

SAE Executive Standards Committee Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user."

SAE reviews each technical report at least every five years at which time it may be revised, reaffirmed, stabilized, or cancelled. SAE invites your written comments and suggestions.

REV.
C

AS39029™/74

FEDERAL SUPPLY CLASS
5935

RATIONALE

LIMITED SCOPE REVISION IS REQUIRED TO DELETE MIL-DTL-83527 FROM THE DOCUMENT TITLE AND TO DELETE APPLICATION NOTE 2.

NOTICE

THE COMPLETE REQUIREMENTS FOR PROCURING THE PRODUCT DESCRIBED HEREIN SHALL CONSIST OF THIS DOCUMENT AND THE LATEST ISSUE OF AS39029.

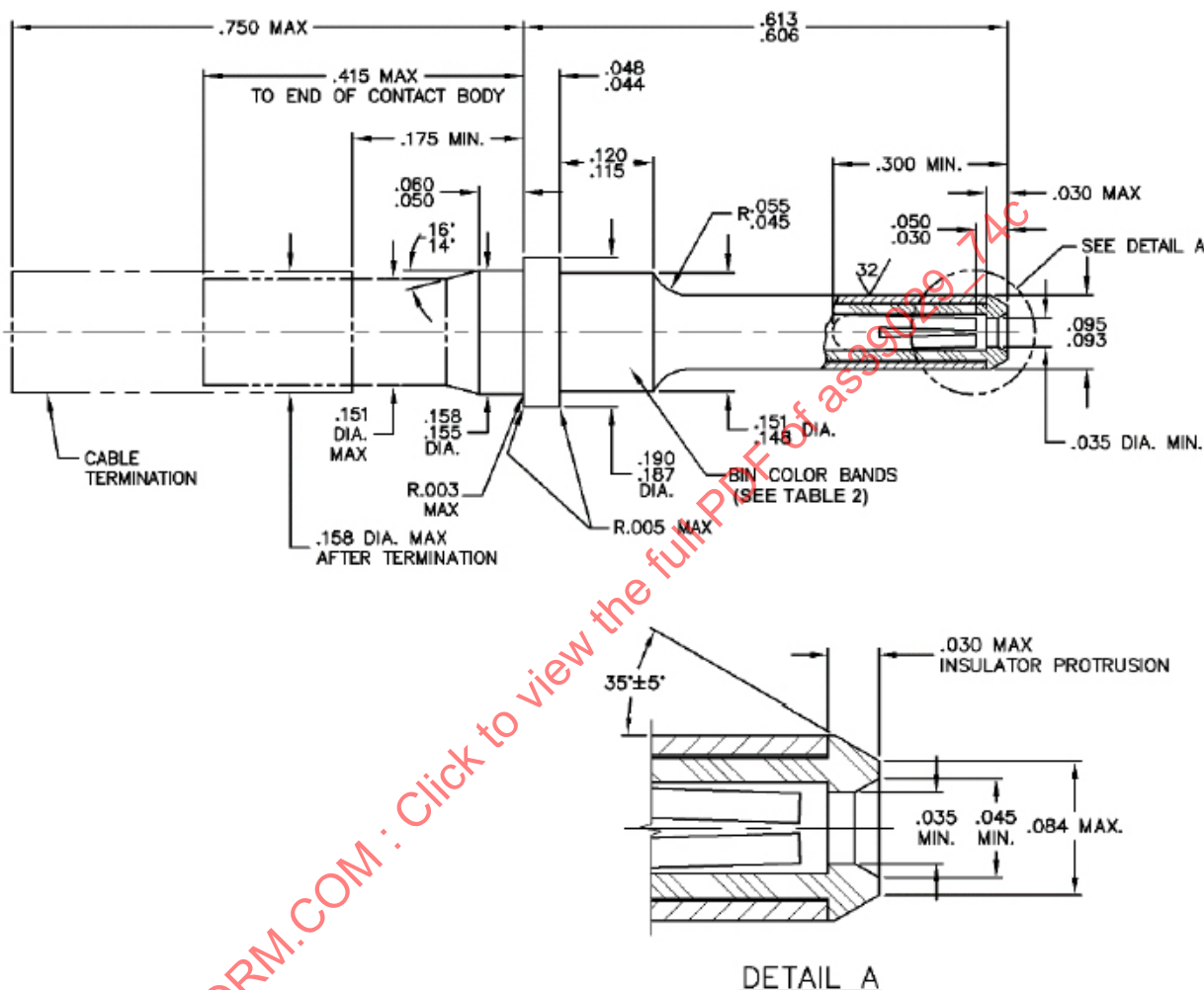
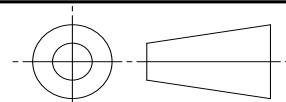


FIGURE 1 - CONNECTOR CONTACT CONFIGURATION/DIMENSIONS

For more information on this standard, visit

<https://www.sae.org/standards/content/AS39029/74C/>

THIRD ANGLE PROJECTION



CUSTODIAN: AE-8C1

PROCUREMENT SPECIFICATION: AS39029



AEROSPACE STANDARD

CONTACTS, ELECTRICAL CONNECTORS, PIN,
SOLDER, REMOVABLE, SHIELDED, SIZE 12
(FOR MIL-DTL-83723 SERIES III CONNECTORS)

AS39029™/74
SHEET 1 OF 5

REV.
C

Copyright © 2021 SAE International

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of SAE.

