5F Cable and Cord Fittings

Application and Selection

Application:

Cord and cable fittings are installed to:
- provide means for passing a cord, cable (armored or unarmored) or flexible conduit into an enclosure, through a bulkhead or into a rigid conduit
- form a mechanical grip and water and/or oil resistant seal for cord and unarmored or jacketed armored, round cables
- form a non-slip connection or termination for flexible cord, cable (armored or unarmored), or flexible conduit
- provide grounding continuity for cable armor and flexible conduit

Cable fittings with sealing fitting or epoxy are installed to:
- provide means for passing armored, metal clad, jacketed or unjacketed and unarmored cables through a bulkhead or enclosure in hazardous areas. These fittings are suitable for use in Class I, Groups C, D, locations only when *Chico*® *A* sealing compound or TSC epoxy (TMCX) is used to make the seal in the fitting.*
- form a mechanical grip and water and/or oil-resistant termination
- provide ground continuity of cable armor and flexible conduit

TMC (non-hazardous) and TMCX (hazardous) fittings are designed for use with Type MC jacketed steel or aluminum metal clad cables with interlocked or corrugated armor and Type TC tray cable (TMCX).

LCC cable tray conduit clamps are used for installation on cable tray side rails with inside flanges (requiring inside tray mounting) and outside flanges; LCCF clamps are for use exclusively on inside flanges. LCC/LCCF series cable tray conduit clamps are installed to:
- provide a means of clamping metal conduit (rigid steel or aluminum, IMC and EMT) to cable tray for the exit of power and/or control cables from tray
- provide a means to firmly bond exiting conduit to cable tray for best grounding continuity

TW series THRU-WALL BARRIER® cable/conduit sealing devices are installed to:
- seal cables or conduits penetrating fire-rated walls, ceilings or floors
- restrict entrance of water and dust and contain treated air
- provide a seal for cable/conduit penetrations through steel, masonry or concrete; to restrict the entrance of contaminants through cable/conduit penetrations into clean areas

TGC cable tray grounding conductor clamp provides a means for securely attaching a grounding conductor to cable tray to provide grounding continuity for the entire tray system. TGC cable tray grounding conductor clamps provide a reliable method for carrying ground fault current for equipment protection. TGC clamp may be installed on most types of cable trays – with inside or outside flanges.

Considerations for Selection:

- Selection of the proper device or fitting involves consideration of the type of cable to be installed and the environment that will surround the cable after installation.
- A proper matching of the cable and its fitting is necessary to prevent physical damage to the cable when installed. Some types of cable fittings depend on gripping methods (set screws etc.) which may lead to damage of the cable outer covering. Cooper Crouse-Hinds cord and cable fittings utilize compression of split lead or tapered neoprene bushings to provide high gripping strength for adequate cable support and strain relief without damage to the cable sheath.
- Compression of bushing provides a strong electrical bond that assures grounding continuity.
- Compression of a tapered neoprene bushing, assures the watertight integrity of Cooper Crouse-Hinds fittings. Additional watertightness, to prevent water seepage into the fitting body, can be obtained by use of a potting head filled with a hot pouring compound.
- To meet National Electrical Code requirements for electrical installations in hazardous atmospheres, a sealing fitting may be required in conjunction with the cable or cord fitting.

Standard Materials:

- Cord and cable fittings ½″ through 1″ bodies and gland nuts – steel; larger sizes – *Feraloy*® iron alloy
- TMC/TMCX – copper free aluminum
- LCC/LCCF series bodies – cast malleable iron; hook, set screws and clamping nut – steel
- TW series frames and compression plates – cast malleable iron; sealing material – special elastomeric compound; clamping hardware – steel
- TGC clamp body – cast malleable iron; set screw and clamping screw – steel

Standard Finishes:

- *Feraloy* iron alloy, cast iron and cast malleable iron materials – electrogalvanized and aluminum acrylic paint
- Steel bodies and nuts – electrogalvanized and chromate treatment
- Steel hardware – electrogalvanized

Accessories:

CGB series:
- SG sealing gaskets – for use with locknuts to provide a watertight seal in slip holes of sheet metal structures and boxes

CGS series:
- Sealing compounds – for use in making field cable seals in hazardous locations

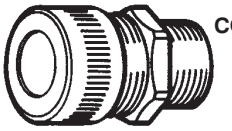
CGB, CGK, CGD and CGE series:
- Wire mesh grips – for strain relief of unarmored cable and portable cord

* With specific cords and cables when installed in accordance with NEC/CEC requirements.

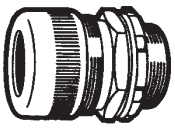
† Registered trademark of E.I. DuPont de Nemours Company.

