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ACCESSORIES FOR CIRCULAR CONNECTORS

3401/044, 3401/052 AND 3401/056

ESCC Detail Specification No. 3401/062

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DCR No.	CHANGE DESCRIPTION
750	Specification updated to incorporate editorial changes per DCR.

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1 GENERAL

1.1 SCOPE

This specification details the ratings, physical and electrical characteristics, test and inspection data for Accessories for Circular Connectors 3401/044, 3401/052 and 3401/056. It shall be read in conjunction with ESCC Generic Specification No. 3401, the requirements of which are supplemented herein, and ESCC Detail Specifications Nos. 3401/044, 3401/052 and 3401/056.

1.2 COMPONENT TYPE VARIANTS

The type variants of accessories covered by this specification are given in Table 1(a).

1.3 MAXIMUM RATINGS

The maximum ratings, which shall not be exceeded at any time during use or storage, applicable to the accessories specified herein, are given in Table 1(b).

1.4 PARAMETER DERATING INFORMATION (FIGURE 1)

Not applicable.

1.5 PHYSICAL DIMENSIONS

The physical dimensions of the accessories specified herein are shown in Figure 2.

1.6 FUNCTIONAL DIAGRAM (FIGURE 3)

Not applicable.

2 APPLICABLE DOCUMENTS

The following documents form part of this specification and shall be read in conjunction with it:

- (a) ESCC Generic Specification No. 3401, Connectors, Electrical, Non-Filtered, Circular and Rectangular.
- (b) ESCC Detail Specification No. 3401/044 for Connectors, Electrical, Circular Bayonet Coupling, Removable Crimp Contacts, Based on MIL-C-38999 Series II.
- (c) ESCC Detail Specification No. 3401/052 for Connectors, Electrical, Circular Bayonet Coupling, Scoop-proof, Removable Crimp Contacts, Based on MIL-C-38999 Series I.
- (d) ESCC Detail Specification No. 3401/056 for Connectors, Electrical, Circular, Triple Start Self-locking Coupling, Scoop-proof, Removable Crimp Contacts, Based on MIL-C-38999 Series III.

3 TERMS, DEFINITIONS, ABBREVIATIONS, SYMBOLS AND UNITS

For the purpose of this specification, the terms, definitions, abbreviations, symbols and units specified in ESCC Basic Specification No. 21300 shall apply.

TABLE 1(a) – TYPE VARIANTS

Variant	Backshell Description	For Connectors	Shell Size	Tightening Torque (Nm Max.)	Weight (g) Max.
01	Nut	/052 (Series I)	09	11.3	4.5
		/044 (Series II)	08	5.6	4.5
02	Nut	/052 (Series I)	11	11.3	5.5
		/044 (Series II)	10	5.6	5.5
03	Nut	/052 (Series I)	13	17	6.5
		/044 (Series II)	12	5.6	6.5
04	Nut	/052 (Series I)	15	17	7.5
		/044 (Series II)	14	5.6	7.5
05	Nut	/052 (Series I)	17	22.6	9
		/044 (Series II)	16	5.6	9
06	Nut	/052 (Series I)	19	22.6	10.5
		/044 (Series II)	18	5.6	10.5
07	Nut	/052 (Series I)	21	28.3	12
		/044 (Series II)	20	11.3	12
08	Nut	/052 (Series I)	23	28.3	13.7
		/044 (Series II)	22	11.3	13.7
09	Nut	/052 (Series I)	25	28.3	15.5
		/044 (Series II)	24	11.3	15.5
10	Straight Cable Clamp	/052 (Series I)	09	11.3	9.2
		/044 (Series II)	08	5.6	9.2
11	Straight Cable Clamp	/052 (Series I)	11	11.3	12.5
		/044 (Series II)	10	5.6	12.5
12	Straight Cable Clamp	/052 (Series I)	13	17	15.8
		/044 (Series II)	12	5.6	15.8
13	Straight Cable Clamp	/052 (Series I)	15	17	19.2
		/044 (Series II)	14	5.6	19.2
14	Straight Cable Clamp	/052 (Series I)	17	22.6	22.6
		/044 (Series II)	16	5.6	22.6
15	Straight Cable Clamp	/052 (Series I)	19	22.6	26
		/044 (Series II)	18	5.6	26
16	Straight Cable Clamp	/052 (Series I)	21	28.3	29.5
		/044 (Series II)	20	11.3	29.5
17	Straight Cable Clamp	/052 (Series I)	23	28.3	33
		/044 (Series II)	22	11.3	33
18	Straight Cable Clamp	/052 (Series I)	25	28.3	36.5
		/044 (Series II)	24	11.3	36.5
19	90° Cable Clamp	/052 (Series I)	09	11.3	10.5
		/044 (Series II)	08	5.6	10.5
20	90° Cable Clamp	/052 (Series I)	11	11.3	13
		/044 (Series II)	10	5.6	13
21	90° Cable Clamp	/052 (Series I)	13	17	15.5
		/044 (Series II)	12	5.6	15.5
22	90° Cable Clamp	/052 (Series I)	15	17	18
		/044 (Series II)	14	5.6	18
23	90° Cable Clamp	/052 (Series I)	17	22.6	21.5
		/044 (Series II)	16	5.6	21.5
24	90° Cable Clamp	/052 (Series I)	19	22.6	25
		/044 (Series II)	18	5.6	25

