

99 Wire

Low fire hazard wire and cable

Applications

99 wire has a dual wall construction of radiation cross-linked modified polyester. This combines excellent mechanical performance and chemical resistance with a range of enhanced fire hazard properties. 99 wire is designed to meet the stringent low hazard performance now being specified by many authorities, in particular for naval, mass transit and industrial control panel wiring.

Features & Benefits

- Low Flammability
- Low smoke generation
- Low toxicity index
- Low generation of corrosive gases
- Small size, lightweight

Operating Temperature

- -55°C to +125°C

Specifications/Approvals

- Def Stan 61-12, Part 18, issue 5
- Raychem WCD 281



99 Wire Construction

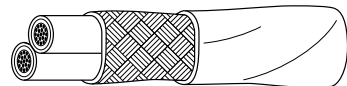
A wide range of 99 spec wire constructions are available. The most commonly used are shown.



Dual Wall Single Core



Twisted Single Cores



Screened & Jacketed

Note: 99 Wire is available in a wide variety of constructions, sizes and colours, for further assistance regarding your specific wire and cable requirements, please contact us.

Product Characteristics		Product Performance	
	Test	Method	Typical Value
Physical	Temperature rating	BS G230	+125°C
	Voltage rating	Raychem	600V thin wall
	Tensile strength	-	>30 MPa
	Elongation at break	-	>250%
	Notch propagation (0.05 mm notch)	BS G230	Pass
	Shrinkage 150°C	BS G230	<1%
	Low temperature bend	BS G230	-55°C
	Voltage withstand	BS G230	2.5 kV
	Insulation resistance (20°C)	BS G230	1000 M ohms km (min)
	Pliability rating	Def Stan 61-12 (18)	Pliable
	Fluid resistance	Def Stan 61-12 (18)	-
	Fuels - aircraft	100°C/72 hours	Pass
	Oils - ASTM No.3	+50°C/7 days	Pass
	Solvents	-	Pass
Electrical	Voltage rating	-	600V (0.2mm wall thickness)
	Voltage rating	-	1000V (0.3mm wall thickness)
Fire Hazard Properties	Flammability	IEC 332 Part 3	Pass
	Toxicity index	Def Stan 61-12 (18)	0.1 per metre of wire
	Smoke index	Def Stan 61-12 (18)	8 per metre of wire
	Acid gas equivalent	TDE 76/P/76	<1.5%

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600V Primary Wire Dimensions (all dimensions are in mm)

Conductor Size	Stranding No/mm	Nominal CSA (mm ²)	Nominal Dia. (mm)	Weight (g/m)	Ordering Description
26	19/0.10	0.15	0.88	2.0	99M0111-26-X
24	19/0.12	0.25	0.98	3.0	99M0111-24-X
22	19/0.15	0.40	1.13	4.4	99M0111-22-X
20	19/0.20	0.60	1.40	6.5	99M0111-20-X
18	19/0.25	1.00	1.65	9.9	99M0111-18-X
16	19/0.30	1.25	1.90	14.15	99M0111-16-X
14	37/0.25	2.00	2.25	18.62	99M0111-14-X
12	37/0.30	3.00	2.60	25.70	99M0111-12-X

600V Single Core Screened & Jacketed Dimensions (all dimensions are in mm)

Conductor Size	Stranding No/mm	Nominal Dia. (mm)	Weight (g/m)	Ordering Description
26	19/0.10	1.80	7.5	99M1111-26-X-X
24	19/0.12	1.90	9.2	99M1111-24-X-X
22	19/0.15	2.05	11.1	99M1111-22-X-X
20	19/0.20	2.30	14.6	99M1111-20-X-X
18	19/0.25	2.55	19.3	99M1111-18-X-X
16	19/0.30	2.95	24.9	99M1111-16-X-X
14	37/0.25	3.13	30.9	99M1111-14-X-X
12	37/0.30	3.48	43.4	99M1111-12-X-X

Note: X = Colour (please refer to the **Part Numbering Guide** for the range of colours available). The standard jacket colour for 99M wire is -0 (Black).