Cable and Cord Fittings

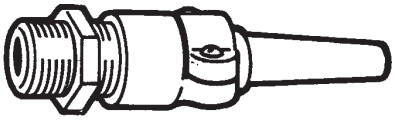
Quick Selector Chart



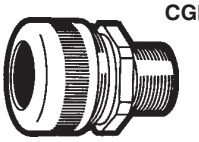
CGB/pg. 64



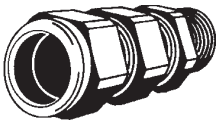
CGB-SG/pg. 68



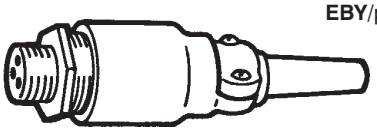
CGB 1013/pg. 72



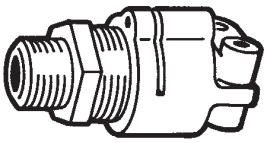
CGFP/pg. 73



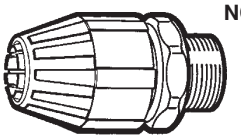
TMC/**TMCX**/pg. 74



EBY/pg. 97



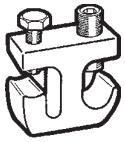
CGBS/pg. 98

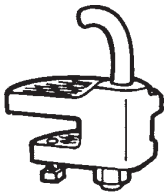


NCG/pg. 67

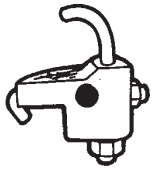
Series	Cable Type	Environment
CGB, CGD, CGE with neoprene bushing; CGB-SG	Portable cords and types MV (unarmored), PLTC, SE (round), TC and UF cables	Class I, Div. 2; dry or wet
CGB1013 series	Portable cord	Class I, Div. 2; dry or wet
CGFP	Portable cord and types MV, CLTC, SE (round), TC and UF jacketed unarmored cables	Class I, Div. 2; dry or wet
TMC/**TMCX**	Type MC jacketed steel or aluminum metal clad cables with interlocked or corrugated armor and Type TC tray cable (TMCX)	Non-hazardous, Class I, Div.; dry or wet
EBY	Portable cord	Class I, Groups B, C & D; Class II, Group G; dry
CGBS	Portable cord and types MV (unarmored), PLTC, SE (round), TC and UF cables	Class I, Groups C & D; Class II, Group G; Class III; wet
NCG	Type SO portable cords	Dry or wet
LCC/**LCCF**	Conduit only, to exit cables out of cable tray	Dry or wet
TGC	Grounding conductor to provide cable tray grounding continuity	Dry or wet
Thru Wall	Cable/conduit sealing device	Dry or wet
TECK	Teck cable	Class II, Groups E, F, G; dry or wet
TWDC	Steel wire armour lead sheath	EEx d IIC/EEx e II; dry or wet
TBDC	Steel wire braid	EEx d IIC/EEx e II; dry or wet
TAB/**TAS**	Steel wire armour, braided or steel tape	EEx d IIC/EEx e II; dry or wet
TACFB/**TACFS**	Steel wire armour, braided or steel tape	EEx d IIC/EEx e II; dry or wet
TUCFB/**TUCFS**	Unarmoured	EEx d IIC/EEx e II; dry or wet
TCCF	Conduit	EEx d IIC/EEx e II; dry or wet
TUSC	Unarmoured or braided	EEx d IIC/EEx e II; dry or wet
CAPRI	Steel wire armour, braided or steel tape	EEx d IIB/EEx e II; dry or wet
LSA	Conduit sealing system	Wet, corrosive, fire rated

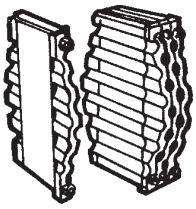
TGC/pg. 100





LCC/**LCCF**/pg. 99





TWB/pg. 101

5F Cord and Cable Fittings

Straight Body Male Thread
Sizes 3/8″ – 3″

Cl. I, Div. 2*, Groups A,B,C,D Wet Locations
Cl. II, Div. 1, Groups E,F,G
Cl. II, Div. 2, Groups F,G
Cl. III

Application:

CGB, CGD and CGE cord and cable fittings with neoprene bushing are for use with portable cords and Types MV (unarmored), PLTC, SE (round), TC and UF cables. CGB, CGD and CGE cord and cable fittings are installed to:

- provide means for passing a cord, cable (unarmored) or flexible conduit into an enclosure, through a bulkhead or into a rigid conduit
- form an environmental seal for cord or unarmored round cables
- form a secure connection or termination for flexible cord, cable (unarmored), or flexible conduit

Features:

- Rugged construction protects cord and cable from damage.
- Compact, permitting close grouping of several cords and/or cables
- Tightening one nut makes watertight seal
- Large range of NPT sizes for use with any conduit system
- Available for straight, 45° or 90° entrance
- Many combinations of gland nuts and bushings can be used to make up connectors, provided parts of the same form are used together

