

Wire and Cable

99 Wire

Dual Wall 120°C rated, Modified Polyester
Low fire hazard wire and cable

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 also designed to meet the stringent low fire hazard regulations that feature in markets such as 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 +120°C

Specifications/Approvals

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



Spec 99 Wire Construction

A wide range of 99 spec wire constructions are available, the most commonly used are:

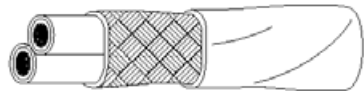
Dual Wall Single Core



Twisted Single Cores



Screened & Jacketed Twisted Pair



Note

99 Wire is available in a variety of constructions, voltage ratings, sizes and colours. For further assistance regarding your specific wire and cable requirements, please contact us.

Product Characteristics		Product Performance	
Physical	Test	Method	Typical Value
	Temperature rating	BS 3G230	+120°C
	Tensile strength	-	>30 MPa
	Elongation at break	-	>250%
	Notch propagation (0.05 mm notch)	BS 3G230	Pass
	Shrinkage 150°C	BS 3G230	<1%
	Low temperature bend	BS 3G230	-55°C
	Voltage withstand	BS 3G230	2.5 kV
	Insulation resistance (20°C)	BS 3G230	1000 MΩ km (min)
	Pliability rating	Def Stan 61-12 (18)	Pliable
Fluid Resistance	Fuels - aircraft	Def Stan 61-12 (18)	Pass +100°C/72 hours
	Oils - ASTM No.3	Def Stan 61-12 (18)	Pass +50°C/7 days
Electrical	Voltage rating	-	600V (0.2mm wall thickness)
	Voltage rating	-	1000V (0.3mm wall thickness)
Fire Hazard Properties	Flammability	BS 3G230	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)	Max Weight (g/m)	Ordering Description
28	7/0.12	0.09	0.72	1.50	99M0111-28-0
26	19/0.10	0.15	0.90	2.18	99M0111-26-0
24	19/0.12	0.25	0.98	3.45	99M0111-24-0
22	19/0.15	0.40	1.13	4.90	99M0111-22-0
20	19/0.20	0.60	1.40	7.56	99M0111-20-0
18	19/0.25	1.00	1.65	10.40	99M0111-18-0
16	19/0.30	1.25	1.90	16.50	99M0111-16-0
14	37/0.25	2.00	2.25	20.70	99M0111-14-0
12	37/0.30	3.00	2.60	27.10	99M0111-12-0

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

Conductor Size	Stranding No/mm	Nominal Dia. (mm)	Max Weight (g/m)	Ordering Description
26	19/0.10	1.80	8.29	99M1111-26-X-0
24	19/0.12	1.90	9.80	99M1111-24-X-0
22	19/0.15	2.05	12.00	99M1111-22-X-0
20	19/0.20	2.30	16.00	99M1111-20-X-0
18	19/0.25	2.55	21.30	99M1111-18-X-0
16	19/0.30	2.95	29.20	99M1111-16-X-0
14	37/0.25	3.13	34.80	99M1111-14-X-0
12	37/0.30	3.48	43.10	99M1111-12-X-0

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). For further assistance please contact us.

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

Conductor Size	Stranding No/mm	Nominal Dia. (mm)	Max Weight (g/m)	Ordering Description
28	7/0.10	2.55	11.66	99M1121-28-X/X-0
26	19/0.10	2.91	15.82	99M1121-26-X/X-0
24	19/0.12	3.20	17.82	99M1121-24-X/X-0
22	19/0.15	3.52	22.11	99M1121-22-X/X-0
20	19/0.20	4.02	30.04	99M1121-20-X/X-0
18	19/0.25	4.57	38.14	99M1121-18-X/X-0
16	19/0.30	5.13	52.91	99M1121-16-X/X-0
14	37/0.25	5.72	64.86	99M1121-14-X/X-0
12	37/0.30	6.42	81.38	99M1121-12-X/X-0

99 Wire

Ordering

Low fire hazard wire and cable

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Ordering Information

Colours:

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

Stripes are also available on request and are indicated by additional insulation colour numbers
e.g. 92 = White with Red stripe

Standard packaging:

99 Wire is supplied on a range of reel sizes, dependent 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 Examples:

- Where a single 22awg 600V white primary wire is required the part number is **99M0111-22-9**
- Where a single 20awg 600V black primary wire, with shield and an outer black jacket is required the part number is **99M1111-20-0-0**
- Where a two core cable with an overall shield and jacket is required. Gauge size for each of the wires is 24awg, in colours of black & white with a black outer jacket colour, the part number is **99M1121-24-0/9-0**
- Where a three core cable with an overall shield and an outer jacket is required and the gauge size for each of the primary wires is 24awg, each with a separate coloured insulation red, blue and white. The outer jacket required is black. The part number is **99M1131-24-2/6/9-0**

Additional Information

The opposite page illustrates how to build your own part number. For further information or assistance please contact us.

99 M 1 1 2 1 - 18 - 2/6 - 0

PART NUMBER EXAMPLE

JACKET COLOUR

0 = Black, supplied as standard

WIRE INSULATION COLOUR CODE

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

CONDUCTOR SIZE

28 to 12 AWG

CONDUCTOR TYPE

1 = Tin plated copper (standard)
9 = Bare copper

NUMBER of CONDUCTORS

1 through 9

VOLTAGE

1 = 600V Lightweight equipment wire

CONSTRUCTION

0 = Primary wire
1 = Round braid shielded and jacketed

TYPE

M = Military wire

BASIC SPECIFICATION

Spec 99 - LFH High performance wire and cable