLINK®

FP

1 • Silver plated copper core
2 • Fluorinated polymer FEP
3 • Silver plated copper braid
4 • Fluorinated polymer FEP



Standards and approvals

Performances:
• IEC 60332-1
• C2 NF C 32-070
• FAR 25

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Electrical
Operating voltage: < 600 V RMS
Impedance: 50 Ω / 75 Ω / 100 Ω / 120 Ω

• Mechanical
Resistance to abrasion: ★★★★★
EN 3475

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★
EN 3475

• Fire-smoke
Flame retardant
IEC 60332-1 / C2 NF C 32-070 / FAR 25

• Electromagnetic protection
Excellent covering (shielding) > 91%

Colour code

• Grey jacket and Blue / White cores
For any other request: please contact us

Options

Miniature version in PTFE taped insulation

Applications

Data transmission in high temperature environment for aerospace and defence industries

DATA TRANSMISSION CHARACTERISTICS

Characteristics	Version **FP 50**	Version **FP 75**	Version **FP 100**	Version **FP 120**
Impedance	50 Ω	75 Ω	100 Ω	120 Ω
Tolerance	+/- 5 Ω	+/- 8 Ω	+/- 10 Ω	+/- 12 Ω
Transfer impedance at 1 MHz	5 to 25 Ω / m	5 to 25 Ω / m	5 to 25 Ω / m	5 to 25 Ω / m
Min. insulation resistance	> 1,500 MΩ.km	> 1,500 MΩ.km	> 1,500 MΩ.km	> 1,500 MΩ.km
Capacitance	40 to 90 pF / m	40 to 90 pF / m	40 to 90 pF / m	40 to 90 pF / m
Typical attenuation at 20 MHz	30 dB / 100 m	15 dB / 100 m	5 dB / 100 m	4 dB / 100 m
Velocity of propagation	66 to 90%	66 to 90%	66 to 90%	66 to 90%
Operating voltage	< 600 V	< 600 V	< 600 V	< 600 V

CONSTRUCTION

AWG	Stranding (n x mm)	FP 50 Cable outer diameter (mm) Nominal	FP 50 Approx. linear weight (kg / km)	FP 75 Cable outer diameter (mm) Nominal	FP 75 Approx. linear weight (kg / km)	FP 100 Cable outer diameter (mm) Nominal	FP 100 Approx. linear weight (kg / km)	FP 120 Cable outer diameter (mm) Nominal	FP 120 Approx. linear weight (kg / km)
AWG 22	19 x 0.16	3.20	22.0	4.10	30.3	5.30	51.2	6.50	70.3
AWG 24	19 x 0.12	2.70	16.1	3.40	21.5	4.40	30.9	5.30	51.2
AWG 26	19 x 0.10	2.30	13.0	2.80	15.4	3.70	23.3	4.40	30.9

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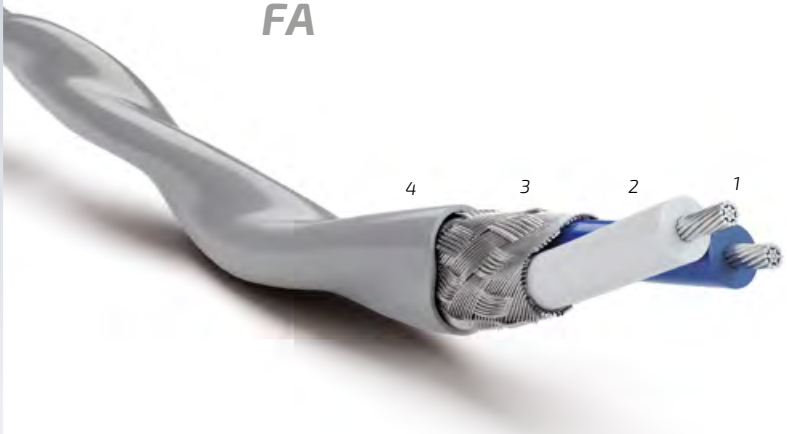
TWINLINK®

FA

1 • Silver plated copper core
2 • Fluorinated polymer PFA
3 • Silver plated copper braid
4 • Fluorinated polymer PFA



Standards and approvals

Performances:
• IEC 60332-1
• C2 NF C 32-070
• FAR 25

Colour code

• Grey jacket and Blue / White cores
For any other request: please contact us

Options

Miniature version in PTFE taped insulation

Applications

Data transmission in high temperature environment for aerospace and defence industries

Characteristics

• Thermal
Continuous operating temperature: **-90°C to +260°C**

• Electrical
Operating voltage: < 600 V RMS
Impedance: 50 Ω / 75 Ω / 100 Ω / 120 Ω

• Mechanical
Resistance to abrasion: ★★★★★
EN 3475

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★
EN 3475

• Fire-smoke
Flame retardant
IEC 60332-1 / C2 NF C 32-070 / FAR 25

• Electromagnetic protection
Excellent covering (shielding) > 91%

DATA TRANSMISSION CHARACTERISTICS

Characteristics	Version **FA 50**	Version **FA 75**	Version **FA 100**	Version **FA 120**
Impedance	50 Ω	75 Ω	100 Ω	120 Ω
Tolerance	+/- 5 Ω	+/- 8 Ω	+/- 10 Ω	+/- 12 Ω
Transfer impedance at 1 MHz	5 to 25 Ω / m	5 to 25 Ω / m	5 to 25 Ω / m	5 to 25 Ω / m
Min. insulation resistance	> 1,500 MΩ.km	> 1,500 MΩ.km	> 1,500 MΩ.km	> 1,500 MΩ.km
Capacitance	40 to 90 pF / m	40 to 90 pF / m	40 to 90 pF / m	40 to 90 pF / m
Typical attenuation at 20 MHz	30 dB / 100 m	15 dB / 100 m	5 dB / 100 m	4 dB / 100 m
Velocity of propagation	66 to 90%	66 to 90%	66 to 90%	66 to 90%
Operating voltage	< 600 V	< 600 V	< 600 V	< 600 V

CONSTRUCTION

AWG	Stranding (n x mm)	FA 50 Cable outer diameter (mm) Nominal	FA 50 Approx. linear weight (kg / km)	FA 75 Cable outer diameter (mm) Nominal	FA 75 Approx. linear weight (kg / km)	FA 100 Cable outer diameter (mm) Nominal	FA 100 Approx. linear weight (kg / km)	FA 120 Cable outer diameter (mm) Nominal	FA 120 Approx. linear weight (kg / km)
AWG 22	19 x 0.16	3.20	22.0	4.10	30.3	5.30	51.2	6.50	70.3
AWG 24	19 x 0.12	2.70	16.1	3.40	21.5	4.40	30.9	5.30	51.2
AWG 26	19 x 0.10	2.30	13.0	2.80	15.4	3.70	23.3	4.40	30.9

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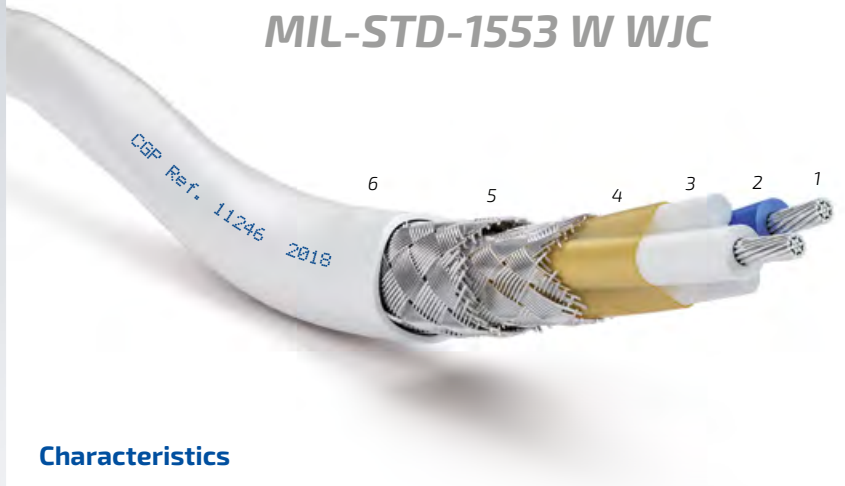
ELECTROAIR®

MIL-STD-1553 W WJC



1 • Silver plated copper alloy core
2 • Fluorinated polymer
3 • Two fillers
4 • Polyimide tape
5 • Silver plated copper double braid
6 • Fluorinated polymer

Standards and approvals

Performances:
• IEC 60332-1
• C2 NF C 32-070
• FAR 25

Colour code

• Grey jacket and Blue / White cores
For any other request: please contact us

Marking

"CGP Ref. 11246 Manufacturing Year"
• Red ink: cables for main network (Model EN 3375-004 A 01)
• Blue ink: cables for secondary networks (Model EN 3375-004 A 02)

Applications

Data transmission in high temperature environment for aerospace and defence industries

Characteristics

• Thermal
Continuous operating temperature: **-65°C to +200°C**

• Electrical
Operating voltage: < 250 V RMS
Impedance: 77 Ω

• Mechanical
Resistance to abrasion: ★★★★★
EN 3475

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★
EN 3475

• Fire-smoke
Flame retardant
IEC 60332-1 / C2 NF C 32-070 / FAR 25

• Electromagnetic protection
Excellent covering (shielding) ≥ 92%

DATA TRANSMISSION CHARACTERISTICS

Impedance	77 Ω	Maximum transfer impedance	
Tolerance	+/- 7 Ω	Direct current	15 Ω / km
Min. insulation resistance	> 1,500 M Ω.km	at 1 MHz	5 Ω / km
Capacitance	65 pF / m	at 10 MHz	5 Ω / km
Typical attenuation at 1 MHz	2.70 dB / 100m	at 30 MHz	10 Ω / km
Velocity of propagation	66 to 90%		
Operating voltage	< 250 V		

CONSTRUCTION

AWG	Stranding (n x mm)	Cable outer diameter (mm) Nominal	Approx. linear weight (kg / km)
AWG 24	19 x 0.12	3.65	37.0

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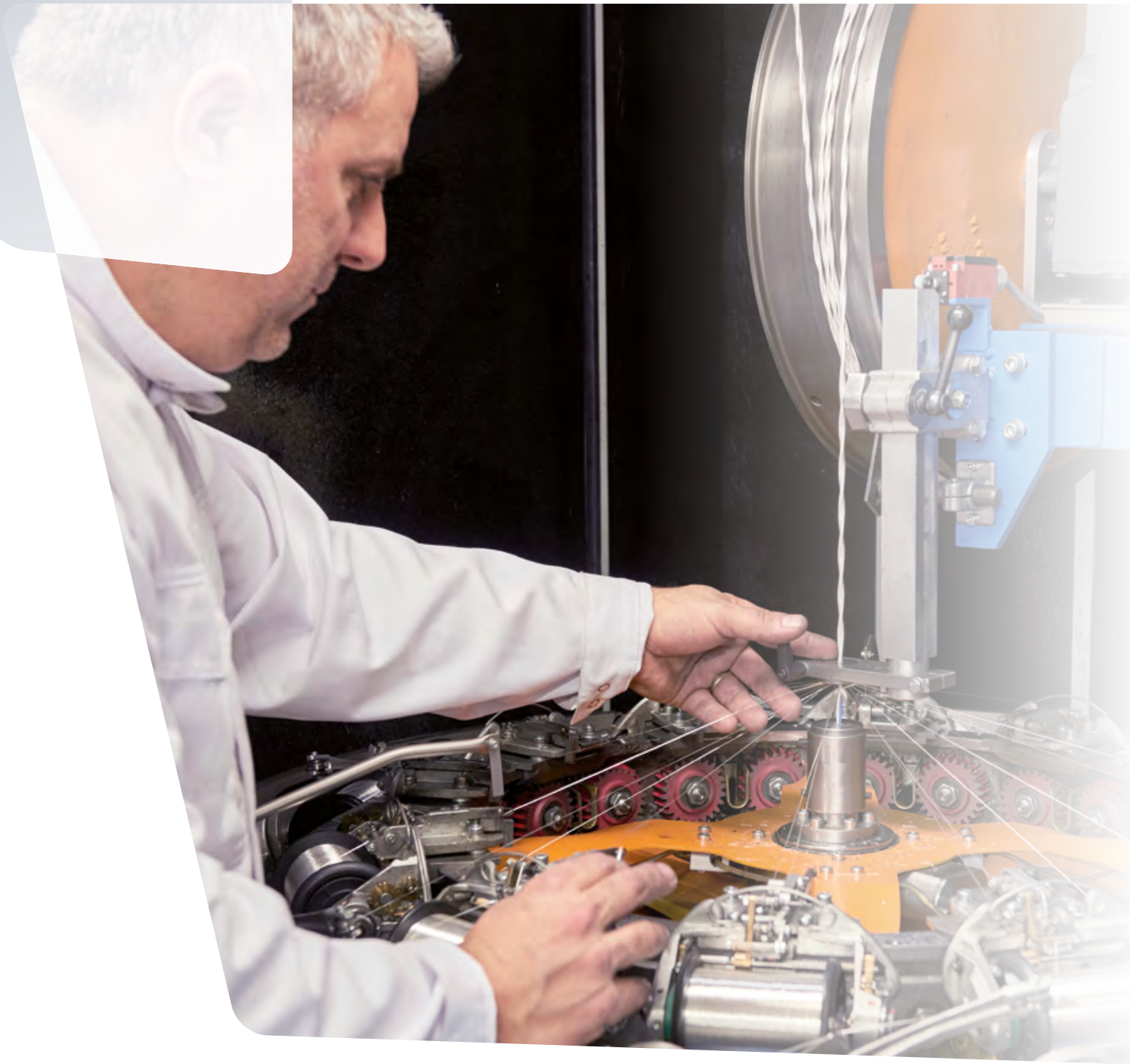
CABLES FOR GLOBAL PERFORMANCE

HIGH TEMPERATURE COAXIAL CABLES

Defence communication systems

COAXTHERM®



CABLES FOR GLOBAL PERFORMANCE

HIGH TEMPERATURE COAXIAL CABLES

REFERENCE	Impedance (Ω)	Min. Temperature (°C)	Max. Temperature (°C)	MIL-DTL-17 Standard	NF C 93-550 Standard	Inner conductor	Core nominal diameter (mm)	Dielectric nominal diameter (mm)	Outer conductor	Outer sheath	Cable nominal diameter (mm)
W5BA5 - 50	**50**	-90	**+260**	-	-	CCSAg	0.17	0.52	CuAg	PFA	1.30
RG 178 BU	**50**	-55	**+200**	**M17/93-RG178**	-	CCSAg	0.30	0.84	CuAg	FEP	1.80
RG 178 BU / PFA	**50**	-55	**+230**	**M17/93-00001**	-	CCSAg	0.30	0.84	CuAg	PFA	1.80
KX 21A	**50**	-55	**+200**	-	**KX21A**	CCSAg	0.30	0.87	CuAg	FEP	1.80
KX 22A	**50**	-55	**+200**	-	**KX22A**	CCSAg	0.51	1.50	CuAg	FEP	2.50
RG 316 U	**50**	-55	**+200**	**M17/113-RG316**	-	CCSAg	0.51	1.52	CuAg	FEP	2.49
RG 316 U / PFA	**50**	-55	**+200**	**M17/138-00001**	-	CCSAg	0.51	1.52	CuAg	PFA	2.49
RG 303 U	**50**	-55	**+200**	**M17/111-RG303**	-	CCSAg	0.94	2.95	CuAg	FEP	4.32
RG 142 BU	**50**	-55	**+200**	**M17/60-RG142**	-	CCSAg	0.94	2.95	CuAg	FEP	4.95
RG 400 U	**50**	-55	**+200**	**M17/128-RG400**	-	CuAg	0.98	2.95	CuAg	FEP	4.95
KX 23	**50**	-55	**+200**	-	**KX23**	CuAg	1.02	2.95	CuAg	PTFE + FV	5.10
RG 304 U	**50**	-55	**+200**	**M17/112-RG304**	-	CCSAg	1.50	4.70	CuAg	FEP	7.10
RG 115 U	**50**	-55	**+200**	**M17/92-RG115**	-	CuAg	2.13	6.48	CuAg	PTFE + FV	10.50
RG 165 U	**50**	-55	**+250**	**M17/065-RG165**	-	CuAg	2.39	7.24	CuAg	PTFE + FV	10.40
RG 393 U	**50**	-55	**+200**	**M17/127-RG393**	-	CuAg	2.39	7.24	CuAg	FEP	9.90
RG 225 U	**50**	-55	**+200**	**M17/86-00001**	-	CuAg	2.39	7.24	CuAg	PTFE + FV	10.90
KX 24	**50**	-55	**+200**	-	**KX24**	CuAg	2.39	7.25	CuAg	PTFE + FV	10.80
W5BA5 - 75	**75**	-90	**+260**	-	-	CCSAg	0.10	0.57	CuAg	PFA	1.40
RG 179 BU	**75**	-55	**+200**	**M17/94-RG179**	-	CCSAg	0.30	1.60	CuAg	FEP	2.54
RG 179 BU / PFA	**75**	-55	**+230**	**M17/136-00001**	-	CCSAg	0.30	1.60	CuAg	PFA	2.54
RG 59 MINI HT 200C	**75**	-90	**+200**	-	-	CuA1	0.30	1.70	CuAg	PFA	2.70
KX 25	**75**	-55	**+200**	-	**KX25**	CCSAg	0.71	3.70	CuAg	PTFE + FV	5.90
KX 6A HT 180C	**75**	-60	**+180**	-	-	CuA1	0.60	3.70	CuA1	Silicone	6.10
RG 302 U	**75**	-55	**+200**	**M17/110-RG302**	-	CCSAg	0.64	3.71	CuAg	FEP	5.13
RG 144 U	**75**	-55	**+200**	**M17/62-RG144**	-	CCSAg	1.33	7.24	CuAg	PTFE + FV	10.40
KX 8 HT 180C	**75**	-60	**+180**	-	-	CuA1	1.20	7.25	CuA1	Silicone	10.30
RG 180 BU	**95**	-55	**+200**	**M17/95-RG180**	-	CCSAg	0.30	2.59	CuAg	FEP	3.58
RG 180 BU / PFA	**95**	-55	**+230**	**M17/137-00001**	-	CCSAg	0.30	2.59	CuAg	PFA	3.58