Standard Materials:

- CGB series – Form A through Form D bodies and gland nuts – steel. Form E & F bodies and gland nuts – *Feraloy*® iron alloy
- CGD & CGE series – all bodies are *Feraloy* iron alloy. Form A through Form D gland nuts – steel. Form E & F gland nuts – *Feraloy* iron alloy.
- Bushing – neoprene

Standard Finishes:

- Steel – zinc electroplate with chromate finish coat
- *Feraloy* – electrogalvanized and aluminum acrylic paint

Size Ranges:

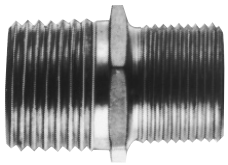
- Cable O.D. – .125″ to 2.500″
- NPT thread – ⅜″ to 3 ″

Certifications and Compliances:

- UL Standard: 514B
- NEC: Class I, Division 2*; Class II, Class III
- Wet locations
- CSA Standard: C22.2 No. 18, 25
- CEC: Class II, Division 1, Groups E,F,G; Class II, Division 2, Groups F,G; Class III

Complete with gland nut and Neoprene bushing

Body only



Neoprene bushing

CGB With Gland Nut and Tapered Neoprene Bushing‡

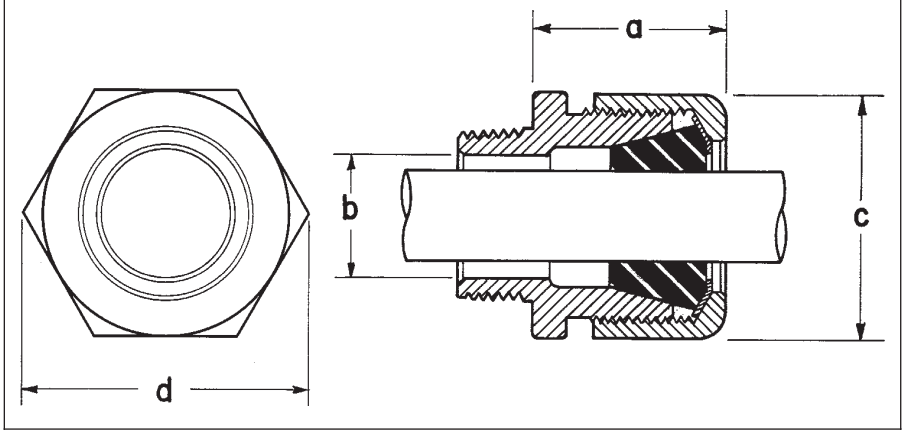
Male Thread NPT Trade Size	Form	Cord Range Dia.	Inside Body Dia.	Complete with Gland Nut & Neoprene Bushing ♦ Cat. #	Body Only Cat. #	Neoprene Bushing Cat. #
⅜	A	.125 to .250	.469	CGB3814	CGB:17123B	BUSH214
⅜	A	.250 to .375	.469	CGB3816	CGB:17123B	BUSH216
⅜	A	.375 to .437	.469	CGB3817	CGB:17123B	BUSH217
⅜	B	.125 to .250	.500	CGB3892	CGB:4315A	BUSH92
⅜	B	.250 to .375	.500	CGB3893	CGB:4315A	BUSH93
⅜	B	.375 to .500†	.500	CGB3894	CGB:4315A	BUSH94
½	A	.125 to .250	.469	CGB114§	CGB:17122B	BUSH214
½	A	.250 to .375	.469	CGB116§	CGB:17122B	BUSH216
½	A	.375 to .437	.469	CGB117§	CGB:17122B	BUSH217
½	B	.125 to .250	.625	CGB192§	CGB:0104355	BUSH92
½	B	.250 to .375	.625	CGB193§	CGB:0104355	BUSH93
½	B	.375 to .500	.625	CGB194§	CGB:0104355	BUSH94
½	B	.500 to .625	.625	CGB195§	CGB:0104355	BUSH05
½	C	.625 to .750†	.625	CGB196§	CGB:1702A	BUSH96
½	C	.750 to .875†	.625	CGB197§	CGB:1702A	BUSH97
¾	B	.125 to .250	.688	CGB292§	CGB:0104438§	BUSH92
¾	B	.250 to .375	.688	CGB293§	CGB:0104438§	BUSH93
¾	B	.375 to .500	.688	CGB294§	CGB:0104438§	BUSH94
¾	B	.500 to .625	.688	CGB295§	CGB:0104438§	BUSH05
¾	C	.625 to .750†	.750	CGB296§	CGB:4318A	BUSH96
¾	C	.750 to .875†	.750	CGB297§	CGB:4318A	BUSH97
¾	D	.875 to 1.000†	.813	CGB298§	CGB:4320A	BUSH98

Continued on page 65.

