

44 Wire

Dual Wall 150°C rated, XLPVDF
High performance wire and cable

44 wire has a dual wall construction that combines the outstanding physical and electrical characteristics of radiation cross-linked polyalkene with the excellent mechanical and chemical properties of radiation cross-linked polyvinylidene fluoride (PVDF).

44 wire is used extensively throughout industry, applications include commercial wiring, avionics, satellites, aircraft, helicopters, ships, trains, offshore platforms and high performance military and motorsport electronics or wherever there is a demand for reliable performance under extreme conditions.

Features & Benefits

- Dual wall construction
- 600,1000 & 2500 voltage ratings
- Small, lightweight and flexible
- Low smoke and low corrosive gas generation
- Resistance to most chemicals and electrical arc tracking

Operating Temperature

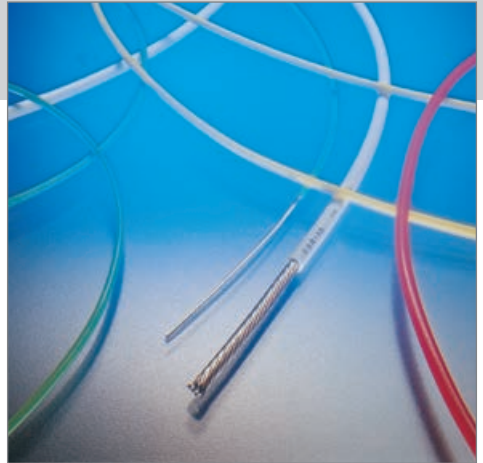
- -65°C to +150°C

Specifications/Approvals

- SAE AS81044 (wires)
- NEMA-WC-27500 (cables)
- Def Stan 61-12, Part 18 (maintenance)
- Def Stan 61-12, Part 26
- VG 95218
- NATO stock numbers available for standard constructions

Airframe Application

In airframe applications 44 wire constructions can offer a modern dimensional alternative to MINYVIN and NYVIN (PVC, Nylon and glass braid type wire and cables).



Spec 44 Wire Construction

A wide range of Spec 44 wire constructions are available, the most commonly used are:

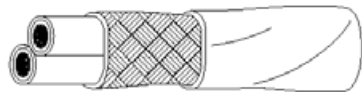
Primary Wire - Dual Wall Single Core



Twisted Single Cores



Screened & Jacketed Twisted Pair



Note

44 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.

	Product Characteristics	Product Performance
Physical	Operating temperature	-65°C to +150°C
	Tensile strength (primary insulation)	30N/mm ² (3500psi)
	Ultimate elongation	230% (min)
	Accelerated ageing 6hrs @ +300°C	Passes mandrel wrap and Dielectric test as per SAE AS81044
	Electrical arc tracking	Tested to ASTM-D-3032
	Solder iron resistance at +370°C for 1 minute	Pass
	Notch propagation, 0.05mm notch	Pass
	Shrinkage @ +300°C	<1%
	Low temperature bend	-65°C
	Fuels, oils & solvents resistance	Pass
Electrical	Voltage rating	600V, 1000V and 2500V
	Insulation resistance (min)	1500MΩ/km (5000MΩ/1000ft)
	Voltage withstand	2500V, 3000V and 5000V for 5 minutes, 50 - 60Hz
Flammability	Federal aviation reg. FAR-25	Pass
	SAE AS81044	Pass
	BS EN 50265 Vertical Flammability	Pass
	S-424 14751 (Swedish chimney)	Pass
	NFC-32070 (2) (French chimney)	Pass
	IEC-332 Part 3 (cable ladder)	Pass
Smoke/Toxicity	Smoke index, Def Stan 61-12 Part 18	6.0 units per metre of wire
	Toxicity index, Def Stan 61-12 Part 18	0.8 units per metre of wire
	BS EN 150-4589 pt2 / pt3	>30% Oxygen
	Temperature index, NES 715	>300°C

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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
30	7/0.102	0.06	0.69	1.06	44A0111-30-X
28	7/0.127	0.09	0.76	1.48	44A0111-28-X
26	19/0.102	0.15	0.86	2.08	44A0111-26-X
24	19/0.127	0.25	1.02	2.98	44A0111-24-X
22	19/0.16	0.40	1.19	4.46	44A0111-22-X
20	19/0.203	0.60	1.40	6.70	44A0111-20-X
18	19/0.254	1.00	1.65	10.12	44A0111-18-X
16	19/0.287	1.25	1.83	12.80	44A0111-16-X
14	19/0.361	2.00	2.26	19.64	44A0111-14-X
12	37/0.32	3.00	2.75	30.06	44A0111-12-X

1000V Primary Wire Dimensions (all dimensions are in mm)				
Conductor Size	Stranding No/mm	Nominal Dia. (mm)	Max Weight (g/m)	Ordering Description
26	19/0.010	1.02	2.38	44A0211-26-X
24	19/0.127	1.17	3.57	44A0211-24-X
22	19/0.16	1.37	5.21	44A0211-22-X
20	19/0.203	1.57	7.54	44A0211-20-X
18	19/0.254	1.85	11.46	44A0211-18-X
16	19/0.287	2.06	14.58	44A0211-16-X
14	19/0.361	2.49	21.88	44A0211-14-X
12	37/0.32	2.97	32.89	44A0211-12-X