CCSAg: Silver-plated copper clad-steel
CuAg: Silver-plated copper
CuA1: Red copper
CuSn: Tinned copper
FV: Fibreglass

COAXTHERM®

W5BA5 - 50

50 Ohms

1 • Silver-plated copper clad-steel rigid core (CCSAg)
2 • Fluoropolymer dielectric
3 • Silver plated copper braid
4 • Fluorinated polymer PFA

Characteristics

• Thermal
Continuous operating temperature: **-90°C to +260°C**

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★

• Fire-smoke
Flame retardant

Colour code

• White jacket
For any other request: please contact us

Applications

Data transmission in high temperature environment for aerospace and defence industries

CONSTRUCTION

INNER CONDUCTOR (1)		DIELECTRIC (2)	OUTER CONDUCTOR (3)	OUTER SHEATH (4)	
Stranding (n x mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Approx. linear weight (kg / km)
1 x 0.17	0.17	0.52	0.92	1.30	4.3

DATA TRANSMISSION CHARACTERISTICS

Impedance	50 Ω
Capacitance max	105 pF / m
Use frequency max	3 GHz
Velocity of propagation	69.5%
Operating voltage	250 V

SIGNAL ATTENUATION

Frequency (MHz)	Nominal attenuation (dB / 100 m)
10	19
100	60
400	120
1,000	200
2,000	280
3,000	340

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COAXTHERM®

RG 178 BU

50 Ohms

1 • Silver-plated copper clad-steel stranded core (CCSAg)
2 • Fluoropolymer dielectric
3 • Silver plated copper braid
4 • Fluorinated polymer FEP

Standards and approvals

Construction:
• MIL-DTL-17: MIL-C-17/93

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★

• Fire-smoke
Flame retardant

Marking

"COAXTHERM RG 178 BU – 50 Ohms – < batch number >"

Colour code

• Light Brown jacket
For any other request: please contact us

Option

Max operating temperature until +230°C
Reference: COAXTHERM® RG 178 BU / PFA

Applications

Data transmission in high temperature environment for aerospace and defence industries

CONSTRUCTION

INNER CONDUCTOR (1)		DIELECTRIC (2)	OUTER CONDUCTOR (3)	OUTER SHEATH (4)	
Stranding (n x mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Approx. linear weight (kg / km)
7 x 0.10	0.30	0.90	1.37	1.80	9.3

DATA TRANSMISSION CHARACTERISTICS

Impedance	50 Ω
Capacitance max	105 pF / m
Use frequency max	3 GHz
Velocity of propagation	69.5%
Operating voltage	750 V

SIGNAL ATTENUATION

Frequency (MHz)	Nominal attenuation (dB / 100 m)
50	38.1
100	52.5
400	108.3
1,000	170.6
3,000	308.4

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RG 178 BU / PFA

50 Ohms

1 • Silver-plated copper clad-steel stranded core (CCSAg)
2 • Fluoropolymer dielectric
3 • Silver plated copper braid
4 • Fluorinated polymer PFA

Standards and approvals

Construction:
• MIL-DTL-17: MIL-C-17/93

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +230°C**

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★

• Fire-smoke
Flame retardant

Marking

"COAXTHERM RG 178 BU / PFA – 50 Ohms – < batch number >"

Colour code

• Light Brown jacket
For any other request: please contact us

Applications

Data transmission in high temperature environment for aerospace and defence industries

CONSTRUCTION

INNER CONDUCTOR (1)		DIELECTRIC (2)	OUTER CONDUCTOR (3)	OUTER SHEATH (4)	
Stranding (n x mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Approx. linear weight (kg / km)
7 x 0.10	0.30	0.90	1.37	1.80	9.3

DATA TRANSMISSION CHARACTERISTICS

Impedance	50 Ω
Capacitance max	105 pF / m
Use frequency max	3 GHz
Velocity of propagation	69.5%
Operating voltage	750 V

SIGNAL ATTENUATION

Frequency (MHz)	Nominal attenuation (dB / 100 m)
50	38.1
100	52.5
400	108.3
1,000	170.6
3,000	308.4

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COAXTHERM®

KX 21A

50 Ohms

1 • Silver-plated copper clad-steel stranded core (CCSAg)
2 • Fluoropolymer dielectric
3 • Silver plated copper braid
4 • Fluorinated polymer FEP

Standards and approvals

Construction:
• UTE C 93-550
• NF C 93-550

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★

• Fire-smoke
Flame retardant

Marking

"COAXTHERM KX 21A – 50 Ohms – < batch number >"

Colour code

• Light Brown jacket
For any other request: please contact us

Applications

Data transmission in high temperature environment for aerospace and defence industries

CONSTRUCTION

INNER CONDUCTOR (1)		DIELECTRIC (2)	OUTER CONDUCTOR (3)	OUTER SHEATH (4)	
Stranding (n x mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Approx. linear weight (kg / km)
7 x 0.10	0.30	0.90	1.37	1.80	8.0

DATA TRANSMISSION CHARACTERISTICS

Impedance	50 Ω
Capacitance max	105 pF / m
Use frequency max	3 GHz
Velocity of propagation	69.5%
Operating voltage	600 V

SIGNAL ATTENUATION

Frequency (MHz)	Nominal attenuation (dB / 100 m)
200	80

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COAXTHERM®

KX 22A

50 Ohms

1 • Silver-plated copper clad-steel stranded core (CCSAg)
2 • Fluoropolymer dielectric
3 • Silver plated copper braid
4 • Fluorinated polymer FEP

Standards and approvals

Construction:
• UTE C 93-550
• NF C 93-550

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★

• Fire-smoke
Flame retardant

Marking

"COAXTHERM KX 22A – 50 Ohms – < batch number >"

Colour code

• Light Brown jacket
For any other request: please contact us

Applications

Data transmission in high temperature environment for aerospace and defence industries

CONSTRUCTION

INNER CONDUCTOR (1)		DIELECTRIC (2)	OUTER CONDUCTOR (3)	OUTER SHEATH (4)	
Stranding (n x mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Approx. linear weight (kg / km)
7 x 0.17	0.51	1.50	2.05	2.50	15.0

DATA TRANSMISSION CHARACTERISTICS

Impedance	50 Ω
Capacitance max	105 pF / m
Use frequency max	3 GHz
Velocity of propagation	69.5%
Operating voltage	1,300 V

SIGNAL ATTENUATION

Frequency (MHz)	Nominal attenuation (dB / 100 m)
200	50

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COAXTHERM®

RG 316 U

50 Ohms

1 • Silver-plated copper clad-steel stranded core (CCSAg)
2 • Fluoropolymer dielectric
3 • Silver plated copper braid
4 • Fluorinated polymer FEP

Standards and approvals

Construction:
• MIL-DTL-17: MIL-C-17/113

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★

• Fire-smoke
Flame retardant

Marking

"COAXTHERM RG 316 U – 50 Ohms – < batch number >"

Colour code

• Light Brown jacket
For any other request: please contact us

Options

Max operating temperature until +230°C
Reference: COAXTHERM® RRG 316 U / PFA

Applications

Data transmission in high temperature environment for aerospace and defence industries

CONSTRUCTION

INNER CONDUCTOR (1)		DIELECTRIC (2)	OUTER CONDUCTOR (3)	OUTER SHEATH (4)	
Stranding (n x mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Approx. linear weight (kg / km)
7 x 0.17	0.51	1.52	2.06	2.49	18.0

DATA TRANSMISSION CHARACTERISTICS

Impedance	50 Ω
Capacitance max	105 pF / m
Use frequency max	3 GHz
Velocity of propagation	69.5%
Operating voltage	900 V

SIGNAL ATTENUATION

Frequency (MHz)	Nominal attenuation (dB / 100 m)
50	24.6
100	36.1
400	68.9
1,000	124.7
3,000	190.3

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COAXTHERM®

RG 316 U / PFA

50 Ohms

1 • Silver-plated copper clad-steel stranded core (CCSAg)
2 • Fluoropolymer dielectric
3 • Silver plated copper braid
4 • Fluorinated polymer PFA

Standards and approvals

Construction:
• MIL-DTL-17: MIL-C-17/138

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +230°C**

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★

• Fire-smoke
Flame retardant

Marking

"COAXTHERM RG 316 U / PFA – 50 Ohms – < batch number >"

Colour code

• Light Brown jacket
For any other request: please contact us

Applications

Data transmission in high temperature environment for aerospace and defence industries

CONSTRUCTION

INNER CONDUCTOR (1)		DIELECTRIC (2)	OUTER CONDUCTOR (3)	OUTER SHEATH (4)	
Stranding (n x mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Approx. linear weight (kg / km)
7 x 0.17	0.51	1.52	2.06	2.49	18.0

DATA TRANSMISSION CHARACTERISTICS

Impedance	50 Ω
Capacitance max	105 pF / m
Use frequency max	3 GHz
Velocity of propagation	69.5%
Operating voltage	900 V

SIGNAL ATTENUATION

Frequency (MHz)	Nominal attenuation (dB / 100 m)
50	24.6
100	36.1
400	68.9
1,000	124.7
3,000	190.3

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CABLES FOR GLOBAL PERFORMANCE

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COAXTHERM®

RG 303 U

50 Ohms

1 • Silver-plated copper clad-steel rigid core (CCSAg)
2 • Fluoropolymer dielectric
3 • Silver plated copper braid
4 • Fluorinated polymer FEP

Standards and approvals

Construction:
• MIL-DTL-17: MIL-C-17/111

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★

• Fire-smoke
Flame retardant

Marking

"COAXTHERM RG 303 U – 50 Ohms – < batch number >"

Colour code

• Light Brown jacket
For any other request: please contact us

Applications

Data transmission in high temperature environment for aerospace and defence industries

CONSTRUCTION

INNER CONDUCTOR (1)		DIELECTRIC (2)	OUTER CONDUCTOR (3)	OUTER SHEATH (4)	
Stranding (n x mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Approx. linear weight (kg / km)
1 x 0.94	0.94	2.95	3.71	4.32	46.0

DATA TRANSMISSION CHARACTERISTICS

Impedance	50 Ω
Capacitance max	105 pF / m
Use frequency max	3 GHz
Velocity of propagation	69.5%
Operating voltage	1,400 V

SIGNAL ATTENUATION

Frequency (MHz)	Nominal attenuation (dB / 100 m)
50	8.9
400	28.2
1,000	49.2
3,000	91.9

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CABLES FOR GLOBAL PERFORMANCE

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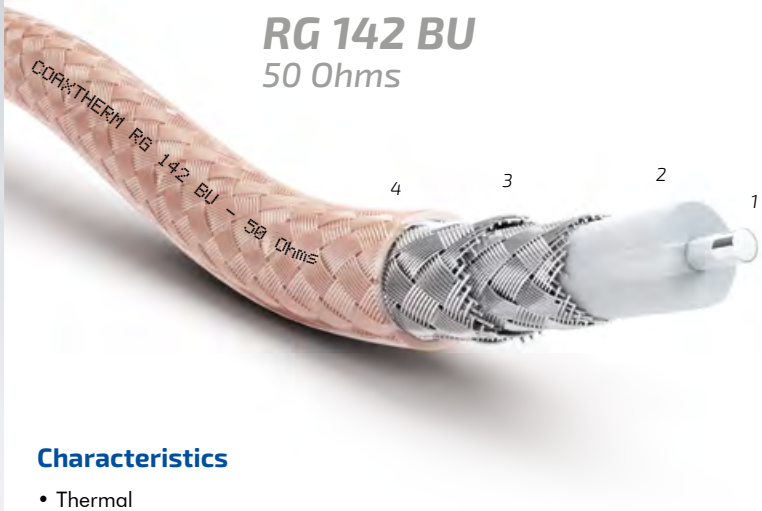
COAXTHERM®

RG 142 BU

50 Ohms



1 • Silver-plated copper clad-steel rigid core (CCSAg)
2 • Fluoropolymer dielectric
3 • Silver plated copper double braid
4 • Fluorinated polymer FEP

Standards and approvals

Construction:
• MIL-DTL-17: MIL-C-17/60

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★

• Fire-smoke
Flame retardant

Marking

"COAXTHERM RG 142 BU – 50 Ohms – < batch number >"

Colour code

• Light Brown jacket
For any other request: please contact us

Applications

Data transmission in high temperature environment for aerospace and defence industries

CONSTRUCTION

INNER CONDUCTOR (1)		DIELECTRIC (2)	OUTER CONDUCTOR (3)	OUTER SHEATH (4)	
Stranding (n x mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Approx. linear weight (kg / km)
1 x 0.94	0.94	2.95	4.34	4.95	64.0

DATA TRANSMISSION CHARACTERISTICS

Impedance	50 Ω
Capacitance max	105 pF / m
Use frequency max	12.4 GHz
Velocity of propagation	69.5%
Operating voltage	1,400 V

SIGNAL ATTENUATION

Frequency (MHz)	Nominal attenuation (dB / 100 m)
50	9.8
100	14.4
400	30.5
1,000	50.2
3,000	96.1

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CABLES FOR GLOBAL PERFORMANCE

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COAXTHERM®

RG 400 U

50 Ohms

1 • Silver-plated copper flexible core (CuAg)
2 • Fluoropolymer dielectric
3 • Silver plated copper double braid
4 • Fluorinated polymer FEP

Standards and approvals

Construction:
• MIL-DTL-17: MIL-C-17/128

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★

• Fire-smoke
Flame retardant

Marking

"COAXTHERM RG 400 U – 50 Ohms – < batch number >"

Colour code

• Light Brown jacket
For any other request: please contact us

Applications

Data transmission in high temperature environment for aerospace and defence industries

CONSTRUCTION

INNER CONDUCTOR (1)		DIELECTRIC (2)	OUTER CONDUCTOR (3)	OUTER SHEATH (4)	
Stranding (n x mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Approx. linear weight (kg / km)
19 x 0.20	0.98	2.95	4.34	4.95	74.0

DATA TRANSMISSION CHARACTERISTICS

Impedance	50 Ω
Capacitance max	105 pF / m
Use frequency max	12.4 GHz
Velocity of propagation	69.5%
Operating voltage	1,400 V

SIGNAL ATTENUATION

Frequency (MHz)	Nominal attenuation (dB / 100 m)
50	10.5
100	14.8
400	34.4
1,000	55.8
3,000	124.7

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CABLES FOR GLOBAL PERFORMANCE

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COAXTHERM®

KX 23

50 Ohms

1 • Silver-plated copper stranded core (CuAg)
2 • Fluoropolymer dielectric
3 • Silver plated copper double braid
4 • PTFE double tape
5 • Silicone-coated fibreglass double braid

Standards and approvals

Construction:
• UTE C 93-550
• NF C 93-550

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Chemical
Resistance to chemical environments: ★★★☆☆

• Fire-smoke
Flame retardant

Marking

"COAXTHERM KX 23 – 50 Ohms – < batch number >"

Colour code

• Natural jacket
For any other request: please contact us

Applications

Data transmission in high temperature environment for aerospace and defence industries

CONSTRUCTION

INNER CONDUCTOR (1)		DIELECTRIC (2)	OUTER CONDUCTOR (3)	OUTER SHEATH (4)	
Stranding (n x mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Approx. linear weight (kg / km)
7 x 0.34	1.02	2.95	4.34	5.10	63.0

DATA TRANSMISSION CHARACTERISTICS

Impedance	50 Ω
Capacitance max	105 pF / m
Use frequency max	3 GHz
Velocity of propagation	69.5%
Operating voltage	2,500 V