Dimensions (see next page)

* §†‡ ♦ For description of symbols, see page 65.

CGB Series



Gland nut

Wire mesh grip

Gland Nut Cat. #	Wire Mesh Grip ♦ Cat. #
NUT217	
NUT217	
NUT217	
NUT94	
NUT94	
NUT94	RPE417-115
NUT217	
NUT217	
NUT217	
NUT94	
NUT94	
NUT94	RPE417-115
NUT94	RPE417-116
NUT95	RPE417-117
NUT95	RPE421-119
NUT94	
NUT94	
NUT94	RPE417-115
NUT94	RPE417-116
NUT95	RPE417-117
NUT95	RPE421-119
NUT98	16676N

Dimensions (see previous page for line art)

CGB assembly

Thread Size	Form	a	b	c	d
3/8	A	1 1/16	15/32	7/8	7/8
3/8	B	1 5/16	1/2	1 3/16	1 3/16
1/2	A	1	15/32	7/8	1 3/16
1/2	B	1 5/16	5/8	1 3/16	1 9/32
1/2	C	1 3/4	5/8	1 5/8	1 21/32
3/4	B	1 3/8	1 1/16	1 3/16	1 13/32
3/4	C	1 3/4	3/4	1 5/8	1 1/4
3/4	D	2 1/2	1 3/16	2 1/4	2 1/8
1	B	1 3/8	1 1/16	1 3/16	1 5/8
1	C	1 11/16	31/32	1 5/8	1 7/8
1	D	2 3/8	1 1/32	2 1/4	2 3/8
1 1/4	D	2 5/16	1 1/4	2 1/4	2 1/4
1 1/4	E	2 5/8	1 1/4	3 1/8	3
1 1/2	D	2 5/16	1 7/16	2 1/4	2 1/4
1 1/2	E	2 5/8	1 7/16	3 1/8	3
2	E	2 5/8	1 29/32	3 1/8	3
2	F	2 9/16	1 7/8	3 7/8	3 3/4
2 1/2	E	2 5/8	2 1/16	3 1/8	3 1/8
2 1/2	F	2 5/8	2 5/16	3 7/8	3 3/4
3	F	2 5/8	2 3/4	3 7/8	3 3/4

PORTABLE CORD SELECTION CHART**

2 conductors	Cord Type	SV0, SV, SVT	SJ, SJ0 SJT, SJT0			S, S0, ST, ST0															
	Cord Size	#18	#18	#16	#14	#18	#16	#14	#12	#10	#8	#6	#4	#3	#2	#1	#1/0	#2/0	#3/0	#4/0	#250
	Cord Diameter, prox.	.250	.305	.330	.365	.380	.400	.540	.615	.675	.810	.940	1.080	1.170	1.270	1.440	1.520	1.650	1.770	1.920	2.160

3 conductors	Cord Type	SV0, SV, SVT	SJ, SJ0 SJT, SJT0			S, S0, ST, ST0															
	Cord Size	#18	#18	#16	#14	#18	#16	#14	#12	#10	#8	#6	#4	#3	#2	#1	#1/0	#2/0	#3/0	#4/0	#250
	Cord Diameter, prox.	.255	.325	.350	.385	.390	.420	.565	.645	.710	.850	1.000	1.070	1.240	1.340	1.510	1.650	1.750	1.800	2.070	2.390

4 conductors	Cord Type	CORD TYPE SJ, SJ0, SJT, SJT0			S, S0, ST, ST0														
	Cord Size	#18	#16	#14	#18	#16	#14	#12	#10	#8	#6	#4	#3	#2	#1	#1/0	#2/0	#3/0	#4/0
	Cord Diameter, prox.	.355	.385	.425	.420	.450	.610	.700	.765	.970	1.100	1.270	1.340	1.480	1.580	1.790	1.930	2.070	2.260

5 conductors	Cord Type	CORD TYPE S, S0, ST, ST0						
	Cord Size	#18	#16	#14	#12	#10	#8	#6
	Cord Diameter, prox.	.500	.540	.695	.760	.830	1.060	1.180

** Cable diameters are approximate and may vary depending on the manufacturer. Check cord/cable manufacturer for actual diameters.

† Remove sufficient outer covering of cord or cable to pass conductors through the connector body.

‡ A wide variety of connectors may be made up using combinations of bodies, gland nuts and Neoprene bushings providing all parts are of the same form.

♦ Order wire mesh grip separately.

§ Available in copper-free aluminum. To order, add suffix SA to Cat. No.

