

SPECIFICATION CONTROL DRAWING

**CONTACTS, ELECTRICAL CONNECTOR, SOCKET,  
SOLDERTACTS<sup>®</sup>, REMOVABLE, SHIELDED, SIZE 16, M39029/77 TYPE  
(FOR MIL-C-38999 SERIES I, III AND IV CONNECTORS)**

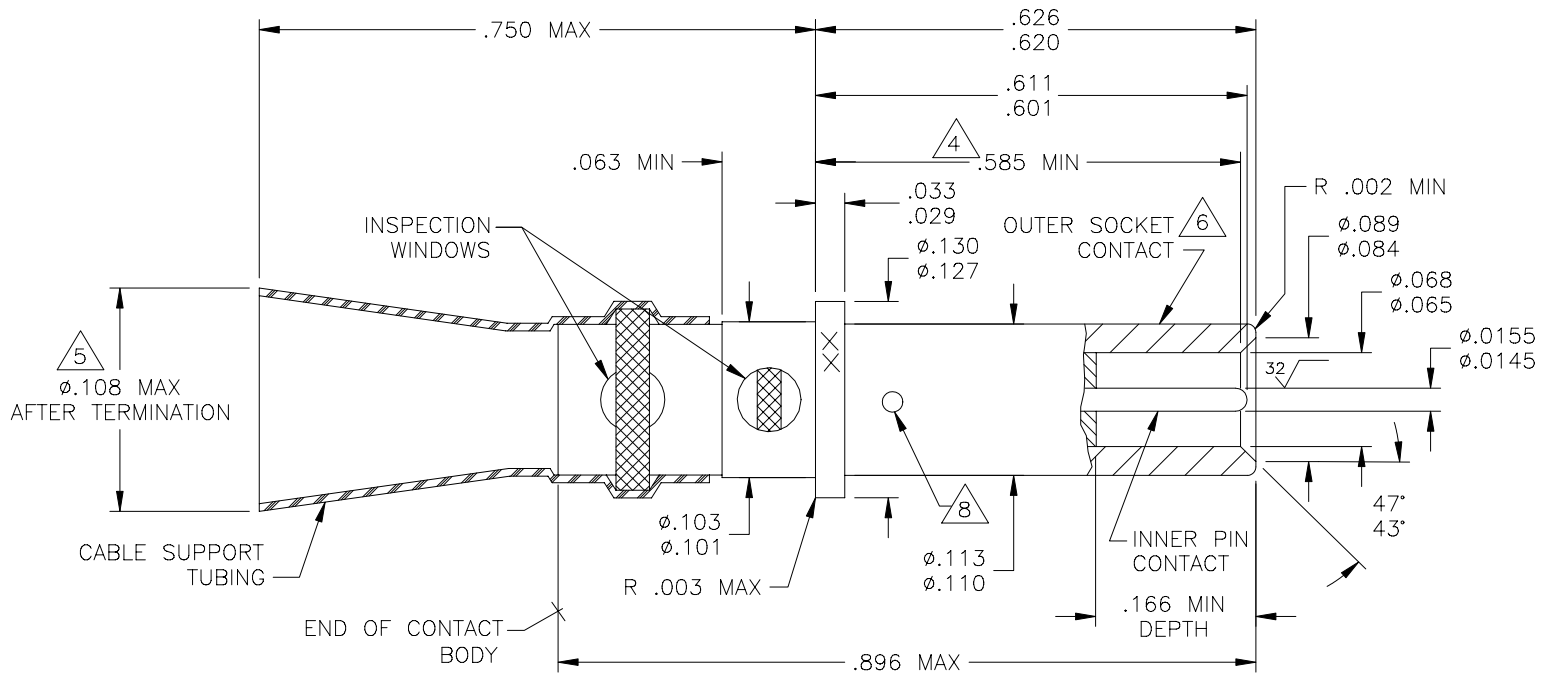


FIGURE 1.

1. DIMENSIONS ARE IN INCHES.
2. METRIC EQUIVALENTS CAN BE CALCULATED BASED UPON 1.00 INCH=25.4mm.
3. DIMENSIONS SHOWN APPLY AFTER PLATING.
4. POINT AT WHICH A SQUARE ENDED PIN OF THE SAME BASIC DIAMETER AS THE MATING CONTACT FIRST ENGAGES THE OUTER CONTACT SPRING. PROVISION FOR CLEARANCE HOLE SHALL BE PROVIDED.
5. SLEEVE RECOVERY: THE DIAMETER OF THE SHRINK TUBING OVER THE CABLE SHALL NOT EXCEED THE DIAMETER SHOWN.
6. MATES WITH .0635/.0615 DIA PIN
7. CONTACT WEIGHT: 0.687 GRAMS MAXIMUM UNTERMINATED.
8. THE FEATURES SHOWN ARE TWO HOLES REQUIRED TO ACCOMMODATE THE CONTACT MANUFACTURING PROCESS (REF).