SIGNAL ATTENUATION

Frequency (MHz)	Nominal attenuation (dB / 100 m)
200	23

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COAXTHERM®

RG 304 U
50 Ohms

1 • Silver-plated copper clad-steel rigid core (CCSAg)
2 • Fluoropolymer dielectric
3 • Silver plated copper double braid
4 • Fluorinated polymer FEP

Standards and approvals

Construction:
• MIL-DTL-17: MIL-C-17/112

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★

• Fire-smoke
Flame retardant

Marking

"COAXTHERM RG 304 U – 50 Ohms – < batch number >"

Colour code

• Light Brown jacket
For any other request: please contact us

Applications

Data transmission in high temperature environment for aerospace and defence industries

CONSTRUCTION

INNER CONDUCTOR (1)		DIELECTRIC (2)	OUTER CONDUCTOR (3)	OUTER SHEATH (4)	
Stranding (n x mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Approx. linear weight (kg / km)
1 x 1.50	1.50	4.70	6.35	7.11	140.0

DATA TRANSMISSION CHARACTERISTICS

Impedance	50 Ω
Capacitance max	105 pF / m
Use frequency max	12.4 GHz
Velocity of propagation	69.5%
Operating voltage	2,200 V

SIGNAL ATTENUATION

Frequency (MHz)	Nominal attenuation (dB / 100 m)
50	5.9
100	8.9
400	21.0
1,000	36.4
3,000	72.2

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CABLES FOR GLOBAL PERFORMANCE

COAXTHERM®

RG 115 U

50 Ohms

1 • Silver-plated copper stranded core (CuAg)
2 • Dielectric in PTFE tapes
3 • Silver plated copper double braid
4 • PTFE double tape
5 • Silicone-coated fibreglass triple braid

Standards and approvals

Construction:
• MIL-DTL-17: MIL-C-17/92

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Chemical
Resistance to chemical environments: ★★★☆☆

• Fire-smoke
Flame retardant

Marking

"COAXTHERM RG 115 U – 50 Ohms – < batch number >"

Colour code

• Light Brown jacket
For any other request: please contact us

Applications

Data transmission in high temperature environment for aerospace and defence industries

CONSTRUCTION

INNER CONDUCTOR (1)		DIELECTRIC (2)	OUTER CONDUCTOR (3)	OUTER SHEATH (4)	
Stranding (n x mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Approx. linear weight (kg / km)
7 x 0.71	2.13	6.48	8.25	10.50	275.0

DATA TRANSMISSION CHARACTERISTICS

Impedance	50 Ω
Capacitance max	105 pF / m
Use frequency max	12.4 GHz
Velocity of propagation	69.5%
Operating voltage	3,700 V

SIGNAL ATTENUATION

Frequency (MHz)	Nominal attenuation (dB / 100 m)
50	5.2
100	8.2
1,000	32.2
3,000	75,5

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CABLES FOR GLOBAL PERFORMANCE

COAXTHERM®

RG 165 U

50 Ohms

1 • Silver-plated copper stranded core (CuAg)
2 • Fluoropolymer dielectric
3 • Silver plated copper braid
4 • PTFE double tape
5 • Silicone-coated fibreglass double braid

Standards and approvals

Construction:
• MIL-DTL-17: MIL-C-17/65

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +250°C**

• Chemical
Resistance to chemical environments: ★★★☆☆

• Fire-smoke
Flame retardant

Marking

"COAXTHERM RG 165 U – 50 Ohms – < batch number >"

Colour code

• Light Brown jacket
For any other request: please contact us

Applications

Data transmission in high temperature environment for aerospace and defence industries

CONSTRUCTION

INNER CONDUCTOR (1)		DIELECTRIC (2)	OUTER CONDUCTOR (3)	OUTER SHEATH (4)	
Stranding (n x mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Approx. linear weight (kg / km)
7 x 0.80	2.40	7.24	8.64	10.40	211.0

DATA TRANSMISSION CHARACTERISTICS

Impedance	50 Ω
Capacitance max	105 pF / m
Use frequency max	3 GHz
Velocity of propagation	69.5%
Operating voltage	3,700 V

SIGNAL ATTENUATION

Frequency (MHz)	Nominal attenuation (dB / 100 m)
50	16.4

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CABLES FOR GLOBAL PERFORMANCE

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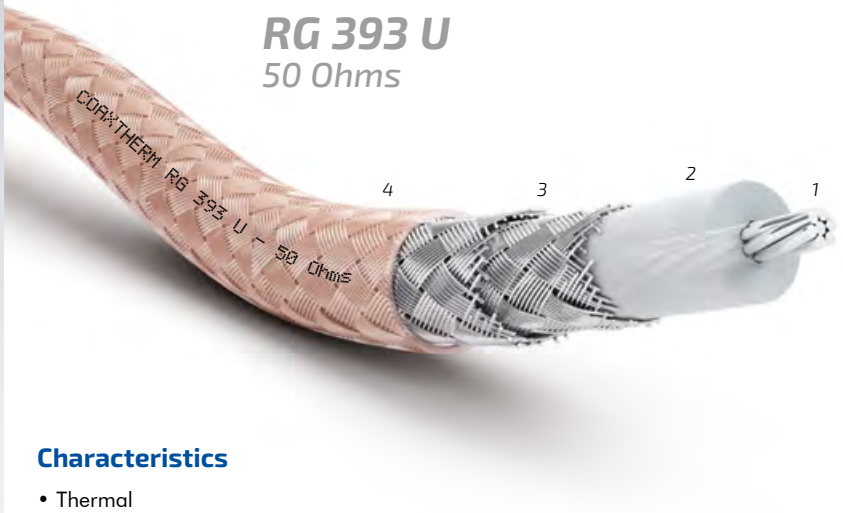
COAXTHERM®

RG 393 U

50 Ohms



1 • Silver-plated copper stranded core (CuAg)
2 • Fluoropolymer dielectric
3 • Silver plated copper double braid
4 • Fluorinated polymer FEP

Standards and approvals

Construction:
• MIL-DTL-17: MIL-C-17/127

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★

• Fire-smoke
Flame retardant

Marking

"COAXTHERM RG 393 U – 50 Ohms – < batch number >"

Colour code

• Light Brown jacket
For any other request: please contact us

Applications

Data transmission in high temperature environment for aerospace and defence industries

CONSTRUCTION

INNER CONDUCTOR (1)		DIELECTRIC (2)	OUTER CONDUCTOR (3)	OUTER SHEATH (4)	
Stranding (n x mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Approx. linear weight (kg / km)
7 x 0.80	2.39	7.24	9.14	9.90	260.0

DATA TRANSMISSION CHARACTERISTICS

Impedance	50 Ω
Capacitance max	105 pF / m
Use frequency max	11 GHz
Velocity of propagation	69.5%
Operating voltage	1,875 V

SIGNAL ATTENUATION

Frequency (MHz)	Nominal attenuation (dB / 100 m)
50	5.6
400	16.4
3,000	59.1

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COAXTHERM®

RG 225 U

50 Ohms

1 • Silver-plated copper stranded core (CuAg)
2 • Fluoropolymer dielectric
3 • Silver plated copper double braid
4 • PTFE double tape
5 • Silicone-coated fibreglass double braid

Standards and approvals

Construction:
• MIL-DTL-17: MIL-C-17/86

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Chemical
Resistance to chemical environments: ★★★☆☆

• Fire-smoke
Flame retardant

Marking

"COAXTHERM RG 225 U – 50 Ohms – < batch number >"

Colour code

• Light Brown jacket
For any other request: please contact us

Applications

Data transmission in high temperature environment for aerospace and defence industries

CONSTRUCTION

INNER CONDUCTOR (1)		DIELECTRIC (2)	OUTER CONDUCTOR (3)	OUTER SHEATH (4)	
Stranding (n x mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Approx. linear weight (kg / km)
7 x 0.80	2.40	7.24	9.14	10.90	290.0

DATA TRANSMISSION CHARACTERISTICS

Impedance	50 Ω
Capacitance max	105 pF / m
Velocity of propagation	69.5%
Operating voltage	3,700 V

SIGNAL ATTENUATION

Frequency (MHz)	Nominal attenuation (dB / 100 m)
400	16.4

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CABLES FOR GLOBAL PERFORMANCE

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COAXTHERM®

KX 24

50 Ohms

1 • Silver-plated copper stranded core (CuAg)
2 • Fluoropolymer dielectric
3 • Silver plated copper double braid
4 • PTFE double tape
5 • Silicone-coated fibreglass double braid

Standards and approvals

Construction:
• UTE C 93-550
• NF C 93-550

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Chemical
Resistance to chemical environments: ★★★☆☆

• Fire-smoke
Flame retardant

Marking

"COAXTHERM KX 24 – 50 Ohms – < batch number >"

Colour code

• Natural jacket
For any other request: please contact us

Applications

Data transmission in high temperature environment for aerospace and defence industries

CONSTRUCTION

INNER CONDUCTOR (1)		DIELECTRIC (2)	OUTER CONDUCTOR (3)	OUTER SHEATH (4)	
Stranding (n x mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Approx. linear weight (kg / km)
7 x 0.80	2.40	7.25	9.14	10.80	280.0

DATA TRANSMISSION CHARACTERISTICS

Impedance	50 Ω
Capacitance max	105 pF / m
Use frequency max	3 GHz
Velocity of propagation	69.5%
Operating voltage	4,000 V

SIGNAL ATTENUATION

Frequency (MHz)	Nominal attenuation (dB / 100 m)
200	11

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COAXTHERM®

W5BA5 - 75

75 Ohms

1 • Silver-plated copper clad-steel rigid core (CCSAg)
2 • Fluoropolymer dielectric
3 • Silver plated copper braid
4 • Fluorinated polymer PFA

Characteristics

• Thermal
Continuous operating temperature: **-90°C to +260°C**

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★

• Fire-smoke
Flame retardant

Colour code

• White jacket
For any other request: please contact us

Applications

Data transmission in high temperature environment for aerospace and defence industries

CONSTRUCTION

INNER CONDUCTOR (1)		DIELECTRIC (2)	OUTER CONDUCTOR (3)	OUTER SHEATH (4)	
Stranding (n x mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Approx. linear weight (kg / km)
1 x 0.10	0.10	0.57	0.97	1.40	4.8

DATA TRANSMISSION CHARACTERISTICS

Impedance	75 Ω
Capacitance max	72.2 pF / m
Use frequency max	3 GHz
Velocity of propagation	69.5%
Operating voltage	250 V

SIGNAL ATTENUATION

Frequency (MHz)	Nominal attenuation (dB / 100 m)
10	19
100	60
400	120
1,000	190
2,000	270
3,000	330

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COAXTHERM®

RG 179 BU

75 Ohms

1 • Silver-plated copper clad-steel stranded core (CCSAg)
2 • Fluoropolymer dielectric
3 • Silver plated copper braid
4 • Fluorinated polymer FEP

Standards and approvals

Construction:
• MIL-DTL-17: MIL-C-17/94

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★

• Fire-smoke
Flame retardant

Marking

"COAXTHERM RG 179 BU – 75 Ohms – < batch number >"

Colour code

• Light Brown jacket
For any other request: please contact us

Options

Max operating temperature until +230°C
Reference: COAXTHERM® RG 179 BU / PFA

Applications

Data transmission in high temperature environment for aerospace and defence industries

CONSTRUCTION

INNER CONDUCTOR (1)		DIELECTRIC (2)	OUTER CONDUCTOR (3)	OUTER SHEATH (4)	
Stranding (n x mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Approx. linear weight (kg / km)
7 x 0.10	0.30	1.60	2.13	2.54	16.0

DATA TRANSMISSION CHARACTERISTICS

Impedance	75 Ω
Capacitance max	75.5 pF / m
Use frequency max	3 GHz
Velocity of propagation	69.5%
Operating voltage	900 V

SIGNAL ATTENUATION

Frequency (MHz)	Nominal attenuation (dB / 100 m)
400	68.9

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CABLES FOR GLOBAL PERFORMANCE

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COAXTHERM®

RG 179 BU / PFA

75 Ohms

1 • Silver-plated copper clad-steel stranded core (CCSAg)
2 • Fluoropolymer dielectric
3 • Silver plated copper braid
4 • Fluorinated polymer PFA

Standards and approvals

Construction:
• MIL-DTL-17: MIL-C-17/136

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +230°C**

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★

• Fire-smoke
Flame retardant

Marking

"COAXTHERM RG 179 BU / PFA – 75 Ohms – < batch number >"

Colour code

• Light Brown jacket
For any other request: please contact us

Applications

Data transmission in high temperature environment for aerospace and defence industries

CONSTRUCTION

INNER CONDUCTOR (1)		DIELECTRIC (2)	OUTER CONDUCTOR (3)	OUTER SHEATH (4)	
Stranding (n x mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Approx. linear weight (kg / km)
7 x 0.10	0.30	1.60	2.13	2.54	18.0

DATA TRANSMISSION CHARACTERISTICS

Impedance	75 Ω
Capacitance max	72.2 pF / m
Use frequency max	3 GHz
Velocity of propagation	69.5%
Operating voltage	900 V

SIGNAL ATTENUATION

Frequency (MHz)	Nominal attenuation (dB / 100 m)
400	68.9

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CABLES FOR GLOBAL PERFORMANCE

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COAXTHERM®

RG 59 MINI HT 200C

75 Ohms

1 • Plain copper stranded core (CuA1)
2 • Fluoropolymer dielectric
3 • Tinned copper braid
4 • Fluorinated polymer PFA

Characteristics

• Thermal
Continuous operating temperature: **-90°C to +200°C**

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★

• Fire-smoke
Flame retardant

Marking

"COAXTHERM RG 59 MINI HT 200C – 75 Ohms – < batch number >"

Colour code

• Black jacket
For any other request: please contact us

Applications

Data transmission in high temperature environment for aerospace and defence industries

CONSTRUCTION

INNER CONDUCTOR (1)		DIELECTRIC (2)	OUTER CONDUCTOR (3)	OUTER SHEATH (4)	
Stranding (n x mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Approx. linear weight (kg / km)
7 x 0.10	0.30	1.70	2.10	2.70	16.0

DATA TRANSMISSION CHARACTERISTICS

Impedance	75 Ω
Capacitance max	72.2 pF / m
Use frequency max	1 GHz
Velocity of propagation	69.5%

SIGNAL ATTENUATION

Frequency (MHz)	Nominal attenuation (dB / 100 m)
200	31

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CABLES FOR GLOBAL PERFORMANCE

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COAXTHERM®

KX 25

75 Ohms

1 • Silver-plated copper clad-steel stranded core (CCSAg)
2 • Fluoropolymer dielectric
3 • Silver plated copper braid
4 • PTFE double tape
5 • Silicone-coated fibreglass double braid

Standards and approvals

Construction:
• UTE C 93-550 / NF C 93-550

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Chemical
Resistance to chemical environments: ★★★☆☆

• Fire-smoke
Flame retardant

Marking

"COAXTHERM KX 25 – 75 Ohms – < batch number >"

Colour code

• Natural jacket
For any other request: please contact us

Applications

Data transmission in high temperature environment for aerospace and defence industries

CONSTRUCTION

INNER CONDUCTOR (1)		DIELECTRIC (2)	OUTER CONDUCTOR (3)	OUTER SHEATH (4)	
Stranding (n x mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Approx. linear weight (kg / km)
7 x 0.235	0.71	3.70	4.47	5.90	71.0

DATA TRANSMISSION CHARACTERISTICS

Impedance	75 Ω
Capacitance max	68.5 pF / m
Use frequency max	3 GHz
Velocity of propagation	69.5%
Operating voltage	3,000 V

SIGNAL ATTENUATION

Frequency (MHz)	Nominal attenuation (dB / 100 m)
200	20

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CABLES FOR GLOBAL PERFORMANCE

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COAXTHERM®

KX 6A HT 180C

75 Ohms

1 • Plain copper stranded core (CuA1)
2 • Fluoropolymer dielectric
3 • Plain copper braid
4 • Silicone rubber

Characteristics

• Thermal
Continuous operating temperature: **-60°C to +180°C**

• Chemical
Resistance to chemical environments: ★★★☆☆
Resistance to humidity: ★★★☆☆

• Fire-smoke
Flame retardant

Marking

"COAXTHERM KX 6A HT 180 C – 75 Ohms – < batch number >"

Colour code

• Green jacket
For any other request: please contact us

Applications

Data transmission in high temperature environment for aerospace and defence industries

CONSTRUCTION

INNER CONDUCTOR (1)		DIELECTRIC (2)	OUTER CONDUCTOR (3)	OUTER SHEATH (4)	
Stranding (n x mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Approx. linear weight (kg / km)
7 x 0.20	0.60	3.70	4.85	6.10	67.0

DATA TRANSMISSION CHARACTERISTICS

Impedance	75 Ω
Capacitance max	70 pF / m
Use frequency max	3 GHz
Velocity of propagation	69.5%

