



## Cheminax Coaxial Cables

*Small, lightweight coaxial cables*



### Applications

Cheminax controlled electrical cables are used in the aircraft and aerospace industries. They have a wide range of applications in missiles, avionics, radio-frequency and microwave systems, computers, security and surveillance systems, and communications.

Cheminax coaxial cables were designed to solve interconnect problems in electronic systems, such as computers, military equipment, and other areas of high-density packing, where cables are required to perform to more exacting specifications than standard radio-grade (RG) or UL recognized (UR) constructions.

Tyco Electronics' advanced materials technology has allowed the design and development of Raychem Cheminax miniature coaxial cables that offer substantial savings in size and weight while improving mechanical performance and reducing attenuation.

Cables can be designed that are either smaller and lighter than standard RG and UR cables or provide significantly lower attenuation and capacitance with no significant increase in size.

### Features and benefits

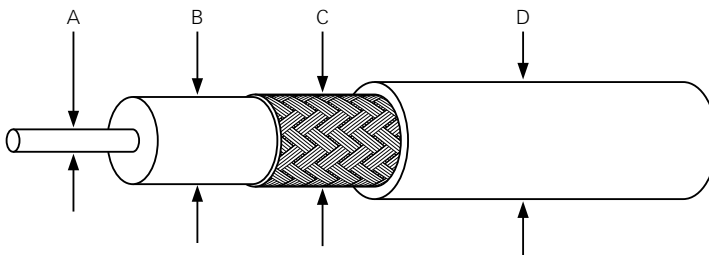
- Light weight, small size.
- Temperature range of  $-65^{\circ}\text{C}$  to  $200^{\circ}\text{C}$ .
- Low capacitance and attenuation.
- High velocity of propagation.
- High flexibility.

#### Available in:

Americas

Europe

Asia Pacific



- A Conductor
- B Dielectric
- C Shield
- D Jacket

**Fax-on-demand**

US only (800) 260-9099

Outside US (650) 257-2301

**Fax ID**

6110

**Description**

Data sheet

Visit our website at [www.tycoelectronics.com](http://www.tycoelectronics.com)**Specifications/approvals**

Series	UL	Raychem
Cheminax cables	1837, 3258, 3259, and 3264	1200

**Product dimensions (nominal)**

Typical product part numbers	Impedance (ohms)	Capacitance pF/m (pF/ft)	Attenuation at 400 MHz dB/100m (dB/100 ft)	A Conductor diameter mm (in)	B Dielectric diameter mm (in)	C Shield diameter mm (in)	D Jacket diameter mm (in)	Weight in kg/km (lb/1000ft)
5012E1339	50	98.4 (30.0)	14.8 (4.5)	2.26 (.089)	7.24 (.285)	7.98 (.314)	10.24 (.403)	162.2 (109.0)
5012M1612	50	82.0 (25.0)	16.1 (4.9)	2.26 (.089)	6.07 (.239)	6.60 (.260)	7.06 (.278)	74.5 (50.1)
5024A1311	50	83.7 (25.5)	50.3 (15.3)	0.62 (.025)	1.70 (.067)	2.18 (.085)	2.67 (.104)	11.8 (7.9)
5026D1027	50	88.9 (27.1)	63.7 (19.4)	0.48 (.019)	1.27 (.050)	1.70 (.067)	2.21 (.087)	11.8 (7.9)
5030A1317	50	90.2 (27.5)	97.5 (29.7)	0.30 (.012)	0.79 (.031)	1.12 (.044)	1.57 (.062)	4.5 (3.0)
5030A1424	50	100.4 (30.6)	94.5 (28.8)	0.30 (.012)	0.86 (.034)	1.19 (.047)	1.60 (.063)	5.7 (3.8)
7520A1311	75	56.1 (17.1)	20.0 (6.1)	1.02 (.040)	4.57 (.180)	5.11 (.201)	6.12 (.241)	43.2 (29.0)
7524A1311	75	56.4 (17.2)	31.8 (9.7)	0.62 (.025)	2.82 (.111)	3.25 (.128)	3.86 (.152)	19.2 (12.9)
7528H1424	75	54.5 (16.6)	44.0 (13.4)	0.32 (.013)	1.37 (.054)	1.73 (.068)	2.13 (.084)	8.9 (6.0)
7530A1317	75	60.4 (18.3)	58.8 (17.9)	0.30 (.012)	1.35 (.053)	1.78 (.07)	2.29 (.09)	8.3 (5.6)
7530H1424	75	57.4 (17.5)	58.1 (17.7)	0.30 (.012)	1.30 (.051)	1.73 (.068)	2.03 (.08)	8.5 (5.7)
9522A1311	95	44.3 (13.5)	19.7 (6.0)	0.79 (.031)	5.51 (.217)	6.05 (.238)	7.32 (.288)	55.1 (37.0)
9527J1528	95	44.3 (13.5)	31.8 (9.7)	0.43 (.017)	2.84 (.112)	3.18 (.125)	3.58 (.141)	19.2 (12.9)
9530H1014	95	44.3 (13.5)	44.3 (13.5)	0.30 (.012)	1.83 (.072)	2.26 (.089)	2.62 (.103)	13.1 (8.8)