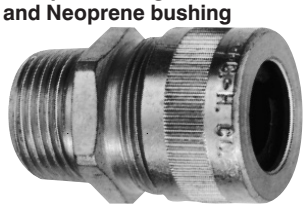
* May be used in hazardous locations with specific cords and cables when installed in accordance with NEC/CEC requirements.

5F Cord and Cable Fittings

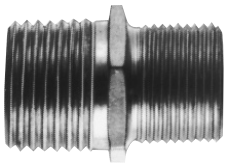
Straight Body Male Thread
Sizes 3/8″ – 3″

Cl. I, Div. 2*, Groups A,B,C,D
Cl. II, Div. 1, Groups E,F,G
Cl. II, Div. 2, Groups F,G
Cl. III
Wet Locations

Complete with gland nut and Neoprene bushing



Body only



Neoprene bushing

Gland nut

Wire mesh grip

CGB With Gland Nut and Tapered Neoprene Bushing‡

Thread Size	Form	Cord Range Dia.	Inside Body Dia.	Complete with Gland Nut & Neoprene Bushing ♦ Cat. #	Body Only Cat. #	Neoprene Bushing Cat. #	Gland Nut Cat. #	Wire Mesh Grip ♦ Cat. #
1	B	.250 to .375	.688	CGB393§	CGB:19478A	BUSH93	NUT94	
1	B	.375 to .500	.688	CGB394§	CGB:19478A	BUSH94	NUT94	RPE417-115
1	C	.500 to .625	.969	CGB395§	CGB:4319A	BUSH95	NUT95	RPE417-129
1	C	.625 to .750	.969	CGB396§	CGB:4319A	BUSH96	NUT95	RPE417-117
1	C	.750 to .875	.969	CGB397§	CGB:4319A	BUSH97	NUT95	RPE421-119
1	C	.875 to 1.000†	.969	CGB3239§	CGB:4319A	BUSH239	NUT95	RPE421-120
1	D	.875 to 1.000†	1.031	CGB398§	CGB:4321A	BUSH98	NUT98	16676N
1	D	1.000 to 1.188†	1.031	CGB399§	CGB:4321A	BUSH99	NUT98	RPE421-121
1	D	1.188 to 1.375†	1.031	CGB3911§	CGB:4321A	BUSH911	NUT98	RPE433-122
1¼	D	.875 to 1.000	1.250	CGB498	CGB:4322A	BUSH98	NUT98	16676N
1¼	D	1.000 to 1.188	1.250	CGB499	CGB:4322A	BUSH99	NUT98	RPE421-121
1¼	D	1.188 to 1.375†	1.250	CGB4911	CGB:4322A	BUSH911	NUT98	RPE433-122
1¼	E	1.375 to 1.625†	1.250	CGB4913	CGB:5472B	BUSH913	NUT913	RPE433-123
1¼	E	1.625 to 1.875†	1.250	CGB4915	CGB:5472B	BUSH915	NUT913	17317N
1½	D	.875 to 1.000	1.438	CGB598	CGB:5397B	BUSH98	NUT98	16676N
1½	D	1.000 to 1.188	1.438	CGB599	CGB:5397B	BUSH99	NUT98	RPE421-121
1½	D	1.188 to 1.375	1.438	CGB5911	CGB:5397B	BUSH911	NUT98	RPE433-122
1½	E	1.375 to 1.625†	1.438	CGB5913	CGB:5473B	BUSH913	NUT913	RPE433-123
1½	E	1.625 to 1.875†	1.438	CGB5915	CGB:5473B	BUSH915	NUT913	17317N
2	E	1.375 to 1.625	1.875	CGB6913	CGB:5474B	BUSH913	NUT913	RPE433-123
2	E	1.625 to 1.875†	1.875	CGB6915	CGB:5474B	BUSH915	NUT913	17317N
2	F	1.875 to 2.188†	1.875	CGB6917	CGB:5475B	BUSH917	NUT917	17345N ♦ ♦
2	F	2.188 to 2.500†	1.875	CGB6920	CGB:5475B	BUSH917	NUT917	16772N ♦ ♦ ♦
2½	E	1.375 to 1.625	2.062	CGB7913	CGB:1278B	BUSH913	NUT913	RPE433-123
2½	E	1.625 to 1.875	2.062	CGB7915	CGB:1278B	BUSH915	NUT913	17317N
2½	F	1.875 to 2.188	2.313	CGB7917		BUSH917		17345N ♦ ♦
2½	F	2.188 to 2.500	2.313	CGB7920		BUSH920		16772N ♦ ♦ ♦
3	F	1.875 to 2.188	2.750	CGB8917		BUSH917		17345N ♦ ♦
3	F	2.188 to 2.500	2.750	CGB8920		BUSH920		16772N ♦ ♦ ♦

NOTE: Use CGFP series on page 73 for larger sizes.

See page 64 for dimensions.