Variant	Backshell Description	For Connectors	Shell Size	Tightening Torque (Nm Max.)	Weight (g) Max.
25	90° Cable Clamp	/052 (Series I)	21	28.3	29.2
		/044 (Series II)	20	11.3	29.2
26	90° Cable Clamp	/052 (Series I)	23	28.3	33.5
		/044 (Series II)	22	11.3	33.5
27	90° Cable Clamp	/052 (Series I)	25	28.3	38
		/044 (Series II)	24	11.3	38
28	Nut	/056 (Series III)	09	11.3	5
29			11	11.3	6
30			13	17	7
31			15	17	8
32			17	22.6	9.5
33			19	22.6	11.5
34			21	28.3	12.5
35			23	28.3	14.5
36			25	28.3	17
37	Straight Cable Clamp	/056 (Series III)	09	11.3	9.2
38			11	11.3	12.5
39			13	17	15.8
40			15	17	19.2
41			17	22.6	22.6
42			19	22.6	26
43			21	28.3	29.5
44			23	28.3	33
45			25	28.3	36.5
46	90° Cable Clamp	/056 (Series III)	09	11.3	10.5
47			11	11.3	13
48			13	17	15.5
49			15	17	18
50			17	22.6	21.5
51			19	22.6	25
52			21	28.3	29.2
53			23	28.3	33.5
54			25	28.3	38
55	Shield Termination and Cable Clamp	/056 (Series III)	17	22.6	44
56	45° Cable Clamp	/056 (Series III)	09	11.3	12
57			11	11.3	13.5
58			13	17	16.5
59			15	17	20
60			17	22.6	23
61			19	22.6	28
62			21	28.3	32.5
63			23	28.3	35.5
64			25	28.3	41

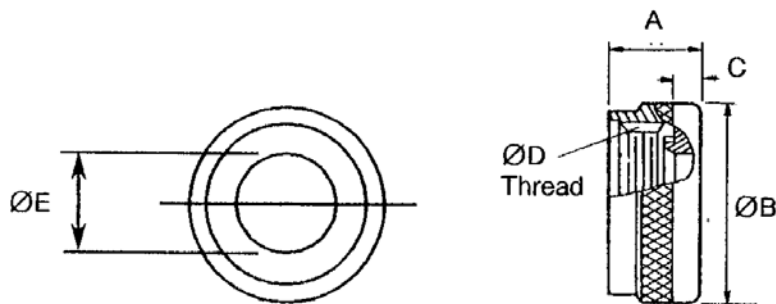
Variant	Backshell Description	For Connectors	Shell Size	Tightening Torque (Nm Max.)	Weight (g) Max.
65	Straight Short Termination, Size 9	/056 (Series III)	09	3	11.5
66	Straight Shield Termination, Size 9	/056 (Series III)	09	3	12
67	90° Shield Termination, Size 9	/056 (Series III)	09	3	13

TABLE 1(b) – MAXIMUM RATINGS

No.	Characteristics	Symbol	Maximum Rating	Unit
1	Operating Temperature Range	T _{op}	-65 to +200	°C
2	Storage Temperature Range	T _{stg}	-65 to +200	°C
3	Tightening Torque	T _q	See Table 1(a)	Nm