SIGNAL ATTENUATION

Frequency (MHz)	Nominal attenuation (dB / 100 m)
200	20

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CABLES FOR GLOBAL PERFORMANCE

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COAXTHERM®

RG 302 U

75 Ohms

1 • Silver-plated copper clad-steel rigid core (CCSAg)
2 • Fluoropolymer dielectric
3 • Silver plated copper braid
4 • Fluorinated polymer FEP

Standards and approvals

Construction:
• MIL-DTL-17: MIL-C-17/110

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★

• Fire-smoke
Flame retardant

Marking

"COAXTHERM RG 302 U – 75 Ohms – < batch number >"

Colour code

• Light Brown jacket
For any other request: please contact us

Applications

Data transmission in high temperature environment for aerospace and defence industries

CONSTRUCTION

INNER CONDUCTOR (1)		DIELECTRIC (2)	OUTER CONDUCTOR (3)	OUTER SHEATH (4)	
Stranding (n x mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Approx. linear weight (kg / km)
1 x 0.64	0.64	3.71	4.47	5.13	60.0

DATA TRANSMISSION CHARACTERISTICS

Impedance	75 Ω
Capacitance max	72.2 pF / m
Use frequency max	3 GHz
Velocity of propagation	69.5%
Operating voltage	1,700 V

SIGNAL ATTENUATION

Frequency (MHz)	Nominal attenuation (dB / 100 m)
400	26.2
3,000	85.3

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CABLES FOR GLOBAL PERFORMANCE

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COAXTHERM®

RG 144 U

75 Ohms

1 • Silver-plated copper clad-steel stranded core (CCSAg)
2 • Fluoropolymer dielectric
3 • Silver plated copper braid
4 • PTFE double tape
5 • Silicone-coated fibreglass double braid

Standards and approvals

Construction:
• MIL-DTL-17: MIL-C-17/62

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Chemical
Resistance to chemical environments: ★★★☆☆

• Fire-smoke
Flame retardant

Marking

"COAXTHERM RG 144 U – 75 Ohms – < batch number >"

Colour code

• Brown jacket
For any other request: please contact us

Applications

Data transmission in high temperature environment for aerospace and defence industries

CONSTRUCTION

INNER CONDUCTOR (1)		DIELECTRIC (2)	OUTER CONDUCTOR (3)	OUTER SHEATH (4)	
Stranding (n x mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Approx. linear weight (kg / km)
7 x 0.44	1.33	7.24	8.38	10.40	208.0

DATA TRANSMISSION CHARACTERISTICS

Impedance	75 Ω
Capacitance max	72.2 pF / m
Use frequency max	3 GHz
Velocity of propagation	69.5%
Operating voltage	3,700 V

SIGNAL ATTENUATION

Frequency (MHz)	Nominal attenuation (dB / 100 m)
400	14.8
3,000	59.1

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COAXTHERM®

KX 8 HT 180C

75 Ohms

1 • Plain copper stranded core (CuA1)
2 • Fluoropolymer dielectric
3 • Plain copper braid
4 • Silicone rubber

Characteristics

• Thermal
Continuous operating temperature: **-60°C to +180°C**

• Chemical
Resistance to chemical environments: ★★★☆☆
Resistance to humidity: ★★★☆☆

• Fire-smoke
Flame retardant

Marking

"COAXTHERM KX 8 HT 180C – 75 Ohms – < batch number >"

Colour code

• Green jacket
For any other request: please contact us

Applications

Data transmission in high temperature environment for aerospace and defence industries

CONSTRUCTION

INNER CONDUCTOR (1)		DIELECTRIC (2)	OUTER CONDUCTOR (3)	OUTER SHEATH (4)	
Stranding (n x mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Approx. linear weight (kg / km)
7 x 0.40	1.20	7.25	8.64	10.30	185.0

DATA TRANSMISSION CHARACTERISTICS

Impedance	75 Ω
Capacitance max	70 pF / m
Use frequency max	3 GHz
Velocity of propagation	69.5%

SIGNAL ATTENUATION

Frequency (MHz)	Nominal attenuation (dB / 100 m)
200	12

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CABLES FOR GLOBAL PERFORMANCE

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COAXTHERM®

RG 180 BU

95 Ohms

1 • Silver-plated copper clad-steel stranded core (CCSAg)
2 • Fluoropolymer dielectric
3 • Silver plated copper braid
4 • Fluorinated polymer FEP

Standards and approvals

Construction:
• MIL-DTL-17: MIL-C-17/95

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +200°C**

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★

• Fire-smoke
Flame retardant

Marking

"COAXTHERM RG 180 BU – 95 Ohms – < batch number >"

Colour code

• Light Brown jacket
For any other request: please contact us

Options

Max operating temperature until +230°C
Reference: COAXTHERM® RG 180 BU / PFA

Applications

Data transmission in high temperature environment for aerospace and defence industries

CONSTRUCTION

INNER CONDUCTOR (1)		DIELECTRIC (2)	OUTER CONDUCTOR (3)	OUTER SHEATH (4)	
Stranding (n x mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Approx. linear weight (kg / km)
7 x 0.10	0.30	2.59	3.15	3.58	30.0

DATA TRANSMISSION CHARACTERISTICS

Impedance	95 Ω
Capacitance max	57.1 pF / m
Use frequency max	3 GHz
Velocity of propagation	69.5%
Operating voltage	1,100 V

SIGNAL ATTENUATION

Frequency (MHz)	Nominal attenuation (dB / 100 m)
400	55.8

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COAXTHERM®

RG 180 BU / PFA

95 Ohms

1 • Silver-plated copper clad-steel stranded core (CCSAg)
2 • Fluoropolymer dielectric
3 • Silver plated copper braid
4 • Fluorinated polymer PFA

Standards and approvals

Construction:
• MIL-DTL-17: MIL-C-17/95

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +230°C**

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★

• Fire-smoke
Flame retardant

Marking

"COAXTHERM RG 180 BU / PFA – 95 Ohms – < batch number >"

Colour code

• Light Brown jacket
For any other request: please contact us

Applications

Data transmission in high temperature environment for aerospace and defence industries

CONSTRUCTION

INNER CONDUCTOR (1)		DIELECTRIC (2)	OUTER CONDUCTOR (3)	OUTER SHEATH (4)	
Stranding (n x mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Nominal diameter (mm)	Approx. linear weight (kg / km)
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MINIATURE CERAMIC INSULATED WIRES FOR VERY HIGH TEMPERATURES

Space thrusters
High temperature area

CABLES FOR GLOBAL PERFORMANCE

MINIATURE CERAMIC INSULATED WIRES
FOR VERY HIGH TEMPERATURES

CERAFIL®

CN8

1 • Copper / Nickel support
2 • Ceramic insulation

Standards and approvals

CGP INNOVATION

CERAFIL®, a ceramic-insulated wire for very high temperatures is the result of several years of research in our laboratory. Our team of engineers has developed ground-breaking technology that deposits ceramic on a lead wire of very small diameter (from 0.07 mm).

These outstanding advantages - miniature size, weighing far less and resistance to extreme temperatures - mean that **CERAFIL®** is nowadays used in many highly technical applications and research projects in areas like the aerospace and nuclear industries.

Characteristics

• Thermal
Continuous operating temperature: **-90°C to +500°C**
+800°C during 240 h minimum
Peak temperature +1,000°C
*At temperature > 315°C after extended use, **CERAFIL®** can experience migration of the nickel that may cause its max. resistivity to increase*

• Chemical
Resistance to chemical environments: ★★★★★
(Inert to usual and organic solvents)
Resistance to humidity: ★☆☆☆☆
(Product sensitive to moisture - hydrophilic)

• Electrical
Test voltage (1 min): 150 AC / 212 V DC

• Radiation Resistance ★★★★★
Withstands prolonged exposure to neutrons and gamma rays without altering the mechanical resistance of the insulation

• Fire resistance
Totally non-combustible at temperatures over 1,000°C, **CERAFIL®** may melt but cannot catch fire

CONSTRUCTION AND MAIN PROPERTIES

Core diameter (mm)	AWG	Nominal outer diameter (mm)	Tolerance (mm)	Linear weight (g / km)	Length (m / kg)	Maximum tensile strength (N)	Minimum bending radius (mm)	Maximum linear resistance at 20°C (Ω / m)
07/100	41	0.088	+/- 0.002	34	29,800	0.23	0.45	7.795
10/100	38	0.115	+/- 0.005	71	14,000	0.47	0.6	3.818
12/100	36	0.138	+/- 0.002	101	9,901	0.67	0.7	2.652
15/100	34	0.168	+/- 0.002	161	6,210	1.06	0.85	1.697
17/100	34	0.188	+/- 0.002	202	4,950	1.36	0.93	1.322
20/100	32	0.218	+/- 0.002	286	3,500	1.88	1.1	0.954
25/100	30	0.268	+/- 0.002	446	2,240	2.95	1.35	0.611
30/100	28	0.318	+/- 0.002	637	1,570	4.24	1.6	0.424
35/100	27	0.368	+/- 0.002	862	1,160	5.77	1.85	0.312
40/100	26	0.418	+/- 0.002	1,136	880	7.54	2.1	0.239
45/100	25	0.468	+/- 0.002	1,433	698	9.55	2.35	0.189
50/100	24	0.518	+/- 0.002	1,754	570	11.78	2.6	0.153
55/100	23	0.568	+/- 0.002	2,105	475	14.25	2.85	0.126
60/100	22	0.618	+/- 0.002	2,500	400	16.96	3.1	0.106
65/100	22	0.668	+/- 0.002	2,899	345	19.91	3.35	0.090
70/100	21	0.718	+/- 0.002	3,356	298	23.09	3.6	0.078
80/100	20	0.818	+/- 0.002	4,348	230	30.16	4.1	0.059
90/100	19	0.918	+/- 0.002	5,814	172	38.17	4.6	0.047
100/100	18	1.018	+/- 0.002	7,194	139	47.12	5.1	0.038

Colour code

Grey

Applications

This very high temperature miniature wire has been designed to constitute extremely reliable windings capable of withstanding anythermal overloads (mechanical heating, short-circuit, location with thermal risk, etc.)

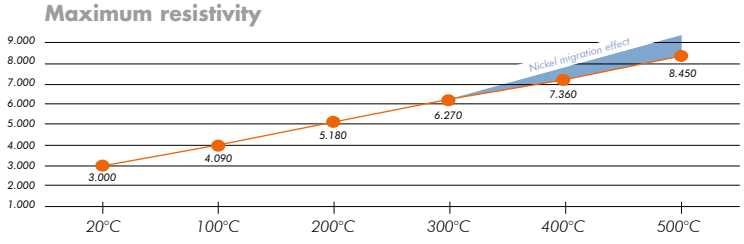
We can also produce on request thermocouple cables with **CERAFIL®** type ceramic insulation to measure the temperature in contained environments subject to extreme heat (range: **COUPLIX®**)

A FEW PRECAUTIONS WHEN USING

*Ceramic is very different from traditional insulations. It is a rigid, hydrophilic material that requires special care when using. **CERAFIL®** must be stored in a dry environment and handled with care, without mechanical mistreatment (folding, traction, etc.). It must be stripped using fine grain sandpaper. Do not hesitate to contact us for further information.*

CHANGES IN THE ELECTRICAL PROPERTIES OF CERAFIL® BASED ON THE TEMPERATURE

Temperature (°C)	Max. resistivity (μΩ.cm)
20°C	3.000
100°C	4.090
200°C	5.180
300°C	6.270
400°C	7.360
500°C	8.450



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MINIATURE & HIGH TEMPERATURE THERMOCOUPLE & EXTENSION CABLES

High temperature area

MINIATURE & HIGH TEMPERATURE
THERMOCOUPLE & EXTENSION CABLES

COUPLIX®

K/KX-M-8
E/EX-M-8
(other couple on request)

1 • Couple K: Nickel – chrome / Nickel – alloy
Couple E: Nickel – chrome / Copper Nickel E
(other on request)
2 • Ceramic insulation (Grey)

Standards and approvals

CGP INNOVATION
COUPLIX® made with two ceramic-insulated wires **CERAFIL®** for very high temperatures.

These outstanding advantages - miniature size, weighing far less and resistance to extreme temperatures - mean that **CERAFIL®** is nowadays used in many highly technical applications and research projects in areas like the aerospace. space and nuclear industries.

Characteristics

• Thermal
Continuous operating temperature: **-90°C to +500°C**
+800°C during 240 h minimum
Peak temperature +1,000°C
*At temperature > 315°C after extended use, **CERAFIL®** can experience migration of the nickel that may cause its max. resistivity to increase*

• Chemical
Resistance to chemical environments: ★★★★★
(Inert to usual and organic solvents)
Resistance to humidity: ★☆☆☆☆
(Product sensitive to moisture - hydrophilic)

• Electrical
Test voltage (1 min): 150 AC / 212 V DC

• Radiation Resistance ★★★★★
Withstands prolonged exposure to neutrons and gamma rays without altering the mechanical resistance of the insulation

• Fire resistance
Totally non-combustible at temperatures over 1,000°C, **CERAFIL®** may melt but cannot catch fire

Colour code
Grey

Applications
Thermocouple cables with **CERAFIL®** insulation to measure the temperature in contained environments subject to extreme heat

A FEW PRECAUTIONS WHEN USING
*Ceramic is very different from traditional insulations. It is a rigid, hydrophilic material that requires special care when using. **CERAFIL®** must be stored in a dry environment and handled with care, without mechanical mistreatment (folding, traction, etc.). It must be stripped using fine grain sandpaper. Do not hesitate to contact us for further information.*

CONSTRUCTION

Couple	Core diameter (mm)	AWG	Nominal diameter (mm)	Linear weigh in (g / km)	Length in (m / kg)
K	2 x 20/100	2 x AWG 32	0.44	286	3,500
K	2 x 30/100	2 x AWG 28	0.68	637	1,570
K	2 x 50/100	2 x AWG 24	1.04	1,754	570
E	2 x 20/100	2 x AWG 32	0.44	286	3,500
E	2 x 30/100	2 x AWG 28	0.68	637	1,570

F.E.M – Couple K

Temperature	F.E.M	Tolerance Class 1 (KX1)	Tolerance Class 2 (KX2)
0°C	0 µV	± 60 µV	± 100 µV
100°C	4,095 µV	± 60 µV	± 100 µV
200°C	8,137 µV	± 60 µV	± 100 µV
400°C	16,395 µV	± 60 µV	± 100 µV

F.E.M – Couple E

Temperature	F.E.M	Tolerance Class 1 (EX1)	Tolerance Class 2 (EX2)
0°C	0 µV	± 120 µV	± 200 µV
100°C	6,319 µV	± 120 µV	± 200 µV
200°C	13,421 µV	± 120 µV	± 200 µV
400°C	28,946 µV	± 120 µV	± 200 µV

• *Please contact us for other couple*

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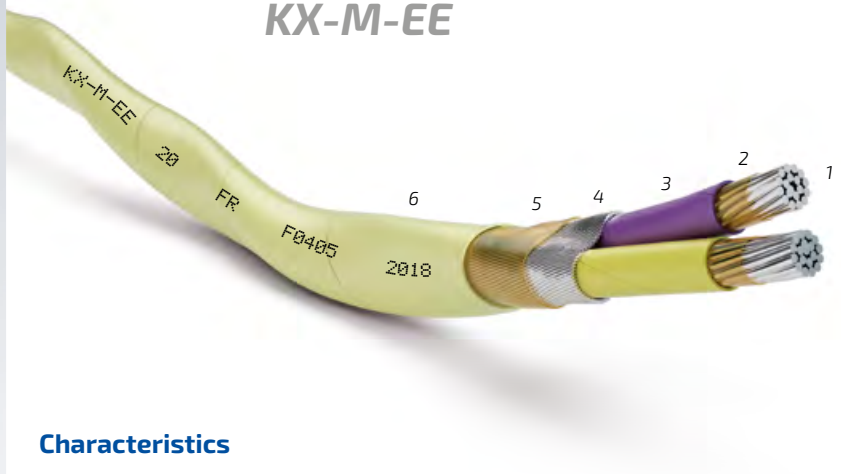
COUPLIX®

KX-M-EE



1 • Couple KX: Nickel-chromium / Nickel-aluminium
2 • Polyimide tape
3 • PTFE tape
4 • Nickel plated copper spiral shield
5 • Polyimide tape
6 • PTFE tape (Light Yellow)

Standards and approvals

Construction:
• Inspired of EN 2714
Performances:
• EN 3475 / FAR 25
Thermocouple:
• EN 60584-3 / ISO 8056-1

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +260°C**

• FEM - Thermocouple
4.10 mV ± 0.06 mV at 100°C
EN 60584-3

• FEM – Nickel-chromium/Platine wire
2.813 mV ± 0.06 mV at 100°C

• FEM – Nickel-aluminium/Platine wire
-1.282 mV ± 0.06 mV at 100°C
ISO 8056-1

• Electrical
Test voltage (1 min): 600 V RMS

• Mechanical
Cut-through resistance: ★★★★☆
Resistance to abrasion: ★★★★☆ □□□□□
EN 3475