§ Available in copper-free aluminum. To order, add suffix SA to Cat. No.

* May be used in hazardous locations with specific cords and cables when installed in accordance with NEC/CEC requirements.

† Remove sufficient outer covering of cord or cable to pass conductors through the connector body.

‡ A wide variety of connectors may be made up using combinations of bodies, gland nuts and Neoprene bushings providing all parts are of the same form.

♦ Order wire mesh grip separately.

Diameter Cord Range Wire Mesh Grip	Neoprene Bushing
♦ ♦ 1.875 to 2.000	1.875 to 2.188
♦ ♦ ♦ 2.000 to 2.250	2.188 to 2.500

Cord And Cable Connectors
NCG Series Nonmetallic Cord Grips

Applications

For use with portable cord, NCG Series watertight cord grips terminate and protect conductors from mechanical damage due to vibration and movement. A neoprene bushing seals out oils, coolants, water, dust and other abusive agents. NCG cord grips may be used with types S, SO, STO, SJ, SJT, SJTO and SVO portable cords.

Typical applications include the termination of wiring for:
- machine tools
- motors
- transformers
- food processing equipment
- robotics
- air conditioning units
- illuminated signs
- terminal boxes
- control cabinets

Standard Materials

- cable gland body and nut - polyamide 6
- bushing - neoprene
- locknut - polyamide 6

Features

- Available in ⅜″ to 1″ trade sizes.
- Neoprene bushings cover a large cable range, reducing the number of different fittings required.
- Polyamide nonmetallic construction stands up to most corrosive environments.
- Polyamide locknut available, order separately.
- UL listed and cUL third party certified.
- Rain-tight and watertight construction for outdoor use.
- Tightening one nut creates watertight seal.

Certifications & Compliances

- UL Standard 514B
- cUL to CSA Standard C22.2 No.18
- IP 68
- NEMA 4X Watertight
- Zone 2, Division 2 use per Code

Ordering Information

TRADE SIZE	CABLE RANGE INCHES (MM)	CATALOG NUMBER	CARTON QTY.
⅜″	0.1-0.35 (2.5-8)	NCG38-35	25
½″	0.20-0.50 (5-12)	NCG50-50	25
¾″	0.35-0.75 (9-18)	NCG75-75	25
1″	0.55-1.00 (14-25)	NCG100-100	20

Locknuts – must be ordered separately

TRADE SIZE	CATALOG NUMBER	CARTON QTY.
⅜″	10N	25
½″	11N	25
¾″	12N	25
1″	13N	20

5F Cord and Cable Fittings

Straight Body Male Thread Sealing Gaskets and Locknuts Sizes 1/2″ – 1″

Cl. I, Div. 2*, Groups A,B,C,D
Cl. II, Div. 1, Groups E,F,G
Cl. II, Div. 2, Groups F,G
Cl. III
Wet Locations

Application:

For use with portable cord and types MV (unarmored), PLTC, SE (round), TC and UF cables.
CGB – SG cord and cable fittings are installed to:
- provide means for passing a cord or cable into an enclosure or through a bulkhead
- form a seal for cord or cable

Features:

- Rugged construction protects cord and cable from damage
- Compact, permitting close grouping of several cords and/or cables
- Tightening one nut makes watertight seal
- Large range of NPT sizes for use with any conduit system
- Available for straight entrance
- Armored sealing gaskets facilitate assembly of connectors to sheet metal boxes and cabinets. The steel ring positively retains the PVC gasket for a distortion-free 100% seal; it can't squirt out of the body-to-box joint

Standard Materials:

- Form B through Form D bodies and gland nuts – steel. Forms E & F bodies and gland nuts – *Feraloy*® iron alloy
- Bushing – neoprene
- Sealing gasket – steel and PVC

Standard Finishes:

- Steel – electrogalvanized with chromate treatment
- *Feraloy* iron alloy – electrogalvanized and aluminum acrylic paint
- PVC – natural

Size Ranges:

- Cable O.D. – .125″ to 2.50″
- NPT thread – ½″ to 1″

Certifications and Compliances:

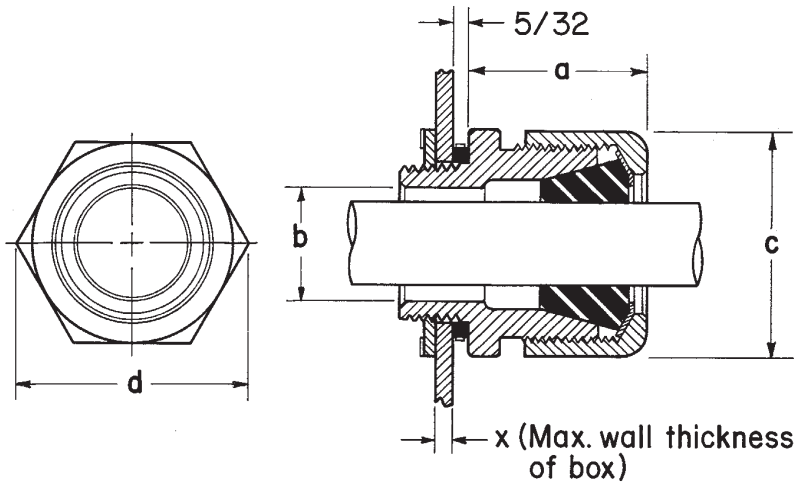
- UL Standard: 514B
- CSA Standards: C22.2
- NEC/CEC: Class I, Division 2*
- Wet locations

Complete with locknut, sealing gasket, gland nut and Neoprene bushing.

Dimensions

Thread Size	Form	a	b	c	d	x
½	B	1 5/16	5/8	1 3/16	1 9/32	3/16
½	C	1 3/4	5/8	1 5/8	1 21/32	3/16
¾	C	1 3/4	3/4	1 5/8	1 21/32	3/16
¾	D	2 1/2	13/16	2 1/4	2 1/8	3/16
1	C	1 11/16	31/32	1 5/8	1 7/8	1/4
1	D	2 3/8	1 1/32	2 1/4	2 3/8	3/16

CGB – SG Series



* May be used in hazardous locations with specific cords and cables when installed in accordance with NEC/CEC requirements.

Cord and Cable Fittings

Straight Body Male Thread Sealing Gaskets and Locknuts Sizes 1/2″ – 1″

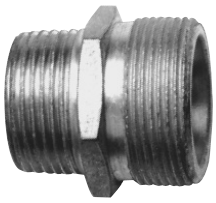
Cl. I, Div. 2*, Groups A,B,C,D
Cl. II, Div. 1, Groups E,F,G
Cl. II, Div. 2, Groups F,G
Cl. III
Wet Locations*

Complete with locknut, sealing gasket, gland nut and Neoprene bushing

Locknut

Sealing gasket

Body only



Neoprene bushing

Gland nut

Wire mesh grip

CGB-SG With Locknut, Sealing Gasket, Gland Nut and Tapered Neoprene Bushing‡

Thread Size	Form	Cord Range Dia.	Inside Body Dia.	Complete with Locknut, Sealing Gasket, Gland Nut & Neoprene Bushing ♦ Cat. #	Sealing Gasket Cat. #	Body Only Cat. #	Neoprene Bushing Cat. #	Gland Nut Cat. #	Wire Mesh Grip ♦ Cat. #
½	B	.125 to .250	.625	CGB192-SG	SG1	CGB:0104355	BUSH92	NUT94	
½	B	.250 to .375	.625	CGB193-SG	SG1	CGB:0104355	BUSH93	NUT94	
½	B	.375 to .500	.625	CGB194-SG	SG1	CGB:0104355	BUSH94	NUT94	RPE417-115
½	B	.500 to .625	.625	CGB195-SG	SG1	CGB:0104355	BUSH05	NUT94	RPE417-116
½	C	.625 to .750†	.625	CGB196-SG	SG1	CGB:1702A	BUSH96	NUT95	RPE417-117
½	C	.750 to .875†	.625	CGB197-SG	SG1	CGB:1702A	BUSH97	NUT95	RPE421-119
¾	C	.625 to .750†	.750	CGB296-SG	SG2	CGB:4318A	BUSH96	NUT95	RPE417-117
¾	C	.750 to .875†	.750	CGB297-SG	SG2	CGB:4318A	BUSH97	NUT95	RPE421-119
¾	D	.875 to 1.000†	.813	CGB298-SG	SG2	CGB:4320A	BUSH98	NUT98	16676N
1	C	.500 to .625	.969	CGB395-SG	SG3	CGB:4319A	BUSH95	NUT95	RPE417-129
1	C	.625 to .750	.969	CGB396-SG	SG3	CGB:4319A	BUSH96	NUT95	RPE417-117
1	C	.750 to .875	.969	CGB397-SG	SG3	CGB:4319A	BUSH97	NUT95	RPE421-119
1	D	.875 to 1.000†	1.031	CGB398-SG	SG3	CGB:4321A	BUSH98	NUT98	16676N
1	D	1.000 to 1.188†	1.031	CGB399-SG	SG3	CGB:4321A	BUSH99	NUT98	RPE421-121
1	D	1.188 to 1.375†	1.031	CGB3911-SG	SG3	CGB:4321A	BUSH911	NUT98	RPE433-122

* May be used in hazardous locations with specific cords and cables when installed in accordance with NEC/CEC requirements.

† Remove sufficient outer covering of cord or cable to pass conductors through the connector body.