FIGURE 2 – PHYSICAL DIMENSIONS

FIGURE 2(a) – NUT

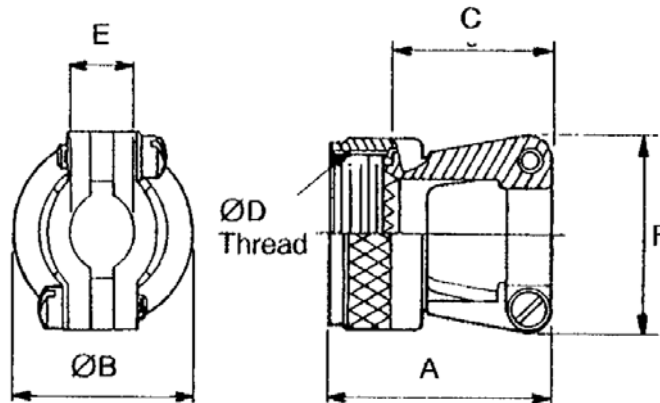


Sizes	A Max.		ØB Max.		C Max.	ØD		ØE Min.
	(1)	(2)	(1)	(2)		(1) UNEF-2B	(2)	
08/09	13.7	16.8	19.1	21.79	6.6	0.4375-28	M12 x 1-6H	6.7
10/11	13.7	16.8	21.5	24.99	6.6	0.5625-24	M15 x 1-6H	9.9
12/13	13.7	16.8	25.4	29.39	6.6	0.6875-24	M18 x 1-6H	12.8
14/15	13.7	16.8	27.9	32.49	6.6	0.8125-20	M22 x 1-6H	16
16/17	13.7	16.8	31.8	35.71	6.6	0.9375-20	M25 x 1-6H	19.2
18/19	13.7	16.8	35.6	38.5	6.6	1.0625-18	M28 x 1-6H	21.4
20/21	13.7	16.8	38.1	41.7	6.6	1.1875-18	M31 x 1-6H	24.6
22/23	13.7	16.8	41.9	44.91	6.6	1.3125-18	M34 x 1-6H	27.7
24/25	13.7	16.8	44.5	47.98	6.6	1.4375-18	M37 x 1-6H	30.9

NOTES:

- Variants 01 to 09.
- Variants 28 to 36.

FIGURE 2(b) – STRAIGHT CABLE CLAMP

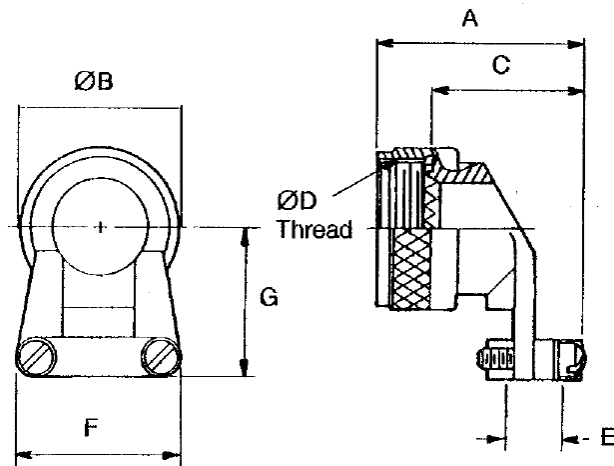


Sizes	A Max.		ØB Max.		C Max.	ØD		E		F Max.
	(1)	(2)	(1)	(2)		(1) UNEF-2B	(2)	Min.	Max.	
08/09	27.5	27.9	19.1	21.79	23.1	0.4375-28	M12 × 1-6H	2.49	5.94	21.6
10/11	27.9	27.9	21.5	24.99	23.1	0.5625-24	M15 × 1-6H	3.87	5.94	22.9
12/13	30.5	30.5	25.4	29.39	25.7	0.6875-24	M18 × 1-6H	4.83	8.33	27.9
14/15	31.8	31.8	27.9	32.49	26.9	0.8125-20	M22 × 1-6H	6.6	11.61	29.2
16/17	34.3	34.3	31.8	35.71	29.5	0.9375-20	M25 × 1-6H	7.19	15.6	33.5
18/19	40.6	40.6	35.6	38.5	35.8	1.0625-18	M28 × 1-6H	8.26	16.1	38.1
20/21	43.2	43.2	38.1	41.7	38.4	1.1875-18	M31 × 1-6H	8.71	17.73	40.6
22/23	47	47	41.9	44.91	42.2	1.3125-18	M34 × 1-6H	9.68	20.9	43.2
24/25	49.5	49.5	44.5	47.98	47.7	1.4375-18	M37 × 1-6H	10.62	21.67	45.7