• Chemical
Resistance to chemical environments: ★★★★★
Resistance to humidity: ★★★★★
Resistance to aircraft fluids: ★★★★★
EN 3475

• Fire-smoke
Flame retardant & Low smoke
EN 3475 / FAR 25

• Arc tracking resistance
EN 3475

Marking *(UV laser printable)*

1 • On customer specification
2 • Inspired of EN 2084: "Product Reference Gauge Country CGP NATO Code Manufacturing Year"

Cores identification

Two cores: Yellow – Purple
For any other request: please contact us

Option

Other cross-sections or constructions on request

Applications

Measure of temperature by thermoelectric effect
Extension cables serve to connect the open ends of the two wires of a thermocouple at the reference junction in equipment where the thermocouple is not directly connected to the reference junction

CONSTRUCTION

AWG	Stranding (n / mm)	Cross section (mm^2)	Cable outer diameter maxi (mm)	Maximum linear weight (kg / km)
2 x AWG 20	19 x 0.20	0.60	3.62	24.1

Maximum linear resistance at 20°C (Ω / km)
Yellow core ≤ 1,276
Purple core ≤ 550
Shield ≤ 100

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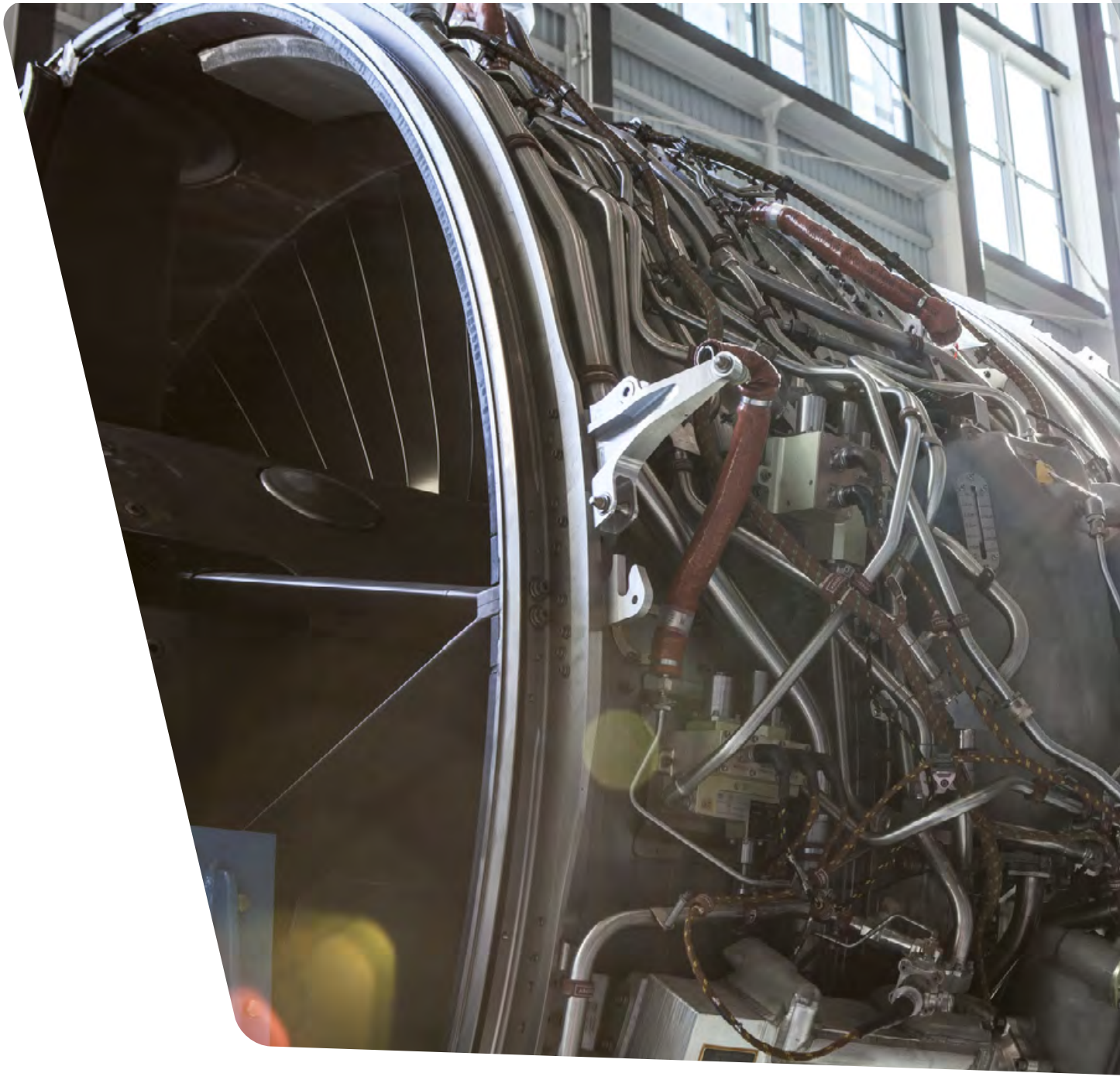

CABLES FOR GLOBAL PERFORMANCE

HIGH PERFORMANCE METALLIC BRAIDS

Harness protection
High temperature area

CABLES FOR GLOBAL PERFORMANCE

METALTRESSE®

GTCA150
GTCA200
GTCN127

Supplied on an internal former to aid installation and maintain the shape and form of braid in transit and prior to installation

Characteristics

• Thermal
Continuous operating temperature:
GTCA: -60°C to +200°C
GTCN: -60°C to +250°C

• Electrical
Protection from electromagnetic interference (EMI):
★★★★★
Minimum of 96% Optical Coverage

Applications

High value applications in aerospace and defence industries. **METALTRESSE®** ensures excellent electrical and thermal protection of the cable harnesses for optimal signal transmission.

This product is recommended for wiring systems requiring **very high levels of protection from EMI**

VERSIONS

Model	Type of strand	Minimum optical coverage	Minimum guaranteed thickness (µm)
GTCA150	Silver-plated copper	96%	1.50
GTCA200	Silver-plated copper	96%	2.00
GTCN127	Nickel-plated copper	96%	1.27

GTCA** - CONSTRUCTION

Internal diameter (mm)	Number of wires (miniumum)	Strand Size (mm)	Approx. linear weight* (kg / km)	Maximum linear resistance at 20°C (Ω / km)
2	80	13 / 100	11.0	19.0
4	128	15 / 100	23.0	9.3
6	168	15 / 100	34.0	7.9
8	168	20 / 100	60.0	4.3
10	216	20 / 100	73.0	3.2
12	256	20 / 100	88.0	2.7
14	256	20 / 100	102.0	3.2
15	336	20 / 100	109.0	2.0
16	336	20 / 100	116.0	2.1
18	336	20 / 100	130.0	1.8
20	448	20 / 100	145.0	1.6

GTCN** - CONSTRUCTION

Internal diameter (mm)	Number of wires (miniumum)	Strand Size (mm)	Approx. linear weight (kg / km)	Maximum linear resistance at 20°C (Ω / km)
2	80	13 / 100	11.0	26.0
4	128	15 / 100	23.0	19.0
6	168	15 / 100	34.0	12.0
8	168	20 / 100	60.0	10.0
10	216	20 / 100	73.0	7.6
12	256	20 / 100	88.0	6.5
14	256	20 / 100	102.0	5.6
15	336	20 / 100	109.0	4.6
16	336	20 / 100	116.0	4.0
18	336	20 / 100	130.0	3.5
20	448	20 / 100	145.0	2.4

*Approximate linear weight excluding internal thermoplastic former
**GTCA200 diameter 2mm : wire diameter is 15/100 mm and linear weight is 13.5 kg/km

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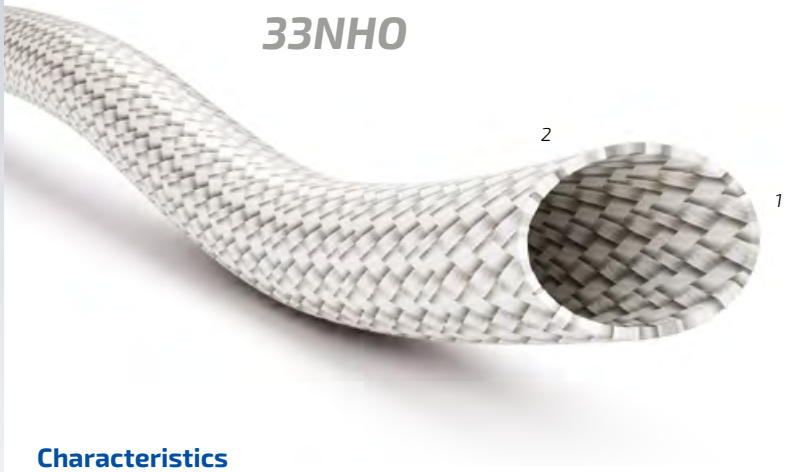
HIGH TEMPERATURE & FIREPROOF SLEEVES

Harness protection
High temperature area

SILIGAINE®

33NHO

1 • Meta-aramid fibre braided yarns
2 • Water and oil repellent treatment



Standards and approvals

Construction:
• EN 6049-003

Colour code

• Ivory White (natural)

Other characteristics

• Expandable sleeving for easy threading and wide use range
• Frays slightly when cut

Applications

The flexible, expandable and non-flammable properties ensure excellent performance in the most diverse and aggressive environments (abrasion, fire, high temperatures, miscellaneous projections, etc.).
This products should be considered for protection of wiring harnesses especially in aerospace and defence industries

Characteristics

• Thermal
Continuous operating temperature: **-55°C to +240°C**
Excellent resistance to thermal shock

• Chemical
Hydrocarbons resistance: ★★★☆☆
Oil resistance: ★★★☆☆
Chemical agents: ★★★☆☆
Biological agents: ★★★☆☆

• Mechanical
Flexibility: ★★★☆☆
Mechanical strength: ★★★★☆
Resistance to abrasion: ★★★★☆

• Fire-smoke
Unmeltable under high temperature
Self-extinguishing

• Radiation Resistance
Gamma rays & X-rays resistance: ★★★★★

INTERNAL DIAMETER**

Nominal value	Internal diameter mini (mm)	Internal diameter maxi (mm)	Approx. linear weight (kg / km)
2	1	2	2.7
4	2	4	4.0
6	4	8	6.0
8	6	12	10.0
10	8	16	11.0
15	10	20	17.0
20	12	24	22.0
25	15	30	32.5
30	20	40	38.0

*** These sleeves are expandable, the indicated internal diameters correspond to a recommended range of use.*

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SILITUBE®

X

1 • Mineral fibre braided yarns
2 • Silicone rubber coating

Standards and approvals

Construction:
• Inspired by American aeronautic standards SAE AS1072 (allows appropriate hose assemblies by qualified manufactures to meet SAE Aerospace standard AS1055)

Performances:
• IEC 60695-2-10
• IEC 60695-2-11
• R22-R23 HL1, HL2 and HL3 as per EN 45545-2.

Colour code

Terracotta Red

Other characteristics

Excellent flexibility at low temperature: GES X does not harden, does not chip off, does not soften
Slight swelling when hydrocarbons are present

Applications

Protection and insulation of electric wiring harnesses, water, gas, compressed air or hydraulic fluid pipes, against aggression (presence of flames, projections of melting metals or glass, very high episodic temperatures, steam projections, etc.) in such industries as aerospace and defence industries

Characteristics

• Thermal
Continuous operating temperature: **-60°C to +180°C**
Peak temperature: **30 min to +800°C**
15 min to +1,100°C
1 min to +1,500°C

• Mechanical
Flexibility: ★★★★★

• Chemical
Asbestos free
Watertight

• Fire-smoke
Fireproofed
Low smoke density and toxicity

• Halogen-free
Yes

CONSTRUCTION

Reference	Internal diameter (mm)	Nominal wall thickness (mm)	Approx. linear weight (kg / km)
SILITUBE X 8	8	4	120
SILITUBE X 10	10	4	140
SILITUBE X 13	13	4	200
SILITUBE X 16	16	4	220
SILITUBE X 19	19	4	240
SILITUBE X 22	22	4	260
SILITUBE X 25	25	4	290
SILITUBE X 32	32	4	380
SILITUBE X 38	38	4	440
SILITUBE X 45	45	4	490
SILITUBE X 51	51	4	540
SILITUBE X 57	57	4	600
SILITUBE X 64	64	4	680
SILITUBE X 76	76	4	880
SILITUBE X 89	89	4	960
SILITUBE X 102	102	4	1,170
SILITUBE X 114	114	4	1,260
SILITUBE X 127	127	4	1,380

The flexibility and extra wall thickness of the SILITUBE® X negates the need to indicate tolerances on the internal diameter.

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VERY HIGH TENSILE STRENGTH SYNTHETIC CABLES

Bridge system of armoured vehicles
Guard rails for naval ships

CABLES FOR GLOBAL PERFORMANCE

VERY HIGH TENSILE STRENGTH SYNTHETIC CABLES

CGP reference	Available diameters (mm)	Core	Outer sheath	Operating temperature (°C) Min	Operating temperature (°C) Max	Breaking Load (daN)	Extension at break (%)	Tensile resistance	Abrasion resistance	Alternate bending resistance	Flame retardant	UV resistance
MINOROC® P	3 / 5 / 7 9 / 11 /13.5	Polyester	Special Thermoplastic	-40	+80	**150** to **3,500**	**9.5%** to **12%**	✔	✔		✔	✔
MINOROC® K	5 / 7 9 / 11	Aramid	Special Thermoplastic	-40	+80	**1060** to **6,000**	**3.0%**	✔	✔	✔	✔	✔

FURTHER INFORMATION

ABOUT MECHANICAL BEHAVIOUR COMPARISON BETWEEN MINOROC® P & K

MINOROC® reference	P	K
High tensile resistance	★★★★☆	★★★★★
Low extension	★★★★☆	★★★★★
Abrasion resistance	★★★★★	★★★★★
Alternate bending resistance	★★★★☆	-
Flexibility	★★★★★	★★★★★

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MINOROC®

P

1 • Synthetic polyester fibres
2 • Special thermoplastic sheath

Standards and approvals

Construction:
• CGP Innovation

Colour code

Black

Applications

Military applications:
Bridge system for special armoured vehicle, guard rails for naval ships

Other applications:
Guying system for boat masts, tram electrification, antennas and anti-helicopter rope system for prisons

Characteristics

• Thermal
Continuous operating temperature: **-40°C to +80°C**

• Electrical
Lightening resistance: 20 kV

• Mechanical
Tensile resistance ★★★★★
Low extension: ★★★★★
Resistance to abrasion: ★★★★★
Alternate bending resistance: ★★★★★
Flexibility: ★★★★★

• Chemical
Resistance to chemical environments: ★★★★★

• Outdoor Use
UV resistance: ★★★★★
Bad weather resistance: ★★★★★

MINOROC P

Characteristics	Ø 3 mm	Ø 5 mm	Ø 7 mm	Ø 9 mm	Ø 11 mm	Ø 13.5 mm
Breaking load (daN)	150	500	1,000	1,500	2,000	3,500
Extension at break (%)	9.5	9.5	10.0	10.0	12.0	12.0
Approx. linear weight (kg / km)	8	22	42	67	83	108

TERMINATION SYSTEM (Optional)

Bi-cone termination
In aluminium

The aluminium bi-cone termination has been designed to make installation on site easier. The system is attached to the **MINOROC®** cables without difficulty, whilst ensuring an extremely solid fit.

We suggest that you download the assembly instructions at ***www.cables-cgp.com***

Our R&D Department can also study and develop special terminations for aggressive environments or particular uses

> Please contact us for further information

(optional system, delivered separately from the cable)

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CABLES FOR GLOBAL PERFORMANCE

MINOROC®

K

1 • Synthetic aramide fibres
2 • Special thermoplastic sheath

Standards and approvals

Construction:
• CGP Innovation

Colour code

Black

Applications

Military applications:
Bridge system for special armoured vehicle, guard rails for naval ships

Other applications:
Guying system for boat masts, tram electrification, antennas and anti-helicopter rope system for prisons

Characteristics

• Thermal
Continuous operating temperature: **-40°C to +80°C**

• Electrical
Lightening resistance: 20 kV

• Mechanical
Tensile resistance ★★★★★
Low extension: ★★★★★
Resistance to abrasion: ★★★★★
Alternate bending resistance: ★☆☆☆☆
Flexibility: ★★★★★

• Chemical
Resistance to chemical environments: ★★★★★

• Outdoor Use
UV resistance: ★★★★★
Bad weather resistance: ★★★★★

MINOROC K

Characteristics	Ø 5 mm	Ø 7 mm	Ø 9 mm	Ø 11 mm
Breaking load (daN)	1,060	1,500	4,500	6,000
Extension at break (%)	3.0	3.0	3.0	3.0
Approx. linear weight (kg / km)	24	44	71	86

TERMINATION SYSTEM (Optional)

Bi-cone termination
In stainless steel

The stainless steel bi-cone termination has been designed to make installation on site easier. The system is attached to the **MINOROC®** cables without difficulty, whilst ensuring an extremely solid fit.