600V 2-Core Screened & Jacketed Dimensions (all dimensions are in mm)

Conductor Size	Stranding No/mm	Nominal Dia. (mm)	Weight (g/m)	Ordering Description
26	19/0.10	2.91	13.3	99M1121-26-X/X-X
24	19/0.12	3.20	16.6	99M1121-24-X/X-X
22	19/0.15	3.52	20.5	99M1121-22-X/X-X
20	19/0.20	4.02	27.7	99M1121-20-X/X-X
18	19/0.25	4.57	37.1	99M1121-18-X/X-X
16	19/0.30	5.13	48.5	99M1121-16-X/X-X
14	37/0.25	5.72	60.5	99M1121-14-X/X-X
12	37/0.30	6.42	86.0	99M1121-12-X/X-X

Note: X = Colour (please refer to **Part Numbering Guide** for the range of colours available). The standard jacket colour for 99M wire is -0 (Black). 99 Wire is available in an extensive variety of constructions, voltage ratings, sizes and colours. For further assistance regarding your specific wire and cable requirements, please contact us.

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Ordering

Low fire hazard wire and cable

1 Ordering Information

Colours: 0 = Black, 1 = Brown, 2 = Red, 2L = Pink, 3 = Orange, 4 = Yellow, 45 = Yellow/Green, 5 = Green, 6 = Blue, 7 = Violet, 8 = Grey, 9 = White

Standard packaging: 99 Wire is supplied on a range of reel sizes, dependant on gauge size. If the product is a non stock item a Minimum Order Quantity (MOQ) will apply.

Ordering Description: Follow steps 1 to 6.

1. Select the type of wire required
2. Select the number of conductors required
3. Select the type of conductor required
4. Select the wire gauge size required
5. Select the primary wire insulation colour(s) required
6. Select the outer jacket colour required

Ordering Example:

1. A single 600V 22awg white primary wire is required.
The part number required for the above is **99M0111-22-9**
2. A single 600V 16awg white primary wire, with shield and an outer black jacket is required.
The part number required for the above is **99M1111-16-9-0**
3. A two core cable with an overall shield and an outer jacket is required. The gauge size for each of the primary wires is 18awg, each with the same coloured insulation e.g. red. The outer jacket required is black.
The part number required for the above is **99M1121-18-2/2-0**
4. A three core cable with an overall shield and an outer jacket is required. The gauge size for each of the primary wires is 24awg, each with a separate coloured insulation e.g. red, blue and white.
The outer jacket is black.
The part number required for the above is **99M1131-24-2/6/9-0**

Note: For further information or assistance on how to construct your cable requirements, please refer to the 99 wire **Building Your Part Number** guide.

99 Wire

Building Your Part Number

Low fire hazard wire and cable

Ordering Example: 99M1121-18-2/6-0

Wire Specification: _____ **99**
99 = 99 wire

Rating Type: _____ **99M**
M = Military wire
T = Transit wire

Wire Type: _____ **99M1**
0 = Primary wire unscreened & unjacketed
1 = Round braid shielded & jacketed
9 = Special constructions

Class of Wire: _____ **99M11**
1 = 600V lightweight equipment wire

Number of Conductors: _____ **99M112**
1 to 9

Conductor Type: _____ **99M1121**
1 = Tin plated copper (standard)
9 = Bare copper

Wire Gauge Size: _____ **99M1121-18**

Conductor Insulation Colours: _____ **99M1121-18-2/6**
0 = Black **45** = Yellow/Green
1 = Brown **5** = Green
2 = Red **6** = Blue
2L = Pink **7** = Violet
3 = Orange **8** = Grey
4 = Yellow **9** = White

Jacket Colour: _____ **99M1121-18-2/6-0**
0 = Black (standard)
1 = Brown **5** = Green
2 = Red **6** = Blue
2L = Pink **7** = Violet
3 = Orange **8** = Grey
4 = Yellow

Note: Standard jacket colour is -0 (Black) in accordance with MIL-STD-681.

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