TO PLACE A DOCUMENT ORDER: Tel: 877-606-7323 (inside USA and Canada)
Fax: 724-776-0790

Tel: +1 724-776-4970 (outside USA)
Email: CustomerService@sae.org

SAE WEB ADDRESS: <http://www.sae.org>

ISSUED 2000-07 REAFFIRMED 2014-08 REVISED 2021-08

TABLE 1 - FIGURE 1 METRIC EQUIVALENTS

INCH	MILLIMETERS	INCH	MILLIMETERS	INCH	MILLIMETERS
.003	0.08	.060	1.52	.158	4.01
.005	0.13	.084	2.13	.175	4.45
.030	0.76	.093	2.36	.187	4.75
.035	0.89	.095	2.41	.190	4.83
.044	1.12	.115	2.92	.300	7.62
.045	1.14	.120	3.05	.415	10.54
.048	1.22	.148	3.76	.606	15.39
.050	1.27	.151	3.84	.613	15.57
.055	1.40	.155	3.94	.750	19.05

TABLE 2 - FIGURE 1 DESIGN/DIMENSIONS

BIN CODE	COLOR BAND			CABLE ACCOMMODATION (SEE FIGURE 2)				SHIELD PREPARATION TECHNIQUE	TEST CABLES	TYPE	CLASS
	1 ST	2 ND	3 RD	A 1/	B 2/	C 3/	D 4/				
399	ORANGE	WHITE	WHITE	.026 (0.66) MAX .011 (0.28) MIN	.105 (2.67) MAX .093 (2.36) MIN	.124 (3.15) MAX .112 (2.84) MIN	.145 (3.68) MAX .120 (3.05) MIN	STRAIGHT	M17/095-RG180	D	A
400	YELLOW	BLACK	BLACK	.026 (0.66) MAX .011 (0.28) MIN	.081 (2.06) MAX .055 (1.40) MIN	.099 (2.51) MAX .077 (1.96) MIN	.140 (3.56) MAX .094 (2.39) MIN	STRAIGHT	M17/094-RG179		
				.026 (0.66) MAX .011 (0.28) MIN	.045 (1.14) MAX .030 (0.76) MIN	.099 (2.51) MAX .077 (1.96) MIN AFTER FOLDBACK	.145 (3.68) MAX .094 (2.39) MIN AFTER BUILD-UP	FOLDBACK	M17/093-RG178		
401	YELLOW	BLACK	BROWN	24 AND 26 AWG TWISTED PAIR				N/A	TWISTED PAIR 24 AND 26 AWG PER MIL-DTL-55021		

1/ A. CONDUCTOR DIAMETER.

2/ B. DIELECTRIC DIAMETER.

3/ C. SHIELD DIAMETER.

4/ D. JACKET DIAMETER.

TABLE 3 - TOOLS

BIN CODE	STANDARD FIXTURE		REPAIR FIXTURE	HEATING TOOL	INSTALLING AND REMOVAL TOOL
	BASIC FIXTURE	ADAPTER			
399, 400, 401	AD-1319 RAYCHEM 1/	AT-1319-19 RAYCHEM 1/	AD-1494 RAYCHEM 1/	2/	M81969/14-04

1/ OR EQUIVALENT.

2/ HEAT GUN USED FOR INSTALLATION OF THE CONTACT IS APPROVED BY THE PROCURING ACTIVITY BASED ON THE APPLICATION REQUIREMENTS. HEAT GUN TYPES MAY INCLUDE THE HT-900B, MCH-100 OR EQUIVALENT.

	AEROSPACE STANDARD		AS39029™/74 SHEET 2 OF 5	REV. C
		CONTACTS, ELECTRICAL CONNECTORS, PIN, SOLDER, REMOVABLE, SHIELDED, SIZE 12 (FOR MIL-DTL-83723 SERIES III CONNECTORS)		

TABLE 4 - CONTACT ENGAGEMENT AND SEPARATION FORCE

TEST PIN DIAMETER (INCH)	MINIMUM SEPARATION FORCE (OUNCES)		MAXIMUM ENGAGEMENT FORCE (OUNCES)		MAXIMUM AVERAGE ENGAGEMENT FORCE (OUNCES)	
	INITIAL	AFTER CONDITIONING	INITIAL	AFTER CONDITIONING	INITIAL	AFTER CONDITIONING
.0295 (0.75) +.0000 (0.00) -.0001 (0.00)	N/A	N/A	16	20	N/A	N/A
.0280 (0.71) +.0001 (0.00) -.0000 (0.00)	0.5	0.4	N/A	N/A	N/A	N/A

TABLE 5 - CONTACT RESISTANCE

BIN CODE	CABLE ACCOMMODATED	TEST CURRENT (AMPS) 1/	MAXIMUM VOLTAGE DROP (MILLIVOLTS)					
			25° +3°, -0 °C		25° +3°, -0 °C 2/		125° +3°, -0 °C	
			INNER	OUTER	INNER	OUTER	INNER	OUTER
399	M17/095-RG180	1	120	13	144	16	204	22
400	M17/093-RG178 M17/094-RG179	1	120	13	144	16	204	22
401	24 AWG TWISTED PAIR	3	57	49	68	59	97	83
	26 AWG TWISTED PAIR	2	63	51	76	61	107	87

1/ AMMETER ACCURACY OF 2%.