We suggest that you download the assembly instructions at ***www.cables-cgp.com***

Our R&D Department can also study and develop special terminations for aggressive environments or particular uses

> Please contact us for further information

(optional system, delivered separately from the cable)

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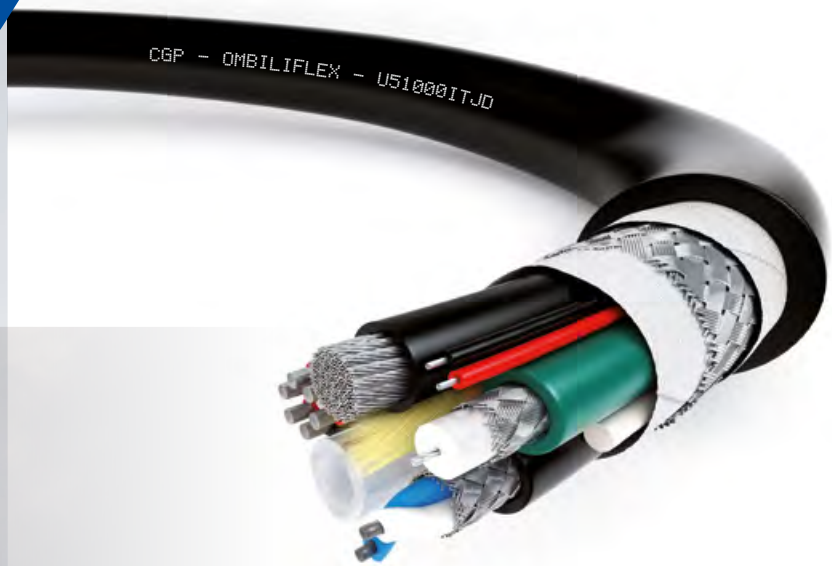
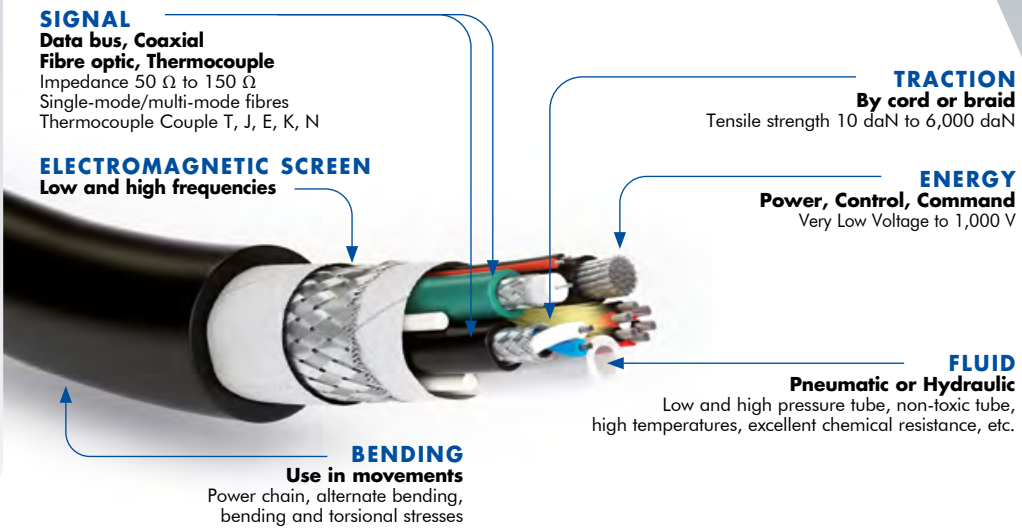
CABLES FOR GLOBAL PERFORMANCE



SPECIAL PRODUCTS ON REQUEST

Civil & VIP aircrafts
Defence tethered balloons
Defence aircrafts

OMBILIFLEX®



High performance characteristics

OMBILIFLEX® cables undergo numerous tests at every production stage to ensure a high level of quality and to meet your requirements

Our laboratory has the means to test and validate the **physical, mechanical, chemical, electrical and fire behaviours** of the cables we produce

Applications

This range of multifunction hybrid cables is intended for cutting-edge sectors like aerospace, military applications, robotics, medical applications, oil exploration, industry, etc.

Customized products
CGP INNOVATION

Thanks to our expertise and total mastery of our electrical cable manufacturing processes, the engineers of our R & D department have developed the **OMBILIFLEX®** range. Umbilical cables that can combine up to 6 different functions in one single product: **Energy, Signal, Fluid, Traction, Flexion and Electromagnetic protection.** This range of hybrid and multi-functional cables is designed for high-tech sectors such as aeronautics, military, robotics, medical, oil exploration, industry, etc.

Our Design Office is made up of experienced engineers who are specialists **in metallurgy, plastics manufacture, electromagnetic compatibility, micromechanics, data transmission, etc.** It will provide you with a fast, precise response by developing an **OMBILIFLEX®** formed of power cables, twisted pairs, coaxial cables, tubes, fibre optics, shielding, braid or traction cord, etc. in line with the miscellaneous and complex constraints of your applications.

SAMPLE PRODUCTIONS

OMBILIFLEX® U5-1000ITJD

Aerospace/Machine tools sector

Umbilical cable for industrial drill used to assemble the metal structure of on aircraft.
This **OMBILIFLEX®** cable transfers the fluid (pressurised oil), information (running the tooling) and power (supplying the tooling) and ensures good tensile strength and resistance to alternating movements.

OMBILIFLEX® U3-1000OB

Defence/Military sector

Umbilical cable for airborne video surveillance systems.
This **OMBILIFLEX®** cable transfers power (camera supply) and information via fibre optics (high speed video/audio) and maintains very high tensile strength (> 4 000 daN).

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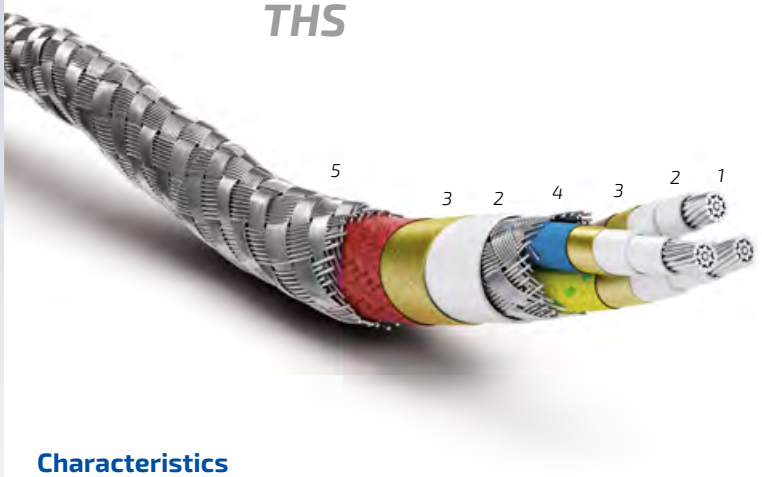
SILIFLAM®

THS



1 • Nickel plated copper or Nickel cores (see table below for more details)
2 • (Optional) PTFE or Polyimide tapes
3 • Composite insulation and sheathing: Mica and coated Borosilicoaluminate fibre
4 • (Optional) Nickel-plated copper electrical screen braid
5 • (Optional) AISI 304 Stainless steel outer shielding

Standards and approvals

Performances:

- IEC 60331-11
- IEC 60331-21
- IEC 60332-1-1
- IEC 60332-1-2
- IEC 60332-3
- ANSI/IEEE 383
- NF C 32-070
- VDE 0472-81
- MIL W 25038
- NBN C 30-004

Colour code

Cores:

- SILIFLAM® THS 1000 and 1200 Series: according to IEC 60445
- SILIFLAM® THS 1400 and 1500 Series: Natural White or according to IEC 60445

Outer sheath:

- SILIFLAM® THS 1000 and 1200 series: Brick Red or Grey
- SILIFLAM® THS 1400 and 1500 series: Natural White

Note: The colour of the conductors is used for the purposes of identification during assembly. In view of the extreme temperatures liable to be encountered by SILIFLAM® THS, some colours may partially disappear or be modified in the course of normal cable use, as most of the pigments used are not capable of withstanding the temperatures liable to be applied to these products.

Applications

SILIFLAM® THS products can withstand conditions and temperatures that no other standard cable on the market would ever be able to withstand. They are particularly designed to power industrial installations and keep them running under the most severe operating conditions.

They can also be used in zones where the ambient conditions are liable to vary under exceptional or accidental circumstances and attain abnormal levels. In this case, **SILIFLAM® THS** retain their electrical integrity for a period of time, in order to take the necessary measures to shut down the installation or evacuate personnel or appliances.

Characteristics

- Thermal

The values given below are therefore indicative
SILIFLAM® THS 1000 Series: **+400°C to +800°C**
SILIFLAM® THS 1200 Series: **+500°C to +1,000°C**
SILIFLAM® THS 1400 Series: **+700°C to +1,200°C**
SILIFLAM® THS 1500 Series: **+900°C to +1,400°C**

Due to their specificity, and the nature of the installations powered, it is difficult to state specific and perfectly defined operating temperature ranges for **SILIFLAM® THS**. However, it is possible to state recommended operating limits, essentially representing the temperature range withstood by the insulation without sustaining rapid noteworthy degradation of its dielectric properties, potentially leading to short circuits that can be harmful for the installation.

- Electrical

Operating voltage
Low voltage (until 600 / 1,000 V)

- Chemical

Asbestos free

They are available as standard versions or variants specially designed by our engineers and technicians for high-risk industrial applications and any installation continually or occasionally subject to very high temperatures.

FURTHER TECHNICAL INFORMATION

Conducting cores	2%, 27% Nickel-plated copper or pure Nickel
Available range – Single core cable	0.22 mm² to 400 mm²
Available range – Multi core cable	≥ 0.22 mm² to 2.5 mm²: 2 to 37 conductors ≥ 4 to 6 mm²: 2 to 19 conductors ≥ 10 to 95 mm²: 2 to 5 conductors
Option: Dielectric reinforced protection	PTFE (THS 1030 and 1230 series) or Polyimide tapes (THS 1050, 1250, 1450 and 1550 series)
Option: Electromagnetic interferences protection	Electrical screen in Nickel plated copper (THS reference – BCN series)
Option: Mechanical protection	Stainless steel armour (THS references – BI series)

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CABLES FOR GLOBAL PERFORMANCE

SPIRFLEX®

Customized products
CGP INNOVATION

The high-performance **SPIRFLEX®** spiral cable range springs from the know-how and technical expertise of our engineers. We design and fabricated **specific cords meeting our customers' specifications and thus offer a fully-customised solution** (dimensions, length, connectors, etc.).

Our Design Office is made up of experienced engineers who are specialists **in metallurgy, plastics manufacture, electromagnetic compatibility, micromechanics, data transmission, etc.** It will provide you with a fast, precise response by developing a **SPIRFLEX®** cord in line with the miscellaneous and complex constraints of your applications.

High performance characteristics

Fire-smoke
Flame and fire retardant version

Mechanical
- High flexibility
- High or low shape memory
- High or low extension coefficient
- Improved mechanical behaviour: according to military standard SEFT 027

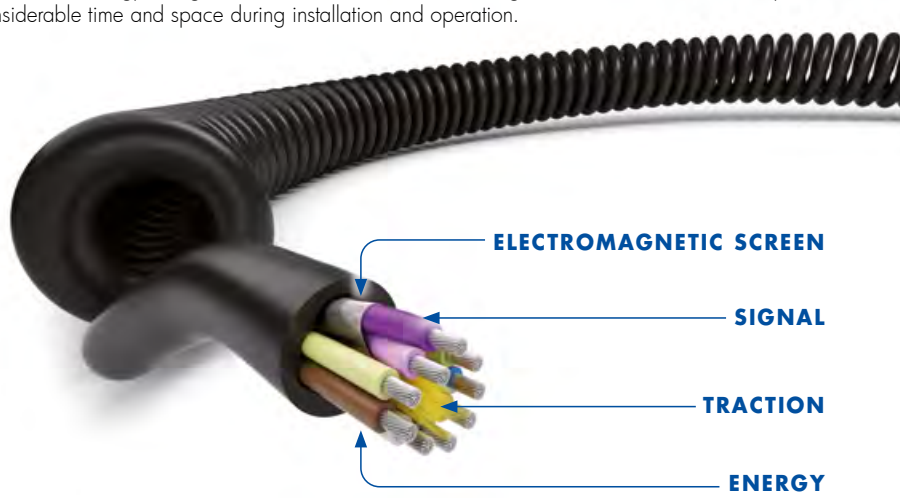
Physical
- Miniature spiral cable
- Hybrid elements: Data / Traction / Fluid
- Excellent electromagnetic protection
- Resistance to harsh constraints: heat, chemicals, solvents

Applications

This range of high performance spiral cables is intended for cutting-edge sectors like aerospace, military applications, robotics, medical applications, industry, etc.

SPIRFLEX® HYBRID SOLUTION

CGP develops specific, hybrid and innovative solutions combining several functions in one and the same **SPIRFLEX®** spiral cable: Energy / Signal / Traction / Fluid / Electromagnetic screen. **SPIRFLEX®** Hybrids can thus save considerable time and space during installation and operation.



SPIRFLEX® CONNECTED SOLUTION

CGP designs cords **fitted with standard or specific connectors** according to your needs and applications. **SPIRFLEX®** spiral cables are assembled with the connectors within our workshops, thereby guaranteeing top quality.

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CABLES FOR GLOBAL PERFORMANCE

www.omerin.com

POWER CONNECT®

Customized products
CGP INNOVATION

The **POWER CONNECT®** range springs from the know-how and technical expertise of our engineers. Based on the **SILICOUL®**, **VARPREN®** and **PLASTHERM®** power cables, our technical teams make up leads fitted with crimped lugs and delivered at the length specified by our customers.

High performance

Cables are crimped and cut in our workshops to ensure optimum mechanical and electrical resistance in line with our customers' specifications. We thus offer a full, tested (voltage drop, tensile strength, etc.), ready-to-use solution.

Appropriate connectors

Our engineers select the most appropriate power lugs for your application and the use environment of your product.
Shape: Tubular, elbowed, angled, other designs possible
Material: Metallic (tinned electrolytic copper, aluminium, etc.)
Crimping: Manual or hydraulic press

High performance characteristics

(depends of cable's range used see the table for further information)

Thermal
Continuous operating temperature:
Until -60°C to +180°C
Good resistance to thermal shock

Electrical
Operating voltage:
Low and Medium voltage

Fire-smoke
Flame and fire retardant version

Mechanical
Resistance to abrasion
Cut-through resistance

UV Resistance

Halogen Free

Applications

High performance solution for high current or voltage area in aggressive environments (temperature, mechanical, chemical)

	VARPREN® 155	SILICOUL®	PLASTHERM®
			
High Temperature	✔	✔	
Halogen free	✔	✔	✔
Fire	✔	✔	✔
Outdoor use	✔		✔
Mechanical	✔		✔

CHARACTERISTICS	PLASTHERM® CONNECT	SILICOUL® CONNECT	VARPREN® 155 CONNECT
Operating temperature	-20°C to +80°C	-60°C to +180°C Good thermal shock resistance	-50°C to +155°C
Operating voltage	Low and medium voltage (contact us)	1,1 kV to 13,8 kV	1,000 V
Mechanical behaviour	Excellent abrasion resistance	Good mechanical strength	Excellent tearing strength
Outside use	Optional	Good UV resistance	-
Halogen-free	Optional	Yes	Yes
Fire performance	Optional: Flame retardant Fire retardant	Flame retardant	Flame retardant Fire retardant Low smoke emission

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CABLES FOR GLOBAL PERFORMANCE

APPENDICES

COLOUR CODE

EQUIVALENCE COLOURS & SYMBOLS USED IN NF C 93-521 / NF C 93-524

ELECTROAIR®
KU
AGZ
AGF
M7-KU 01
M7BE-KU 01
M6BA-A6
MEEBA-AEE
NEMA HP3 ET, E, EE
NEMA HP4 KT, K, KK

COLOUR	SYMBOL NF C 93-521	SYMBOL NF C 93-524
Natural	*A*	*A*
Black	*B*	*0*
Brown	*C*	*1*
Red	*D*	*2*
Orange	*E*	*3*
Yellow	*F*	*4*
Green	*G*	*5*
Blue	*H*	*6*
Purple	*J*	*7*
Grey	*K*	*8*
White	*L*	*9*

CABLES FOR GLOBAL PERFORMANCE

HOOK-UP & AIRFRAME EN CABLES

ELECTROAIR®
CF Line
DM Line

Sheath colours:

1 core:
2 cores:
3 cores:
4 cores:

HOOK-UP & AIRFRAME NF CABLES

ELECTROAIR®
KU
AGZ
AGF
KZ
M7-KU 01
M7BE-KU 01
M6BA-A6
*MEEBA-AEE**
NEMA HP3 ET.E.EE
NEMA HP4 KT.K.KK

PLASTHERM®
M40BE-E40

Sheath colours:

1 core:
2 cores:
3 cores:
4 cores:
5 cores:
7 cores:

HIGH TEMPERATURE & FIREPROOF SLEEVES

SILITUBE®
X

SILIGAINE®
33NHO

Sleeve:

HIGH TEMPERATURE COAXIAL CABLES

COAXTHERM®
RG / KX

RG 178 BU, RG 178 BU / PFA, KX 21A, KX 22A, RG 316 U, RG 316 U / PFA, RG 303 U, RG 142 BU, RG 400 U, RG 304 U, RG 115 U, RG 165 U, RG 393 U, RG 225 U, RG 179 BU, RG 179 BU / PFA, RG 302 U, RG 144 U, RG 180 BU, RG 180 BU / PFA

W5BA5

KX 23, KX 24, KX 25

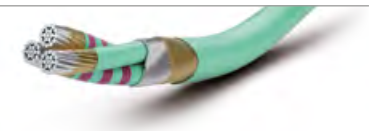
KX 6A HT 180C, KX 8 HT 180C

RG 59 MINI HT 200C

**Concerning reference MEEBA-AEE for 3 cores: Blue / White / Red and 4 cores Blue / White / Red / Green*
For any other special request concerning our products, please contact us.