Note: All values are nominal.

**Product characteristics**

General	Conductor range	12 AWG to 30 AWG
	Operating temperature range*	-65°C to 200°C
Electrical	Impedance range	50 ohms to 125 ohms
	Dielectric constant	1.65-2.3
	Velocity of propagation	67%-80%

\*Temperature rating varies depending on materials used in specific construction.

Users should independently evaluate the suitability of the product for their application.  
Before ordering check with factory for most current data.

## Cheminax Coaxial Cables *(cont'd.)*

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Properties (per SCD)							
Physical	Typical value of dielectric material						
	Rayfoam L	Rayfoam H	Rayolin F				
	Tensile (min.)	6.8 MPa (1000 psi)	4.1 MPa (600 psi)	12.2 MPa (1800 psi)			
Elongation (min.)	50%	50%	200%				
Electrical							
Dielectric withstand (min.)	1000 V	1000 V	1000 V				
Velocity of propagation (nom.)	78%	78%	67%				
Dielectric constant	1.65	1.65	2.2				
Physical	Type value of jacket material						
	Thermorad	SPEC 55	FlexLine	FEP	Zerohal	SPEC 44	
	Tensile (min.)	13.6 MPa (2000 psi)	34 MPa (5000 psi)	20.4 MPa (3000 psi)	13.6 MPa (2000 psi)	8.2 MPa (1200 psi)	27.2 MPa (4000 psi)
	Elongation (min.)	250%	50%	100%	200%	150%	200%
	Temperature (max.)	125°C	200°C	200°C	200°C	125°C	150°C
	Flammability*	Method C	Method B	Method B	Method B	Method B	Method B
	Fluid category*	C	A	A	A	C	

\*See Raychem specification WCD-1200 for details.

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**Description**

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50 26 A 1 3 1 4 - 0

**Jacket color**

- |            |                        |
|------------|------------------------|
| 0 = Black  | 6 = Blue               |
| 1 = Brown  | 7 = Violet             |
| 2 = Red    | 8 = Gray               |
| 3 = Orange | 9 = White              |
| 4 = Yellow | 9X = Transparent white |
| 5 = Green  |                        |

**Conductor type**

- 1 = Tin-coated copper
- 2 = Silver-coated copper
- 3 = Nickel-coated copper
- 4 = Silver-coated high-strength copper alloy
- 6 = Nickel-coated high strength copper Alloy
- 7 = Tin-coated copper-clad steel
- 8 = Silver-coated copper-clad steel
- 9 = Bare copper
- A = CS95

**Dielectric**

- |               |                                |
|---------------|--------------------------------|
| 1 = Rayfoam L | 4 = FEP (solid)                |
| 2 = Rayfoam H | 6 = SPEC 55 (modified XL-ETFE) |
| 3 = Rayolin F | 0 = Other                      |

**Jacket**

- |                          |              |
|--------------------------|--------------|
| 1 = General purpose PVF2 | 6 = SPEC 55  |
| 2 = Outerspace PVF2      | 7 = FlexLine |
| 3 = Thermorad            | 8 = Zerohal  |
| 4 = FEP                  | 9 = None     |
| 5 = Uncrosslinked ETFE   | 0 = Other    |

**Construction**

- |                         |                      |
|-------------------------|----------------------|
| 1 = Single round shield | 6 = Triax - other    |
| 2 = Single flat shield  | 8 = Composite shield |
| 3 = Double round shield | 9 = Core only        |
| 4 = 2 shield (other)    | 0 = Other            |
| 5 = Triax-round shield  |                      |

**Variation**

Letter assigned by Raychem.  
(This is not a revision indicator.)

**Conductor size (AWG)**

Always two digits.

**Impedance**

Always two digits (if 100 ohms or higher, use last two digits only).