2/ AFTER CONDITIONING.

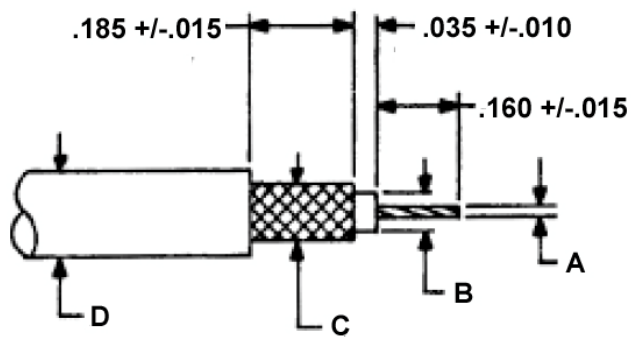
TABLE 6 - CONDUCTOR RETENTION

BIN CODE	CABLES ACCOMMODATED	MINIMUM TENSILE LOAD (POUNDS) 1/	
		INNER CONTACT	OUTER CONTACT
399	M17/095-RG180	4.5	20.0
400	M17/093-RG178	5.2	6.5
	M17/094-RG179	5.2	16.0
401	24 AWG TWISTED PAIR	15.0	15.0
	26 AWG TWISTED PAIR	10.5	10.5

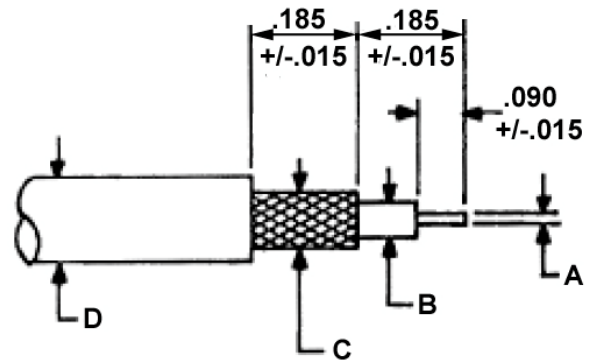
1/ BREAKAGE OF CABLE OUTSIDE OF SOLDER JOINT SHALL BE CONSIDERED PASSING.

TABLE 7 - PART NUMBER

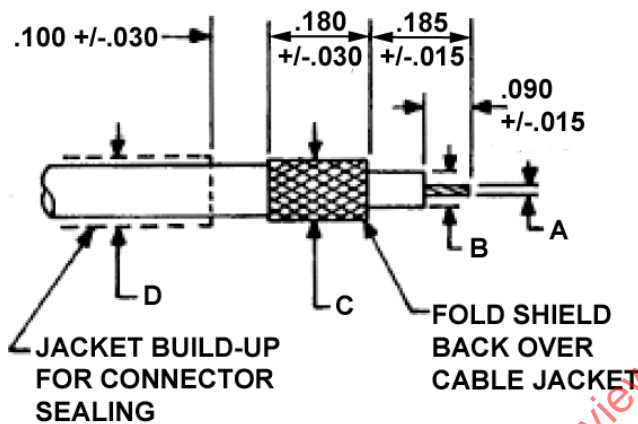
PART NUMBER	BIN CODE	SUPERSEDES
M39029/74-399	399	M39029/74-12A
M39029/74-400	400	M39029/74-12C
M39029/74-401	401	M39029/74-12B



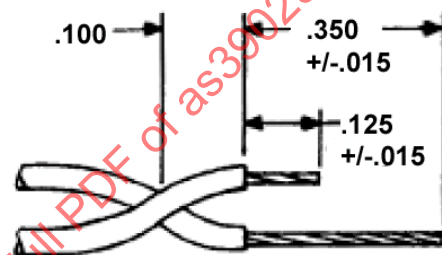
**CABLE PREPARATION
FOR BIN CODE 399**



**CABLE PREPARATION FOR BIN
CODE 400 STRAIGHT SHIELD**



**CABLE PREPARATION FOR BIN CODE 400
FOLDBACK SHIELD**



**CABLE PREPARATION FOR
BIN CODE 401**

FIGURE 2 - CABLE PREPARATION

TABLE 8 - FIGURE 2 METRIC EQUIVALENTS

INCH	MILLIMETERS	INCH	MILLIMETERS	INCH	MILLIMETERS
.010	0.25	.090	2.29	.180	4.57
.015	0.38	.100	2.54	.185	4.70
.030	0.76	.125	3.18	.350	8.89
.035	0.89	.160	4.06		