FIGHTER AIRCRAFT CABLES

ELECTROAIR®
DA6007
DA6010

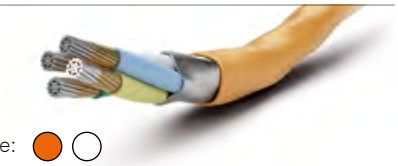


Sheath colours:

1 core:
2 cores:
3 cores:

FLIGHT TEST CABLES

ELECTROAIR®
AH7080
AH7083



Sheath colour:

1 core:
2 cores:
3 cores:
4 cores:

HIGH TEMPERATURE CONTROLLED IMPEDANCE TWISTED PAIR CABLES

TWINLINK®
FP / FA

Sheath colour:

1 core:

VERY HIGH TENSILE STRENGTH SYNTHETIC CABLES

MINOROC®
P, K

Sheath colour:

MINIATURE CERAMIC INSULATED WIRES FOR VERY HIGH TEMPERATURES

CERAFIL®
CN8

1 core:

Azure Blue
Blue
Black
Orange
Light Brown
White
Green
Text *(cf. data sheet)*
Natural
Red
Grey
Light green
Purple
Yellow
Pink
Terracotta Red
Ivory White

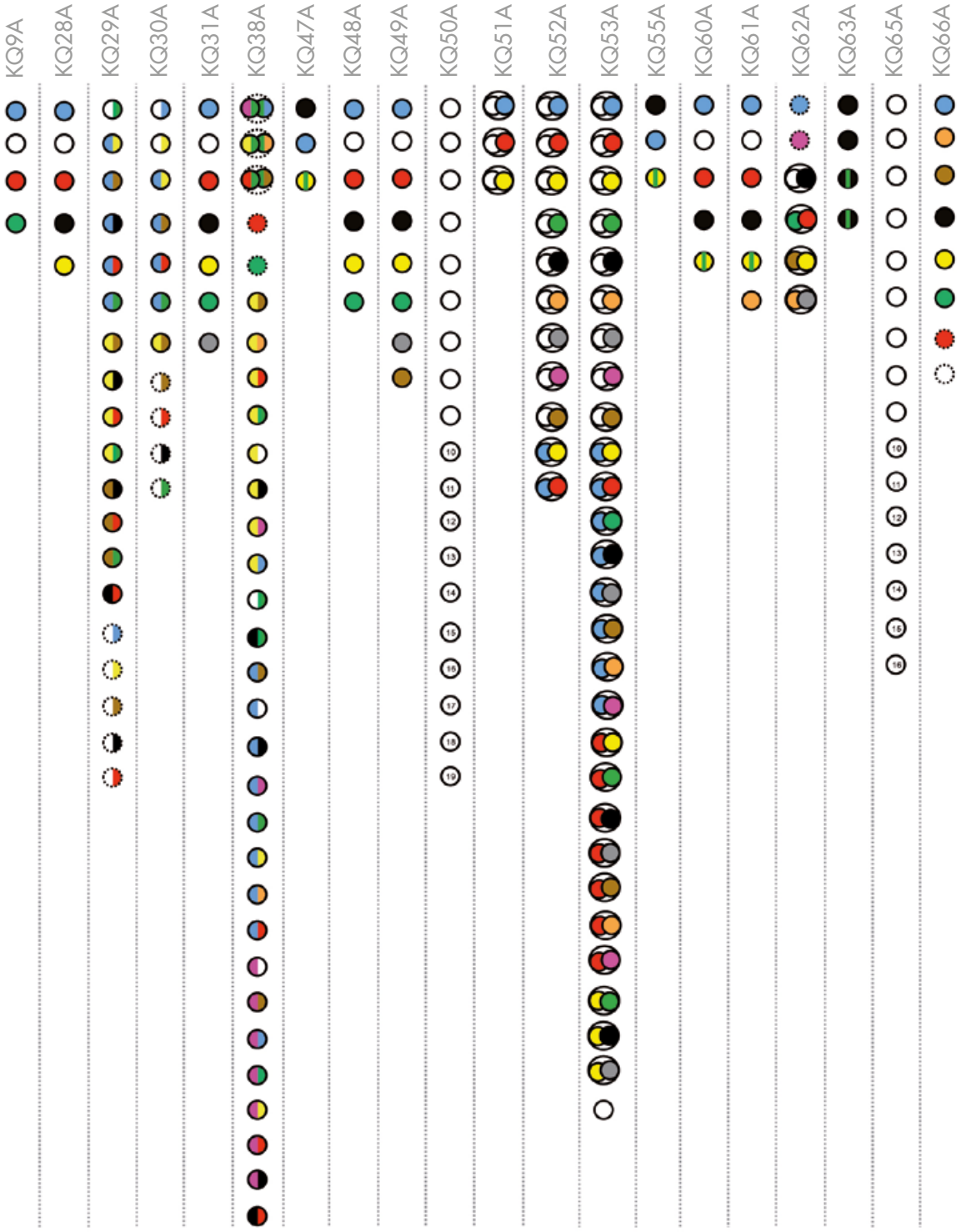
White wire with two or three Dark Green rings

COLOUR CODE

ARMOURED PERSONNEL CARRIER CABLES – Wires colour

ELECTROAIR®
KQ

Sheath colours:



For any other special request concerning our products, please contact us.

- One White wire
- One White shielded wire
- One White and Blue wire
- One Yellow wire with Green lines
- One twisted shielded pair:
  - First wire: Red & Green
  - Second wire: Brown & Green
- One twisted unshielded pair:
  - First wire: Yellow
  - Second wire: Grey
- Blue
- White
- Red
- Purple
- Black
- Green
- Grey
- Yellow
- Orange
- White, Black numerated

LIST OF STANDARDS

ABOUT CABLE'S CONSTRUCTION

EN 2083	Aerospace series Copper or copper alloy conductors for electrical cables Product standard ELECTROAIR® CF Line – CF, PF, QF, RF
EN 2266-002	Aerospace series Cables, electrical, for general purpose Operating temperatures between -55°C and 200°C Part 002: general ELECTROAIR® CF Line – CF, PF, QF, RF
EN 2266-003	Aerospace series Cables, electrical, for general purpose Operating temperatures between - 55°C and 200°C Part 003: ink jet printable - Product standard ELECTROAIR® CF Line – CF, PF, QF, RF
EN 2713-002	Aerospace series Cables, electrical, single and multicore for general purpose Operating temperatures between -55°C and 200°C Part 002: screened and jacketed - General ELECTROAIR® CF Line – SJU, TKU, UDU, VLU
EN 2713-007	Aerospace series Cables, electrical, single and multicore for general purpose Operating temperatures between -55 °C and 200 °C Part 007: screened (spiral) and jacketed, UV laser printable - Product standard ELECTROAIR® CF Line – SJU, TKU, UDU, VLU
EN 4434	Aerospace series Aerospace series - Copper or copper alloy lightweight conductors for electrical cables - Product standard (Normal and tight tolerances) ELECTROAIR® DM Line – GJ, MH, UU, VV
EN 2267-002	Aerospace series Cables, electrical, for general purpose Operating temperatures between - 55°C and 260°C Part 003: ink jet printable - Product standard ELECTROAIR® DM Line – DMA, PN, QL, RK
EN 2267-007	Aerospace series Cables, electrical, for general purpose Operating temperatures between - 55°C and 260°C Part 007: DMA Line, single ink-jet printable and multicore assembly - Product standard ELECTROAIR® DM Line – DMA, PN, QL, RK
EN 2714-002	Aerospace series Cables, electrical, single and multicore for general purpose Operating temperatures between -55°C and 260°C Part 002: screened and jacketed – General ELECTROAIR® DM Line – GJ, MH, UU, VV
EN 2714-011	Aerospace series Cables, electrical, single and multicore for general purpose Operating temperatures between -55°C and 260°C Part 011: DM Line, screened (spiral) and jacketed, UV laser printable - Product standard ELECTROAIR® DM Line – GJ, MH, UU, VV
AIR 4524/E	Standard of Defense's French Republic Department Certification condition and electrical cables specification for general purpose ELECTROAIR® DA6007, DA6010
NEMA HP4	ANSI/NEMA HP 4-2012 Electrical and Electronic FEP (Fluorinated Ethylene Propylene) insulated high temperature Hook-Up Wire, Types KT (250 Volt), K (600 Volt), and KK (1,000 Volt) ELECTROAIR® NEMA HP4 KT, K, KK
NEMA HP3	ANSI/NEMA HP 3-2012 Electrical and Electronic PTFE (Polytetrafluoroethylene) insulated high temperature Hook-Up Wire, Types ET (250 Volt), E (600 Volt), and EE (1,000 Volt) ELECTROAIR® NEMA HP3 ET, E , EE
NF C 93-524	Electronic components Insulated wires for high temperatures up to ISO grade C General requirements ELECTROAIR® KU
NF C 93-523	Electronic components Insulated wires for high temperature ELECTROAIR® AGZ, AGF
NF C 93-550	Electronic components RF coaxial cables, with metallic braid. General requirements COAXTHERM® KX
MIL-STD-17	Coaxial Cable Specifications COAXTHERM® RG

ABOUT CABLE'S PERFORMANCES

(Fire, Chemical, Mechanical…)

EN 3475-100	Aerospace series Cables, electrical, aircraft use Test methods - Part 100: General The majority of ELECTROAIR® product references
EN 3475-501	Aerospace series Cables, electrical, aircraft use Test methods - Part 501: dynamic cut-through The majority of ELECTROAIR® product references
EN 3475-503 EN 3475-511	Aerospace series Cables, electrical, aircraft use Test methods - Part 503: Scrape abrasion Test methods - Part 511: Cable to cable abrasion The majority of ELECTROAIR® product references
EN 3475-601	Aerospace series Cables, electrical, aircraft use Test methods - Part 601: Smoke density The majority of ELECTROAIR® product references
EN 3475-604	Aerospace series Cables, electrical, aircraft use Test methods - Part 604 Resistance to dry arc propagation The majority of ELECTROAIR® product references
FAR 25 §25.869	FAR/JAR part 25 sec 25.869 (a)(4) Appendix F part 1 (3) Fire protection: systems Self extinguishing - Test specifications All fluorinated cables are concerned
IEC 60332-1	Tests for vertical flame propagation for a single insulated wire or cable All fluorinated cables are concerned
C2 NF C 32-070	Tests for classification of conductors and cables with respect to their fire behaviour All fluorinated cables are concerned
ABD0031	Airbus specification: this ABD shall help to establish a level of fire safety for passenger and crew members of Airbus commercial aircraft beyond the minimum airworthiness authorities' requirements ELECTROAIR® AGZ, AGF
BMS 13-67	Boeing specifications: it is an insulated fire resistant aircraft cable, meant for high temperature Aerospace applications. This aircraft cable has a maximum temperature of 310°C ELECTROAIR® FR
SEFT 027	Standard of Defense's French Republic Department cable Mechanical tests for flexible cables (abrasion and cut-through resistance) - Military appliances ELECTROAIR® KQ, OMBILIFLEX®, SPRIFLEX®

ABOUT SLEEVE'S CONSTRUCTION & PERFORMANCES

SAE.AS1055	This SAE Aerospace Standard (AS) establishes uniform requirements and procedures for the fire testing of flexible hose assemblies and rigid tube assemblies (including coiled tubes) to be used in aircraft or aerospace vehicle fluid systems SILITUBE® X
SAE.AS1072	This standard defines the requirements for bulk protective sleeve to pro- vide fire resistance for aircraft hose assemblies, which will enable these assemblies to meet the requirements of AS 1055 SILITUBE® X
EN 6049-003	Aerospace series Electrical cables, installation - Protection sleeve in Meta-aramid fibres Part 003: braided, tubular, expandable - Product standard SILIGAINE® 33NHO

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CONDUCTORS

MAIN PROPERTIES OF METALS COMMONLY USED BY CGP

Type of metal	Name	Continuous operating temperature °C	Peak temperature °C	Melt temperature °C	Density at 20 °C $g.cm^{-3}$	Volume electrical resistivity at 20 °C. $\mu\Omega.cm$	Resistance variation coefficient (α) at 20 °C $10^{-3}.K^{-1}$	Thermal conductivity at 20 °C $W.m^{-1}.K^{-1}$	Specific heat capacity $J.kg^{-1}.K^{-1}$	Linear dilation coefficient from +20 °C to +100 °C $10^{-6}.K^{-1}$	Tensile strength Rm MPa
Bare copper	CuA1	180	400	1,083	8.89	1.7241	3.93	389	385	16.8	230
Deoxidised bare copper	CuC1	180	400	1,083	8.89	1.7241	3.93	389	385	16.8	230
Tin-plated copper	CuSn	180	300	1,083	8.89	1.7654 to 1.8508	3.66 to 3.84	386	385	16.8	230
Silver-plated copper	CuAg	200	450	1,083	8.91 to 9.05	1.7241	3.93 to 3.95	389	385	16.8	230
Nickel-plated copper	CuNi	300	500	1,083	8.89	1.7960	3.95	386	387	16.7	240
27% nickel-plated copper	CuNi27%	450	700	1,083	8.89	2.4284	4.22	359	404	15.8	240
Nickel	Ni	600	900	1,455	8.9	9.1	5.37	70	456	13	400

MAXIMUM LINEAR RESISTANCE (Ω/ km) AT 20°C OF CORES COMMONLY USED BY CGP

CGP Product:		CF, DM, AH7080	DA6007	HP3, HP4	KU, E40	AGZ, KZ	CF, DM, AH7083	DA6010	M6BA-A6, MEEBA-AEE	KU, M40BE-E40	AGZ
Type of cores		CuNi	CuAg	CuAg	CuSn	CuAg	CuNi	CuAg	CuAg	CuSn	CuAg
Standards		EN 2083 EN 4434	EN 2083 EN 4434	NEMA HP3 /HP4	NF C 93-524	NF C 93-523	EN 2083 EN 4434	EN 2083 EN 4434	NEMA HP3 /HP4	NF C 93-524	NF C 93-523
Type of composition		*Single Core*					*Multicore*				
AWG	Stranding (n x mm)										
32	7 x 0.08			557.7		546.0			574.4		573.0
32	19 x 0.05			515.1					530.6		
30	7 x 0.10			328.1	365.4	349.0			337.9	382.6	366.0
30	19 x 0.06			323.5					333.2		
28	7 x 0.13			208.7	208	201.0			214.9	218.4	211.0
28	19 x 0.08			207.0					213.2		
26	7 x 0.16			130.2		132.0			134.2		138.0
26	19 x 0.10	160.0	149.0	122.4	128.7		165.0	153.5	126.0	135.1	
24	7 x 0.20			80.4		86.0			82.8		90.0
24	19 x 0.13			77.4	76.6				79.8	80.4	
24	19 x 0.12	114.0	106.0				117.4	109.2			
22	7 x 0.25			51.2		54.4			52.7		57.0
22	19 x 0.16			48.6	50.3				50.0	52.8	
22	19 x 0.15	60.0	55.3				61.7	57.0			
20	7 x 0.32			32.2					33.2		
20	19 x 0.20	33.2	31.0	29.9	32.1	31.3	34.1	3.9	30.8	33.7	33.0
18	7 x 0.40			20.2					20.8		
18	19 x 0.25	21.1	19.6	19.0	20.6	20.5	21.7	20.2	19.6	21.6	21.5
16	19 x 0.30	14.5	13.6	14.9	14.3	13.9	14.9	14.0	15.3	15.0	14.6
14	19 x 0.36			9.4					9.7		
14	27 x 0.30					10.0					10.5
14	37 x 0.25	10.9	10.2		10.6		11.2	10.5		11.1	
12	19 x 0.45			5.9					6.1		
12	37 x 0.32	6.8	6.4	6.2	6.5		7.0	6.6	6.4	6.8	
12	45 x 0.30					6.0					6.3
10	37 x 0.40	4.2	4	3.9			4.3	4.1	4.0		
8	133 x 0.29			2.2					2.3		

