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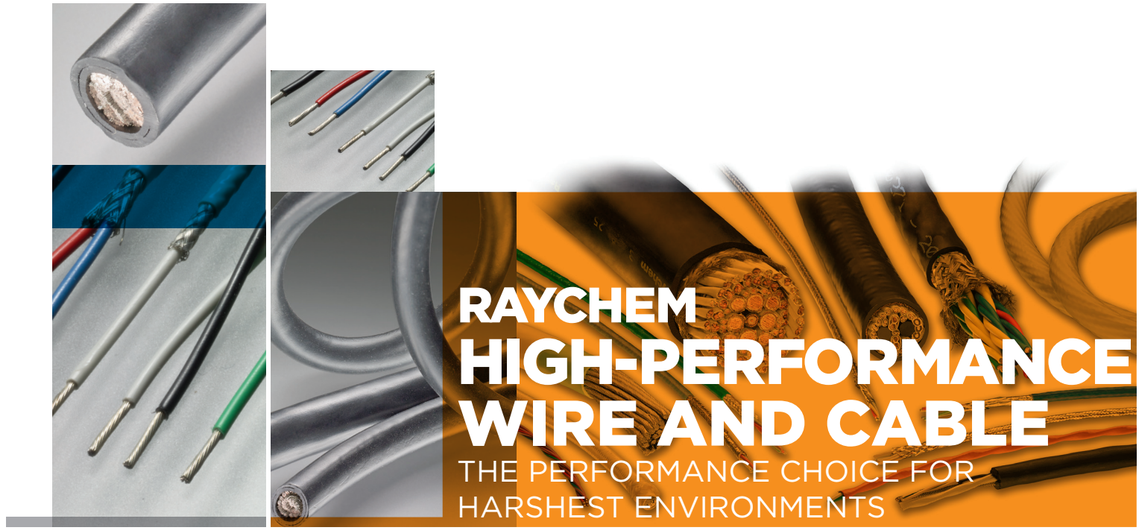
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- Meet your application challenges . . . from harsh to harshest
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AEROSPACE, DEFENSE & MARINE /// WIRE AND CABLE QRG

Aerospace

Product Family		Conductor Sizes (AWG)	Temperature Range (°C)	Insulation Material	Voltage (V)	Conductor Options			Colors
SPEC 44 (AS81044)	Military Aerospace Commercial Aerospace In-Flight Entertainment Space Applications Satellites	26 to 1/0	-65 to 150	Radiation-Cross-Linked PVDF	600/1000/2500	Tin-Plated Copper	Nickel-Plated Copper / Alloy	Silver-Plated Copper / Alloy	All
SPEC 55 (AS22759)		30 to 4/0	-65 to 200	Radiation-Cross-Linked ETFE	450/600/1000	Tin-Plated Copper	Nickel-Plated Copper / Alloy	Silver-Plated Copper / Alloy	All
SPEC 80		30 to 4/0	-65 to 200	Radiation-Cross-Linked Flexible ETFE	600/1000/2000*	Tin-Plated Copper	Nickel-Plated Copper / Alloy	Silver-Plated Copper / Alloy	All
SHF-260	Helicopters Engines	24 to 4/0	-65 to 260	Modified PFA	1000	—	Nickel-Plated Copper	—	Black and White

Marine

Product Family		Conductor Sizes (AWG)	Temperature Range (°C)	Insulation Material	Voltage (V)	Conductor Options			Colors
ZHPCG / ZHI (Class 5 & Class 6)	Military Naval Applications Military Electronics Shipboard Weapon Systems Shipboard Communication Systems Offshore Marine Applications Umbilicals / Tethers Drilling and Pumping Equipment	1.5 mm² to 400 mm²	-45 to 125	Radiation-Cross-Linked Halogen-Free Polyolefin	600/1000/1900/3000	Tin-Plated Copper	—	—	Black
FRD25S		8 to 4/0	-55 to 125	Flexible Diesel-Resistant Polyester Blend	1000	Tin-Plated Copper	—	—	Black
10603		14 to 4/0 and 250 and 350 MCM	-55 to 125	Thermorad Dual Insulation	600	Tin-Plated Copper	—	—	Black
SPEC 44/44M		30 to 1/0	-65 to 150	Radiation-Cross-Linked PVDF	600/1000/2500	Tin-Plated Copper	Nickel-Plated Copper / Alloy	Silver-Plated Copper / Alloy	MIL-STD-681
SPEC 99M		See Def Stan 61-12 Part 18 for construction available sizes	-40 to 120	Radiation-Cross-Linked Modified Polyester	600/1000	Tin-Plated Copper	—	—	MIL-STD-681
100G (VG-95218-Type 20 to Type 23)		30 to 4/0	-55 to 125	Halogen-Free Polymer	750/1300	Tin-Plated Copper	—	—	MIL-STD-681