NOTES:

1. Variants 10 to 18.
2. Variants 37 to 45.

FIGURE 2(c) – 90° CABLE CLAMP

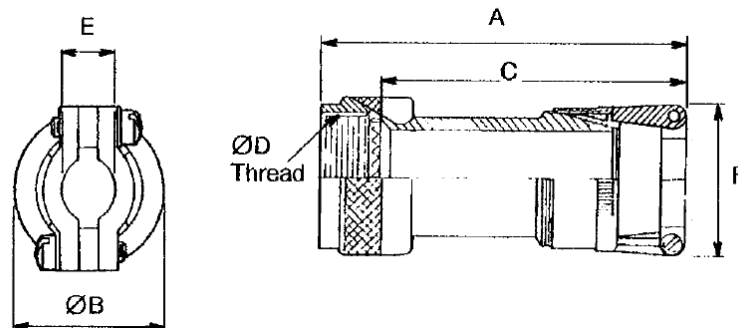


Sizes	A Max.		ØB Max.		C Max.		ØD		E		F Max.	G Max.
	(1)	(2)	(1)	(2)	(1)	(2)	(1) UNEF-2B	(2)	Min.	Max.		
08/09	35.1	30.5	21.79	19.1	29.5	25.7	0.4375-28	M12 × 1-6H	2.49	5.94	21.6	25.4
10/11	35.1	30.5	24.99	21.6	29.5	25.7	0.5625-24	M15 × 1-6H	3.87	5.94	22.9	27.9
12/13	37.1	35.6	29.39	25.4	31.5	30.7	0.6875-24	M18 × 1-6H	4.83	8.33	27.9	27.9
14/15	41.4	36.8	32.4	27.9	35.8	32	0.8125-20	M22 × 1-6H	6.6	11.61	29.2	31.8
16/17	45.7	40.6	35.7	31.8	40.1	35.8	0.9375-20	M25 × 1-6H	7.19	15.6	33.5	33
18/19	46.2	43.2	38.5	35.6	40.6	38.4	1.0625-18	M28 × 1-6H	8.26	16.1	38.1	38.1
20/21	48.3	47	41.7	38.1	42.7	42.2	1.1875-18	M31 × 1-6H	8.71	17.73	40.6	40.6
22/23	51.1	49.5	44.91	41.9	46.2	44.7	1.3125-18	M34 × 1-6H	9.68	20.9	43.2	44.5
24/25	54.6	53.3	47.98	44.5	49	48.5	1.4375-18	M37 × 1-6H	10.62	21.67	45.7	47

NOTES:

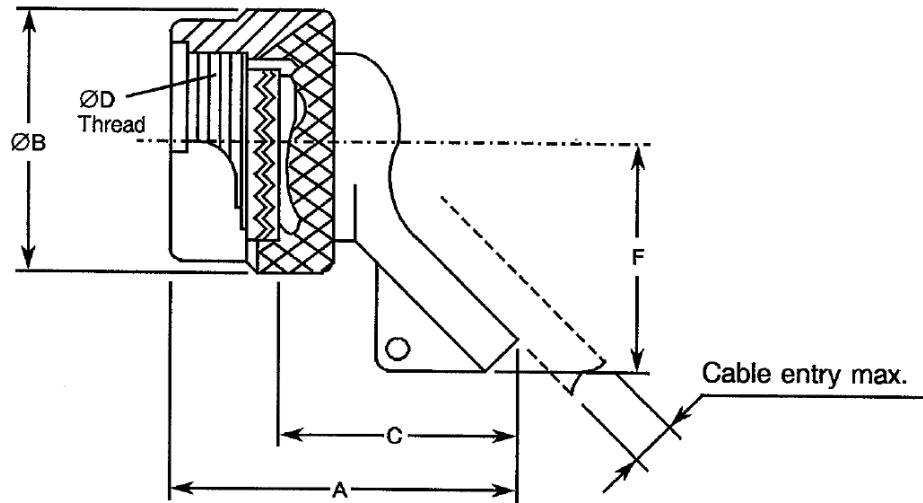
1. Variants 19 to 27.
2. Variants 46 to 54.

