

**SPECIFICATION CONTROL DRAWING**

**2021D0309**

**CHEMINAX**

120 OHM, 0.508 mm<sup>2</sup>, 19 STRANDS OF 0.19 mm,  
TWINAXIAL CABLE, J1939-11 COMPLIANT

Date: 11-19-14  
Revision: J

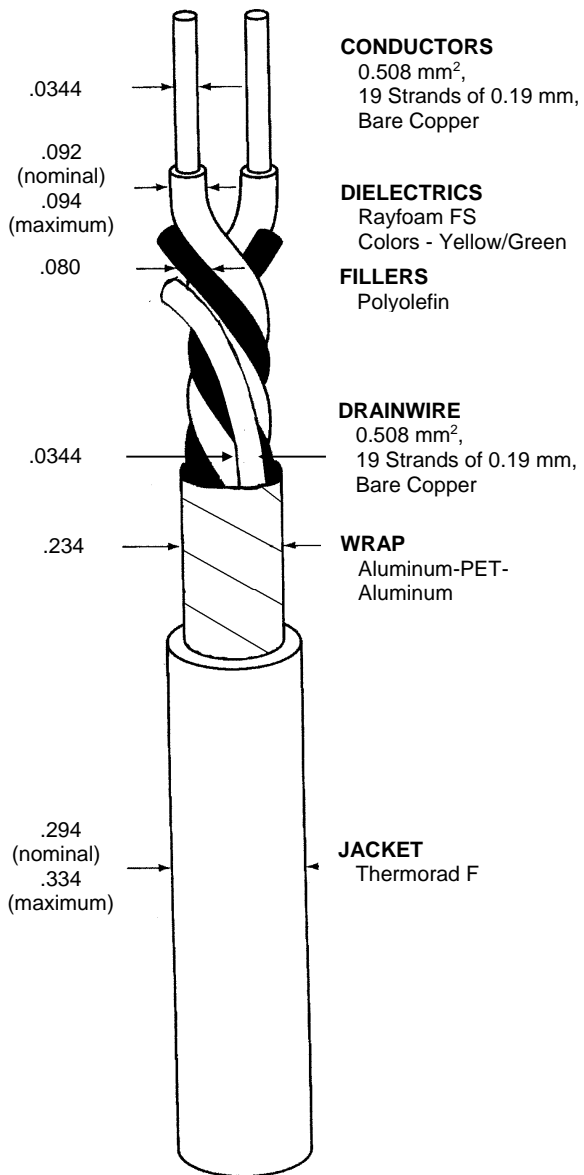
THIS SPECIFICATION SHEET FORMS A PART OF THE LATEST ISSUE OF RAYCHEM SPECIFICATION 1200.

**CONSTRUCTION DETAILS**

**ELECTRICAL CHARACTERISTICS**

DIMENSIONS ARE NOMINAL VALUES IN INCHES, UNLESS OTHERWISE DESIGNATED.

CHARACTERISTIC IMPEDANCE	120 ± 12 ohms, Method D at 1 MHz with shield grounded
MUTUAL CAPACITANCE	10.5 pF/ft. (nominal) at 1 MHz
VELOCITY OF PROPAGATION	75% (nominal)
SURFACE TRANSFER IMPEDANCE (per MIL-DTL-85485)	225 milliohms/meter (maximum) at 0.1 to 1 MHz



**CONDUCTORS**  
0.508 mm<sup>2</sup>,  
19 Strands of 0.19 mm,  
Bare Copper

**DIELECTRICS**  
Rayfoam FS  
Colors - Yellow/Green

**FILLERS**  
Polyolefin

**DRAINWIRE**  
0.508 mm<sup>2</sup>,  
19 Strands of 0.19 mm,  
Bare Copper

**WRAP**  
Aluminum-PET-  
Aluminum

**JACKET**  
Thermorad F

**ADDITIONAL REQUIREMENTS**

**ELECTRICAL**

CONDUCTOR RESISTANCE (prior to cabling)	11.3 ohms/1000 ft. (nominal)
INSULATION RESISTANCE	10,000 megohms (minimum) for 1000 ft.
JACKET FLAWS	
SPARK TEST	1.0 kV (rms)
IMPULSE TEST	6.0 kV (peak)
VOLTAGE WITHSTAND (DIELECTRIC)	1500 volts (rms)

**ENVIRONMENTAL**

FLAMMABILITY	Method C
HEAT SHOCK	225°C
LOW TEMPERATURE-COLD BEND	-55°C/8.00 inch mandrel
VOLTAGE WITHSTAND (Post Environmental)	1000 volts (rms), 1 minute

**PHYSICAL**

INSULATION (DIELECTRIC)	
ELONGATION	100% (minimum)
TENSILE STRENGTH	1000 lbf/in <sup>2</sup> (minimum)
JACKET	
ELONGATION	200% (minimum)
TENSILE STRENGTH	2000 lbf/in <sup>2</sup> (minimum)
JACKET THICKNESS	.025 inch (minimum), .030 inch (nominal), .040 inch (maximum)
WRAP	.003 inch thick (nominal), 10% overlap (minimum)

CABLE IDENTIFICATION: Outer jacket shall be marked in contrasting color at 12 inch (nominal) intervals as follows:

for product jacketed in USA: "RAYCHEM J1939-11 0.5 mm<sup>2</sup>"  
for product jacketed in Mexico: "RAYCHEM J1939/11 0.5 mm<sup>2</sup>"

WEIGHT	35.7 lbs/1000 ft. (nominal)
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**ENGINEERING REFERENCE**

TEMPERATURE RATING	125°C (maximum)
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Designate outer jacket color with a dash number in accordance with MIL-STD-681. Unless otherwise specified, outer jacket color will be black designated by a "-0" appended to the part number, (e.g. 2021D0309-0).  
Component Wire Stripe Option: Dielectrics striped red will be designated with a slash separating component wire colors, (e.g. 2021D0309-42/52-0).  
Other codes and suffixes may be added to the part number, as necessary, to capture any additional requirements imposed by the purchase order.

Users should evaluate the suitability of this product for their application. Specifications are subject to change without notice. Tyco Electronics Corporation also reserves the right to make changes in materials or processing, which do not affect compliance with any specification, without notification to Buyer.