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. METRIC DIMENSIONS ARE IN BRACKETS.

DECIMALS  
.XXX ± [ mm ]  
.XX ± [ mm ]  
ANGLES ±

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DATE: 5/28/02		DATE:	DATE: 5/28/02	SHEET 1 of 5	

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REQUIREMENTS:

DIMENSIONS (FIGURE 1), DESIGN CHARACTERISTICS, AND CONFIGURATION MEET THE REQUIREMENTS OF M39029/77 EXCEPT THAT THE TEMPERATURE RATING IS 125°C INSTEAD OF 200°C, TERMINATION IS BY SOLDERING INSTEAD OF CRIMPING. SEE TABLE I FOR CABLE ACCOMMODATION.

THIS CONTACT IS QUALIFIED TO RAYCHEM SPECIFICATION D-6002.

MATING CONTACT: D-602-0140-C8898 (M39029/76)

TOOLS: SEE TABLE II.

TABLE I. DESIGN CHARACTERISTICS

CABLE ACCOMMODATED <u>1/</u>	CONTACT CAVITY SIZE	TYPE	CLASS
RAYCHEM 10598-30-9X	16	D	A

1/ THE CONTACT TERMINATES THE CENTER CONDUCTOR AND INNER SHIELD OF THIS TRIAXIAL CABLE.

OTHER APPLICATIONS USING DIFFERENT CABLES MAY BE ACCOMMODATED. CONSULT CONTACT MANUFACTURER FOR DETAILS.

TABLE II. TOOLS

HEATING TOOLS <u>2/</u>	REFLECTORS <u>2/</u>	STANDARD FIXTURE <u>2/</u>		REPAIR FIXTURE <u>2/</u>	INSTALLING TOOLS *	REMOVAL TOOLS *
		BASIC FIXTURE	ADAPTER			
AA-400 SUPER HEATER	#979663 MINI SOLDER SLEEVE	AD-1319 OR AD1567	AT-1319-78	AD-1565	M81969/8-07 OR M81969/14-03	M81969/8-08 OR M81969/14-03
STEINEL HLI802E	STEINEL SOLDER SLEEVE				DANIELS MFG. DAK83-16 (METAL)	DANIELS MFG. DAK83-16 (METAL)

2/ SEE RAYCHEM ES-61226 FOR TERMINATION PROCEDURE INSTRUCTIONS EXCEPT THE STRIP LENGTH TO BE AS SHOWN ON PAGE# 3.

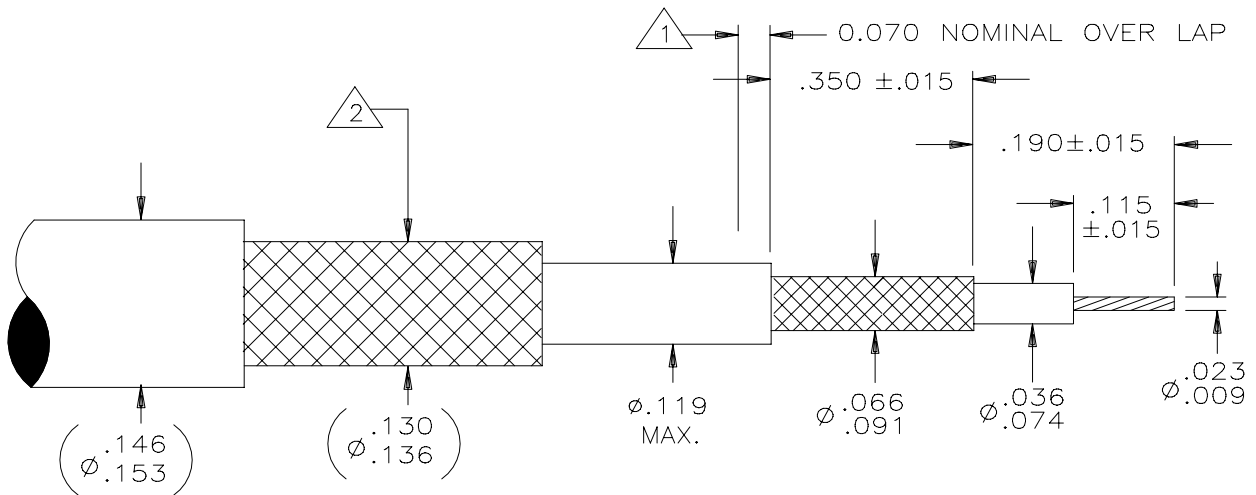
\* THIS CABLE MAY REQUIRE THE USE OF THE METAL TOOL FOR PROPER HANDLING.