Ground

Product Family		Conductor Sizes (AWG)	Temperature Range (°C)	Insulation Material	Voltage (V)	Conductor Options			Colors
ZHPCG / ZHI (Class 5 & Class 6)	Grounds Systems Military Ground Vehicles Wheeled and Tracked Vehicles Amphibious Vehicles Heavy and Light Trucks	1.5 mm² to 400 mm²	-45 to 125	Radiation-Cross-Linked Halogen-Free Polyolefin	600/1000/1900/3000	Tin-Plated Copper	—	--	Black
SPEC 44 (AS81044)		26 to 1/0	-65 to 150	Radiation-Cross-Linked PVDF	600/1000/2500	Tin-Plated Copper	Nickel-Plated Copper / Alloy	Silver-Plated Copper / Alloy	MIL-STD-681
SPEC 55 (AS22759)		30 to 4/0	-65 to 200	Radiation-Cross-Linked ETFE	450/600	Tin-Plated Copper	Nickel-Plated Copper / Alloy	Silver-Plated Copper / Alloy	MIL-STD-681
SPEC 80		30 to 4/0	-65 to 200	Radiation-Cross-Linked Flexible ETFE	600	Tin-Plated Copper	Nickel-Plated Copper / Alloy	Silver-Plated Copper / Alloy	MIL-STD-681
SHF-260		24 to 4/0	-65 to 260	Modified PFA	1000	—	Nickel-Plated Copper	—	White and Black
PWR0113		8 to 4/0	-65 to 200 (3000+ hours)	Fluoroelastomer	600	—	Nickel-Plated Copper / Alloy	—	Black or Red Preferred
FRD25S		8 to 4/0	-55 to 125	Flexible Diesel-Resistant Polyester	1000	Tin-Plated Copper	—	—	Black
10603		14 to 4/0 and 250 and 350 MCM	-55 to 125	Thermorad Dual Insulation	600	Tin-Plated Copper	—	—	Black
100G (VG-95218-Type 20 to Type 23)		30 to 4/0	-55 to 125	Halogen-Free Polymer	750/1300	Tin-Plated Copper	—	—	MIL-STD-681

*2000 V is available as nonstandard part. Consult TE.

Material Abrasion Resistance and Flexibility

Material	Product Group	Abrasion Resistance	Flexibility
FDR25	FDR25	Fair	Excellent
Thermorad Dual Insulation	10603	Good	Good
XL Halogen Free Polyolefin	ZHPCG	Good	Good
Modified PFA	SHF-260	Good	Good
Fluoroelastomer	PWR0113	Good	Good
Radiation-Cross-Linked PVDF	SPEC 44	Very Good	Fair-Good
XL ETFE	SPEC 55	Very Good	Fair-Good
XL Flexible ETFE	SPEC 80	Very Good	Good
XL ETFE	VG-95218-Type 20 to Type 23	Very Good	Fair
Radiation-Cross-Linked PVDF	VG-95218-Type 20 to Type 23	Very Good	Fair-Good

Approvals/Specifications

Specification	TE Wire and Cable Types
SAE AS81044/5 to /13	81044/x
SAE AS22759/32 to /35 and 22759/41 to /46	22759/x
NEMA WC-27500	Specific SPEC 44x and 55A parts ONLY
Defence Standard 61-12 Part 33/001 Issue 5	Specific SPEC 55D parts ONLY
Defence Standard 61-12 Part 18 - Type 1	Specific SPEC 44M and SPEC 99 ONLY
Defence Standard 61-12 Part 26 - All Types	Specific SPEC 44D ONLY
VG 95218 Parts 20, 21, 22, 23, 1000	Specific SPEC VG ONLY
NATO Stock Numbers (NSNs)	Exist for most standard constructions: check product offering
Raychem Specification SPEC 55, 55A, 55PC	Covers all base SPEC 55 products
Raychem Specification SPEC 44	Covers all base SPEC 44 products
Boeing Spec BMS13-48	Specify SPEC 55PC parts ONLY
Airbus ABS 0820 through to 0826	Specific SPEC 55K ONLY
European Space Agency 3901/012, 3901/020 and 3901/022	Specific SPEC 55 and SPEC 99 ONLY