FIGURE 2(d) – TERMINATION AND BACKSHELL



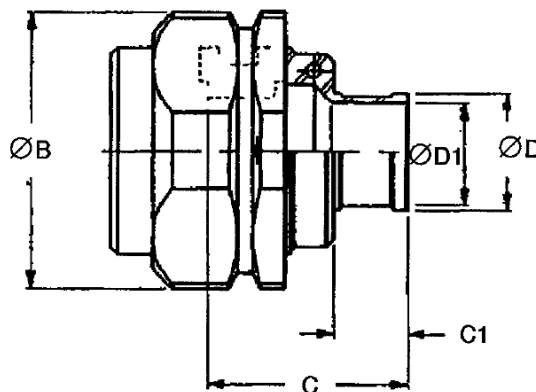
Sizes	A	ØB	C	ØD	E		F
	Max.	Max.	Max.		Min.	Max.	
17	77	31.8	71.4	M25 × 1-6H	6.4	9.5	27.9

FIGURE 2(e) – 45° CABLE CLAMP



Sizes	A Max.	ØB Max.	C Max.	ØD	Cable Entry Max.	F Max.
09	36.3	19.4	26.2	M12 x 1-6H	6.71	22.4
11	36.3	21.6	26.2	M15 x 1-6H	9.96	22.4
13	36.3	25.4	26.2	M18 x 1-6H	12.85	23.9
15	49	27.9	27.7	M22 x 1-6H	16.03	31.8
17	49	31.8	28.2	M25 x 1-6H	19.2	33.3
19	51.6	35.6	30.7	M28 x 1-6H	21.46	35.1
21	53.1	38.1	32	M31 x 1-6H	24.64	38.1
23	53.1	41.9	33	M34 x 1-6H	27.89	42.9
25	56.9	44.5	34	M37 x 1-6H	30.99	44.5

FIGURE 2(f) – STRAIGHT SHORT TERMINATION, SIZE 9

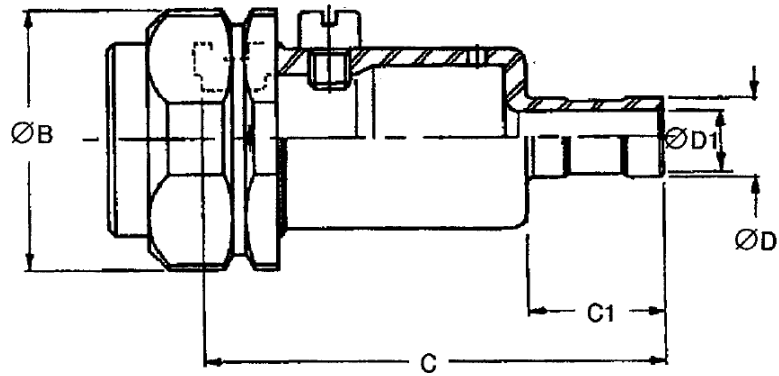


ØB Max.	C Max.	C1 Max.	ØD Max.	ØD1 Max.
20 (1)	14.5	5.5	8.5	7

NOTES:

1. 17mm across flats.