600V Single Core Screened & Jacketed Cable Dimensions (all dimensions are in mm)				
Conductor Size	Stranding No/mm	Nominal Dia. (mm)	Max Weight (g/m)	Ordering Description
30	7/0.102	1.40	4.18	44A1111-30-X-X
28	7/0.127	1.47	4.92	44A1111-28-X-X
26	19/0.102	1.57	5.83	44A1111-26-X-X
24	19/0.127	1.83	8.20	44A1111-24-X-X
22	19/0.16	2.00	10.30	44A1111-22-X-X
20	19/0.203	2.26	14.02	44A1111-20-X-X
18	19/0.254	2.62	19.70	44A1111-18-X-X
16	19/0.287	2.79	23.40	44A1111-16-X-X
14	19/0.361	3.22	32.50	44A1111-14-X-X
12	37/0.32	3.70	45.67	44A1111-12-X-X

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

Conductor Size	Stranding No/mm	Nominal Dia. (mm)	Max Weight (g/m)	Ordering Description
30	7/0.102	1.37	2.38	44A0121-30-X/X
28	7/0.127	1.52	3.13	44A0121-28-X/X
26	19/0.102	1.73	4.38	44A0121-26-X/X
24	19/0.127	2.03	6.26	44A0121-24-X/X
22	19/0.16	2.38	9.37	44A0121-22-X/X
20	19/0.203	2.79	14.07	44A0121-20-X/X
18	19/0.254	3.30	21.25	44A0121-18-X/X
16	19/0.287	3.65	26.88	44A0121-16-X/X
14	19/0.361	4.52	41.24	44A0121-14-X/X
12	37/0.32	5.48	63.13	44A0121-12-X/X

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

Conductor Size	Stranding No/mm	Nominal Dia. (mm)	Max Weight (g/m)	Ordering Description
30	7/0.10	2.23	8.74	44A1121-30-X/X-X
28	7/0.127	2.38	10.10	44A1121-28-X/X-X
26	19/0.102	2.59	11.49	44A1121-26-X/X-X
24	19/0.127	2.99	16.12	44A1121-24-X/X-X
22	19/0.16	3.35	20.59	44A1121-22-X/X-X
20	19/0.203	3.76	26.71	44A1121-20-X/X-X
18	19/0.254	4.32	36.56	44A1121-18-X/X-X
16	19/0.287	4.67	42.98	44A1121-16-X/X-X
14	19/0.361	5.53	61.34	44A1121-14-X/X-X

600V 3-Core Screened & Jacketed Cable Dimensions (all dimensions are in mm)

Conductor Size	Stranding No/mm	Nominal Dia. (mm)	Max Weight (g/m)	Ordering Description
28	7/0.127	3.14	13.26	44A1131-28-X/X/X-X
26	19/0.102	3.45	18.85	44A1131-26-X/X/X-X
24	19/0.127	3.91	24.66	44A1131-24-X/X/X-X
22	19/0.16	4.29	32.14	44A1131-22-X/X/X-X
20	19/0.203	4.63	40.78	44A1131-20-X/X/X-X
18	19/0.254	5.20	53.02	44A1131-18-X/X/X-X
16	19/0.287	5.57	67.31	44A1131-16-X/X/X-X
14	19/0.361	6.41	85.88	44A1131-14-X/X/X-X

Note: X = Colour (please refer to the following page for the range of colours available).

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44 Wire

Ordering

High performance 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:

300m reels for "standard" items

If the product is a non-stock item a Minimum Order Quantity (MOQ) may 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 conductor) 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 **44A0111-22-9**
- Single 16awg 600V white primary wire, with shield and an outer white jacket is required the part number is **44A1111-16-9-9**
- Where two core 600V cable with an overall shield and an outer jacket and a conductor size of 18awg, with core insulation colours red and blue. The outer jacket is white with a red stripe the part number is **44A1121-18-2/6-92**
- Three core 600V cable with an overall shield and an outer jacket with conductor size for each of the primary cores is 24awg, with core insulation colours red, yellow and blue and outer jacket is white. The part number is **44A1131-24-2/4/6-9**

Additional Information

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

44 A 1 1 2 1 - 22 - 0/9 - 9

PART NUMBER EXAMPLE

JACKET COLOUR

See colour codes below

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

30 to 0000 AWG

CONDUCTOR TYPE

- 1 = Tin plated copper
- 2 = Silver plated copper
- 3 = Nickel plated copper
- 4 = Silver plated high strength Cu alloy (SPHSCA)
- 6 = Nickel plated high strength Cu alloy (NPHSCA)

NUMBER of CONDUCTORS

1 through 9

VOLTAGE

- 1 = 600V wire
- 2 = 1000V wire
- 3 = 2500V wire
- 8 = 600V Airframe wire

CONSTRUCTION

- 0 = Primary wire
- 1 = Round braid shielded and jacketed
- 2 = Flat braid shielded and jacketed
- 3 = Round braid shielded NO jacket
- 4 = Jacketed NO shield (*2 core or more only*)
- 6-9 = Special constructions

TYPE

- A = AWG
- D = Def Stan 61-12 pt 26
- / = Special constructions

BASIC SPECIFICATION

Spec 44 - High performance wire and cable