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ASSEMBLY INSTRUCTIONS

1. STRIP CABLE AS SHOWN. PRE-TIN CENTER CONDUCTOR.
2. INSERT CABLE INTO CONTACT UNTIL IT IS FULLY SEATED.
3. HEAT CONTACT WITH APPROPRIATE TOOLS AS SHOWN ON TABLE II UNTIL SOLDER MELTS AND FLOWS AND STRAIN RELIEF TUBING CONFORMS TO CABLE.
4. CABLE ACCOMMODATION: THIS CONTACT WILL ACCOMMODATE CABLES WITH THESE DIMENSIONS.

PREPARATION OF INNER TRIAXIAL CABLE



CABLE PREPARATION FOR STRAIGHT SHIELD

1 AFTER TERMINATION THE CABLE SUPPORT TUBING WILL OVERLAP THE INNER JACKET BY 0.070 NOMINAL.

2 OUTER BRAID IS TERMINATED BY OTHER MEANS

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CONTACT ENGAGEMENT AND SEPARATION FORCES (OUTER SOCKET CONTACT ONLY): THE ENGAGEMENT DEPTH SHALL BE AS ENCOUNTERED IN NORMAL SERVICE. THE TEST PINS SHALL BE IN ACCORDANCE WITH MS3197 EXCEPT THE DIAMETERS SHALL BE AS SPECIFIED IN THE FOLLOWING, AND SURFACE ROUGHNESS SHALL NOT EXCEED 3 MICROINCHES. PROVISIONS FOR CLEARANCE HOLE SHALL BE PROVIDED.

TABLE III

TEST PIN DIAMETER (INCH)	MINIMUM SEPARATION FORCE (OUNCES)		MAXIMUM ENGAGEMENT FORCE (OUNCES)	
	INITIAL	AFTER CONDITIONING	INITIAL	AFTER CONDITIONING
.0635 $\begin{matrix} +.0002 \\ -.0000 \end{matrix}$	N/A	N/A	30.0	36.0
.0615 $\begin{matrix} +.0000 \\ -.0002 \end{matrix}$	2.0	1.5	N/A	N/A

DIELECTRIC WITHSTANDING VOLTAGE (APPLIED BETWEEN INNER AND OUTER CONTACT):  
TEST VOLTAGE:

AT SEA LEVEL: 800 VAC. RMS.  
AT 50,000 FEET: 250 VAC. RMS.

CONTACT RESISTANCE: SEE TABLE IV.

TABLE IV. CONTACT RESISTANCE

TEST CABLE	MAXIMUM VOLTAGE DROP (MILLIVOLTS)						TEST CURRENT (AMPS)	
	$25^{\circ} \begin{matrix} +3^{\circ} \\ -0^{\circ} \end{matrix} C$		$25^{\circ} \begin{matrix} +3^{\circ} \\ -0^{\circ} \end{matrix} C$ <sub>3/</sub>		$125^{\circ} \begin{matrix} +3^{\circ} \\ -0^{\circ} \end{matrix} C$			
	CONTACT		CONTACT		CONTACT		CONTACT	
	INNER	OUTER	INNER	OUTER	INNER	OUTER	INNER	OUTER
RAYCHEM 10598-30-9X	60	54	72	65	90	81	1.0	7.5

3/ AFTER CONDITIONING.

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LOW SIGNAL LEVEL CONTACT RESISTANCE (INNER CONTACT ONLY): SEE TABLE V.  
TENSILE STRENGTH (INNER AND OUTER CONTACT SOLDER JOINT): SEE TABLE V.

TABLE V. LOW SIGNAL LEVEL CONTACT RESISTANCE  
(INNER CONTACT ONLY) AND TENSILE STRENGTH

TEST CABLE	MAXIMUM CONTACT RESISTANCE (MILLIOHMS)		MINIMUM TENSILE STRENGTH (POUNDS)	
	INITIAL	AFTER CONDITIONING	INNER CONTACT	OUTER CONTACT
RAYCHEM 10598-30-9X	66	80	3.5	20.0

MATERIAL: CONTACT BODY BERYLLIUM COPPER, ALLOY 173, CONDITION H PER ASTM B196

INNER CONTACT BERYLLIUM COPPER, ALLOY 173, CONDITION H PER ASTM B196

PLATING (CONTACT BODY AND INNER CONTACT) GOLD PLATE PER MIL-G-45204 TYPE II, GRADE C 50 MICROINCHES MINIMUM OVER  
NICKEL PER QQ-N-290A 50 MICROINCHES MINIMUM OVER  
COPPER STRIKE - 40 MICROINCHES MAXIMUM

SOLDER Sn63 PER ANSI/J-STD-006 (QQ-S-571)

FLUX TYPE RMA PER ANSI/J-STD-004 (QQ-S-571)

SHRINK TUBING HEAT-SHRINKABLE, RADIATION-CROSSLINKED POLYVINYLIDENE FLUORIDE

DIELECTRIC ETFE FLUOROPOLYMER PER ASTM D3159

SHIPPING FIGURE 1 INDICATES THE ONE-PIECE ASSEMBLY. TERMINATION INSTRUCTIONS ARE TO BE SHIPPED WITH THE UNIT PACKAGE.

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