FIGURE 2(g) – STRAIGHT SHIELD TERMINATION, SIZE 9

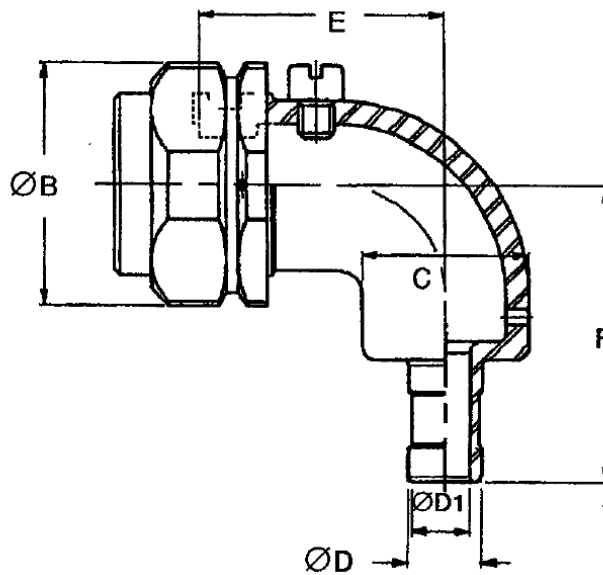


ØB	C	C1	ØD	ØD1	
				Min.	Max.
Max.	Max.	Max.	Max.	4	4.5
20 (1)	34.5	10.5	7		

NOTES:

1. 17mm across flats.

FIGURE 2(h) – 90° SHIELD TERMINATION, SIZE 9



ØB	C	ØD	ØD1		E	F
			Min.	Max.		
Max.	Max.	Max.	4	4.5	Max.	Max.
20 (1)	14	7			20.5	24.5

NOTES:

1. 17mm across flats.

4 REQUIREMENTS

4.1 GENERAL

The complete requirements for procurement of the accessories specified herein are stated in this specification and ESCC Generic Specification No. 3401. Deviations from the Generic Specification, applicable to this specification only, are listed in Para. 4.2.

Deviations from the applicable Generic Specification and this Detail Specification, formally agreed with specific Manufacturers on the basis that the alternative requirements are equivalent to the ESCC requirements and do not affect the components' reliability, are listed in the appendices attached to this specification.

4.2 DEVIATIONS FROM GENERIC SPECIFICATION

4.2.1 Deviations from Special In-process Controls

None.

4.2.2 Deviations from Final Production Tests (Chart II)

(a) Para. 9.5, Magnetism Level: Not applicable.

4.2.3 Deviations from Burn-in and Electrical Measurements (Chart III)

Chart III is not applicable.

4.2.4 Deviations from Qualification Tests (Chart IV)

Qualification testing is not applicable.

4.2.5 Deviations from Lot Acceptance Tests (Chart V)

Lot acceptance testing is not applicable.

4.3 MECHANICAL REQUIREMENTS

4.3.1 Dimension Check

The dimensions of the accessories specified herein shall be verified in accordance with the requirements set out in Para. 9.6 of ESCC Generic Specification No. 3401 and shall conform to those shown in Figure 2 of this specification.

4.3.2 Weight

The maximum weight of the accessories specified herein shall be as shown in Table 1(a) of this specification.

4.4 MATERIALS AND FINISHES

The materials and finishes shall be as specified herein. Where a definite material is not specified, a material which will enable the accessories specified herein to meet the performance requirements of this specification shall be used. Acceptance or approval of any constituent material does not guarantee acceptance of the finished product.

4.4.1 Accessories

The accessory elements shall be made of aluminium alloy, dull low-reflective electroless nickel plated.

4.4.2 Screws and Washers

The screws and washers shall be made of passivated stainless steel.

4.4.3 Magnetism Level

Not applicable.

4.5 MARKING

4.5.1 General

The marking of all components delivered to this specification shall be in accordance with the requirements of ESCC Basic Specification No. 21700 and the following paragraphs. Each component shall be marked in respect of:

- (a) The ESCC Component Number.
- (b) Traceability information.

4.5.2 The ESCC Component Number

Each component shall bear the ESCC Component Number which shall be constituted and marked as follows:

Example: 340106201B

- Detail Specification Number: 3401062
- Type Variant (see Table 1(a)): 01
- Testing Level: B.

The ESCC marking information shall accompany each component in its primary package.

4.5.3 Traceability Information

Traceability information shall be marked in accordance with the requirements of ESCC Basic Specification No. 21700.

4.6 ELECTRICAL MEASUREMENTS (TABLES 2 AND 3)

Not applicable.

4.7 BURN-IN AND ELECTRICAL MEASUREMENTS (TABLES 4 AND 5)

Not applicable.

4.8 ENVIRONMENTAL AND ENDURANCE TESTS (TABLE 6)

Not applicable.

TABLES 2, 3, 4, 5 AND 6

Not applicable.