INSULATION MATERIALS

MAIN PROPERTIES OF INSULATION MATERIALS COMMONLY USED BY CGP

Properties	Polyvinyl chloride	Low density	Polyethylene high density	Chemically cross-linked	Halogen-free polyolefine	Polyurethane	Ethylene tetrafluoro-ethylene	Fluorethylene propylene	Perfluoro-alkoxy alkane	Polytetrafluoro-ethylene	Polyimide
	PVC	LDPE	HDPE	XLPE	HFFR	PUR	ETFE	FEP	PFA	PTFE	PI
Physical											
Operating temperature:											
- at low temperature (°C)	-30	-50	-50	-50	-30	-50	-90	-90	-90	-90	-90
- in continuous operating service (°C)	+105	+70	+80	+90	+105	+120	+150	+205	+260	+260	+260
- in short circuit state (°C)	+160	+150	+180	+250	+160	+180	+200	+250	+300	+300	+350
Density (g/cm^3)	1.23 to 1.50	0.91	0.93	0.91	1.5	1.11 to 1.18	1.75	2.15	2.15	2.15	1.67
Electrical											
Dielectric strength (kV/mm)	30	20	20	25	20	20	36	24	25	25	28
Electrical resistance (Ω.cm)	1,016	1,017	1,017	1,017	1,015	1,015	1,016	1,018	1,018	1,018	1,015
Relative permittivity at industrial frequency	8	2.3	2.3	2.5	3.6	6	2.6	2.1	2.05	2	2.7
tan δ at industrial frequency (x 10^{-4})	1,000	10	10	40	20	300	2	3	2	2	13
Chemical											
Resistance to weak acids	Very good	Very good	Very good	Very good	Fair	Very good	Very good	Very good	Very good	Very good	Very good
Resistance to weak alkalis	Very good	Very good	Very good	Very good	Fair	Very good	Very good	Very good	Very good	Very good	Good
Mechanical											
Flexibility	Good	Medium	Poor	Medium	Poor	Good	Medium	Medium	Good	Poor	Medium
Resistance to abrasion	Good	Medium	Good	Good	Good	Excellent	Excellent	Medium	Good	Good	Excellent
Tensile strength (MPa)	15	10	20	22	12	50	45	20	27.5	40	18
Elongation at break (%)	250	400	500	300	180	350	200	250	300	350	70
Other											
Flame resistance	Medium	Poor	Poor	Poor	Excellent	Medium	Excellent	Excellent	Excellent	Excellent	Excellent
Halogen-free	No	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
Thermal resistivity (K.m/W)	5	3.5	3.5	3.5	5	5	4.4	5	4.4	4.5	5
Steam resistance	Poor	Poor	Poor	Fair	Poor	Poor	Good	Excellent	Excellent	Excellent	Fair

MAIN PROPERTIES OF INSULATION MATERIALS COMMONLY USED BY CGP

	FEP and PTFE	PFA	ETFE
Hydrocarbons (oils, petrol, greases, etc.)	Excellent	Excellent	Excellent
Weak acids	Excellent	Excellent	Excellent
Strong acids	Excellent	Excellent	Very good (except for highly oxidant acids when boiling)
Weak alkalis	Excellent	Excellent	Excellent
Strong alkalis	Very good (except hot alkaline metals)	Excellent	Very good (except very strong alkalis at high temperatures)
Organic solvents	Very good except some halogenated solvents that may cause softening at high temperature and pressure.	Excellent	Excellent

Fluorinated insulation materials are known to be highly resistant to chemical products such as solvents or hydrocarbons, but they are also capable of resisting all other types of aggressive or corrosive environments.
The table below indicates the degrees of resistance of fluorinated insulation materials to chemical products with varying corrosive properties. For further information about fluorinated insulation materials, contact our technical department.

INTERNATIONAL SYSTEM OF UNITS

In this paragraph, we provide examples of usual physical quantities with the corresponding units and symbols, along with the expression of derived units in base units and supplementary units.

Physical quantities and base units of the International system of units

PHYSICAL QUANTITY	UNIT	SYMBOL
length	metre	m
mass	kilogram	kg
time	second	s
electrical current strength	ampere	A
thermodynamic temperature	Kelvin	K
quantity of material	mole	mol
light intensity	candela	cd

Note: The temperature in Celsius t is associated to the thermodynamic temperature T via the relationship t = T-273.15
A temperature interval may be expressed either in Kelvins or in degrees Celsius.
In this case, 1 °C = 1 K

Supplementary physical quantities and units of the international system *(which may be used as quantities and base units)*

PHYSICAL QUANTITY	UNIT	SYMBOL
plane angle	radian	rad
solid angle	steradian	sr

Table presenting the main multiples and sub-multiples of units of measurement

Factor	Prefix	Symbol
MULTIPLES		
10^{18}	exa	E
10^{15}	peta	P
10^{12}	tera	T
10^{9}	giga	G
10^{6}	mega	M
10^{3}	kilo	k
10^{2}	hecto	h
10^{1}	deca	da
SUB-MULTIPLES		
10^{-1}	deci	d
10^{-2}	centi	c
10^{-3}	milli	m
10^{-6}	micro	μ
10^{-9}	nano	n
10^{-12}	pico	p
10^{-15}	femto	f
10^{-18}	atto	a

Some quantities and derived units of the International system of units

	PHYSICAL QUANTITY	UNIT NAME	UNIT SYMBOL	IN BASE UNITS
SPACE TIME	surface area	square metre	m^2	m^2
	volume	cubic metre	m^3	m^3
	angular speed	radian per second	rad/s	$rad.s^{-1}$
	speed	metre per second	m/s	$m.s^{-1}$
	acceleration	metre per squared second	m/s^2	$m.s^{-2}$
	frequency	hertz	Hz	s^{-1}
	frequency of rotation	second to the power minus 1	s^{-1}	s^{-1}
MECHANICAL	density	kilogram per cubic metre	kg/m^3	$kg.m^3$
	mass flow	kilogram per second	kg/s	$kg.s^{-1}$
	volume flow	cubic metre per second	m^3/s	$m^3.s^{-1}$
	quantity of movement	kilogram-metre per second	kg.m/s	$kg.m.s^{-1}$
	kinetic moment	kilogram-metre squared per second	$kg.m^2/s$	$kg.m^2.s^{-1}$
	moment of inertia	kilogram-metre squared	$kg.m^2$	$kg.m^2$
	force	Newton	N	$kg.m.s^{-2}$
	moment of force	Newton-metre	N.m	$kg.m^2.s^{-2}$
	pressure, stress	Pascal	Pa	$kg.m^{-1}.s^{-2}$
	dynamic viscosity	Pascal-second	Pa.s	$kg.m^{-1}.s^{-1}$
	kinematic viscosity	square metre per second	m^2/s	$m^2.s^{-1}$
	surface tension	Newton per metre	N/m	$kg.s^{-2}$
	energy, work, heat	joule	J	$kg.m^2.s^{-2}$
	power, energy flow	watt	W	$kg.m^2.s^{-3}$
THERMO-DYNAMIC	linear dilation coefficient	Kelvin to the power minus 1	K^{-1}	K^{-1}
	Thermal conductivity	watt per metre-Kelvin	W/(m.K)	$kg.m.K^{-1}.s^{-3}$
	Specific heat capacity	joule per kilogram-Kelvin	J/(kg.K)	$m^2.K^{-1}.s^{-2}$
	entropy	joule per Kelvin	J/K	$kg.m^2.K^{-1}.s^{-2}$
	internal energy, enthalpy free energy, free enthalpy	joule	J	$kg.m^2.s^{-2}$
OPTICAL	light flow	lumen	lm	cd.sr
	luminous luminescence	candela per cubic metre	cd/m^2	$cd.m^{-2}$
	luminous exitance	lumen per cubic metre	lm/m^2	$cd.sr.m^{-2}$
	illumination	lux	lx	$cd.sr.m^{-2}$
	luminous exposure	lux-second	lx.s	$cd.sr.s.m^{-2}$
	luminous efficiency	lumen per watt	lm/W	$cd.sr.s3.kg^{-1}.m^{-2}$
ELECTRICITY MAGNETISM	electrical charge, quantity of electricity	coulomb	C	A.s
	electrical field	volt per metre	V/m	$m.kg.A^{-1}.s^{-3}$
	potential difference, voltage, electromotive force	volt	V	$kg.m^2.A^{-1}.s^{-3}$
	capacity	farad	F	$A^2.s4.kg^{-1}.m^{-2}$
	magnetic field	ampere per metre	A/m	$A.m^{-1}$
	magnetic induction	Tesla	T	$kg.A^{-1}.s^{-2}$
	magnetic induction flow	Weber	Wb	$kg.m^2.A^{-1}.s^{-2}$
	inductance, permeance	Henry	H	$kg.m^2.A^{-2}.s^{-2}$
	reluctance	Henry to the power minus 1	H^{-1}	$A^2.s^2.kg^{-1}.m^{-2}$
	resistance, impedance, reactance	ohm	Ω	$kg.m^2.A^{-2}.s^{-3}$
	conductance, admittance, susceptance	siemens	S	$A^2.s^3.kg^{-1}.m^{-2}$
	resistivity	ohm-metre	Ω.m	$kg.m^3.A^{-2}.s^{-3}$
	conductivity	siemens per metre	S/m	$A^2.s^3.kg^{-1}.m^{-3}$
CHEMISTRY PHYSICS	molar mass	kilogram per mole	kg/mol	$kg.mol^{-1}$
	molar volume	cubic metre per mole	m^3/mol	$m^3.mol^{-1}$
	concentration	kilogram per cubic metre	kg/m^3	$kg.m^{-3}$
	molar concentration	mole per cubic metre	mol/m^3	$mol.m^{-3}$
	molarity	mole per kilogram	mol/kg	$mol.kg^{-1}$

GLOSSARY

A

ALLOY: metal made of the fusion of two or more metals.
ARMOURED: overall metallic braid or helically applied metallic tapes primarily for the purpose of mechanical protection.
ATTENUATION: the loss of power or signal in a circuit expressed in decibels (dB).
AWG: (American Wire Gauge) system commonly used for describing the size of copper wire. It is based on the circular mil system, 1 mil equals 0.0254 mm.

B

BNAE: BNAE is the association governed by the law of 1901 responsible for preparing the international, European and national standards for the sectors of Aeronautics and Space.

C

CABLE: usually two or more insulated wires covered with an outer sheath overall.
CAPACITANCE: property of a system of conductors and dielectrics which permits the storage of electricity where potential difference exists between two conductors. It is expressed in farads and their submultiples.
CELSIUS TEMPERATURE SCALE: (or centigrade temperature scale). Temperature scale based upon the water freezing point defined as zero degree and the boiling point defined as 100 degrees.
COAXIAL CABLE: coaxial cable is a two conductors cable in which one conductor completely surrounds the other. Both conductors have a common axis and are separated by a continuous uniform insulation or dielectric thickness.
COPPER: basic metal for electrical conductors used either bare or silver, tin or Nickel plated.
CORE/CONDUCTOR: it is the inner part of an insulated wire transmitting electrical current. A core/conductor usually consists of Copper, Nickel, Silver or other materials.

D

DIELECTRIC: name given to any insulating material that is not a conductor of electricity.

E

E: hook-up wires insulated with Polytetrafluoroethylene (PTFE) with an operating voltage equal to 600 V AC according to NEMA HP3.
EE: hook-up wires insulated with Polytetrafluoroethylene (PTFE) with an operating voltage equal to 1,000 V AC according to NEMA HP3.
ET: hook-up wires insulated with Polytetrafluoroethylene (PTFE) with an operating voltage equal to 250 V AC according to NEMA HP3.
ETFE: (Ethylene Tetrafluoroethylene) thermoplastic resin used to insulate wires and cables with an operating temperature rating from -90°C to +155°C.
EXTENSION CABLE: a pair of wires used to connect a thermocouple cable to a temperature meter.
EXTRUSION: a processing method whereby heated or unheated materials are forced through a shaping outlet or die under pressure to become a continuous formed shape. For wire and cable the insulation is applied around the core and the jacket material around the cable core in continuous, by one of two, extrusion methods.

F

FAHRENHEIT TEMPERATURE SCALE: a temperature scale based upon the water freezing point defined as 32°F (0°C) and the boiling point defined as 212°F (100°C).
Formulae - °F = °C x 9/5 + 32
FEP: (Fluoroethylene Propylene) thermoplastic resin used to insulate wires and cables with an operating temperature rating -90°C to +200°C.

H

HOOK-UP WIRES: insulated wires with a section generally less than 3 mm² used in electronic wiring.

I

IEC: International Electrotechnical Committee.
IMPEDANCE: the total opposition (i.e. resistance and reactance) a circuit offers to the flow of alternating current. Volts per ampere : ohms.
INCH: English unit of measure (1 inch = 25.4 mm).
INSULATION RESISTANCE: the resistance of an insulation material to the flow of current resulting from an impressed D.C. voltage.
ISO: International Organization for Standardization.

J

JACKET (or sheath): overall cable cover normally providing mechanical and environmental protection.

K

K: hook-up wires insulated with Fluoroethylene Propylene (FEP) with an operating voltage equal to 600 V AC according to NEMA HP4.
KK: hook-up wires insulated with Fluoroethylene Propylene (FEP) with an operating voltage equal to 1,000 V AC according to NEMA HP4.
KT: hook-up wires insulated with Fluoroethylene Propylene (FEP) with an operating voltage equal to 250 V AC according to NEMA HP4.
KU: symbol designating hook-up wires insulated with ethylene Tetrafluoroethylene (ETFE) according to the French specification NF-C-93524.
KX: symbol designating coaxial cables according to the French specification NF-C-93550.
KZ: symbol designating hook-up wires insulated with Polytetrafluoroethylene (PTFE) according to the French specification NF-C-93523.

M

MICA: inorganic tape included in the composition of cables offering resistance to very high temperatures, flame and fire.
MIL SPECIFICATION: American military specification for various materials.

N

NEMA: (National Electrical Manufacturers Association) American organization well known for electrical motors and gear reducers standardization and for electrical wire and cable specifications.
NF SPECIFICATION: French specification for various materials established by ASSOCIATION FRANCAISE DE NORMALISATION.
NOMEX®: DUPONT DE NEMOURS registered trademark for an Aramid fibre with an excellent mechanical resistance, good resistance to high temperature radiation and chemicals.

R

RESISTIVITY: the longitudinal electrical resistance of a uniform rod of unit length and unit cross sectional area (expressed in Ω.m).
RG: (Radio Frequency Government) symbol designating coaxial cables, following MIL-C-17 American standard (example: M17/60 – RG142).
RMS: (Root Mean Square) a means of expressing AC voltage or AC current in terms of D.C. (approximatively 80% of alternative current peak voltage).

S

SHIELDING: the process of applying a metallic braid composed of tinned or bare copper over the insulated conductors. The shielding effectiveness is in proportion to the amount of coverage, usually expressed in percentage.
SILICONE IMPREGNATION: impregnation of a textile braid with Silicone varnish.
STRAND: individual wire of any stranded conductor.
STRANDED CORE: (twist) a core made with a specified number of strands.

T

TAPING: a method or process to insulate electrical wires and cables. Insulation of helically wound tapes applied over a conductor. This operation can possibly be followed with a sintering according to the tape-type used.
TEFLON®: DUPONT DE NEMOURS registered trademark for a line of powders or resins such as PTFE - FEP - PFA.
TEFZEL®: DUPONT DE NEMOURS registered trademark for a thermoplastic resin named Ethylene Tetrafluoroethylene (ETFE).
THERMOCOUPLE: union of dissimilar metals submitted to various temperatures in order to create an electromotrice force (E.M.F.). The voltage is usually in micro or millivolts.
THERMOPLASTICS: range of resins being easily softened under heat.

V

VELOCITY OF PROPAGATION: velocity of propagation, commonly called velocity, is the ratio of the speed of the flow of an electric current in an insulated cable to the speed of light. All insulated cables have this ratio and it is expressed in percentage.

SIGNS USED FOR CHARACTERISTICS

☆☆☆☆☆ : *Very bad resistance*
★☆☆☆☆ : *Bad resistance*
★★☆☆☆ : *Medium resistance*
★★★☆☆ : *Good resistance*
★★★★☆ : *Very good resistance*
★★★★★ : *Excellent resistance*

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