‡ A wide variety of connectors may be made up using combinations of bodies, gland nuts and Neoprene bushings, providing all parts are of the same form.

♦ Order wire mesh grip separately.

5F Cord and Cable Fittings

45° Angle Body Male Thread
Sizes 1/2″ - 3/4″

Cl. I, Div. 2*, Groups A,B,C,D
Cl. II, Div. 1, Groups E,F,G
Cl. II, Div. 2, Groups F,G
Cl. III
Wet Locations*

Complete with gland nut and Neoprene bushing

Body only

Neoprene bushing

Gland nut

Wire mesh grip

CGD 45° With Gland Nut and Tapered Neoprene Bushing‡

Thread Size	Form	Cord Range Dia.	Inside Body Dia.	Complete with Gland Nut & Neoprene Bushing ♦ Cat. #	Body Only Cat. #	Neoprene Bushing Cat. #	Gland Nut Cat. #	Wire Mesh Grip ♦ Cat. #
½	B	.125 to .250	.500	CGD192	CGD:3832A	BUSH92	NUT94	
½	B	.250 to .375	.500	CGD193	CGD:3832A	BUSH93	NUT94	
½	B	.375 to .500†	.500	CGD194	CGD:3832A	BUSH94	NUT94	RPE417-115
½	B	.500 to .625†	.500	CGD195	CGD:3832A	BUSH05	NUT94	RPE417-116
½	C	.625 to .750†	.500	CGD196	CGD:5636B	BUSH96	NUT95	RPE417-117
½	C	.750 to .875†	.500	CGD197	CGD:5636B	BUSH97	NUT95	RPE421-119
¾	B	.125 to .250	.688	CGD292	CGD:3967B	BUSH92	NUT94	
¾	B	.250 to .375	.688	CGD293	CGD:3967B	BUSH93	NUT94	
¾	B	.375 to .500	.688	CGD294	CGD:3967B	BUSH94	NUT94	RPE417-115
¾	B	.500 to .625	.688	CGD295	CGD:3967B	BUSH05	NUT94	RPE417-116
¾	C	.625 to .750†	.688	CGD296	CGD:5643B	BUSH96	NUT95	RPE417-117
¾	C	.750 to .875†	.688	CGD297	CGD:5643B	BUSH97	NUT95	RPE421-119

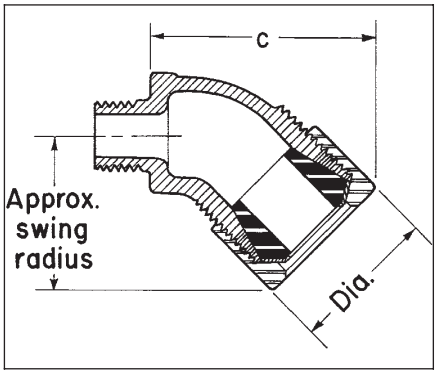
* May be used in hazardous locations with specific cords and cables when installed in accordance with NEC/CEC requirements.

† Remove sufficient outer covering of cord or cable to pass conductors through the connector body.

‡ A wide variety of connectors may be made up using combinations of bodies, gland nuts and Neoprene bushings, providing all parts are of the same form.

♦ Order wire mesh grip separately.

Dimensions



CGD assembly

Cat. #	Approx. Swing Radius	Dia.	c
CGD192	1 3/16	1 3/16	1 11/16
CGD193	1 3/16	1 3/16	1 11/16
CGD194	1 3/16	1 3/16	1 11/16
CGD195	1 3/16	1 3/16	1 11/16
CGD196	1 11/16	1 5/8	2 1/16
CGD197	1 11/16	1 5/8	2 1/16
CGD292	1 1/4	1 9/64	1 15/16
CGD293	1 1/4	1 9/64	1 15/16
CGD294	1 1/4	1 1/8	1 15/16
CGD295	1 1/4	1 1/8	1 15/16
CGD296	1 11/16	1 5/8	2
CGD297	1 11/16	1 5/8	2

Cord and Cable Fittings

90° Angle Body Male Thread
Sizes 1/2″ - 1″

Cl. I, Div. 2*, Groups A,B,C,D
Cl. II, Div. 1, Groups E,F,G
Cl. II, Div. 2, Groups F,G
Cl. III
Wet Locations*

Body Only

Optional Sealing Gasket§

Optional Locknut§

Complete with gland nut, Neoprene bushing, optional locknut and sealing gasket§

Neoprene Bushing

Gland Nut

Optional Wire Mesh Grip ♦

CGE 90° With Gland Nut and Tapered Neoprene Bushing

Thread Size	Form	Cord Range Dia.	Inside Body Dia.	Complete with Gland Nut & Neoprene Bushing ♦ Cat. #	Wire Mesh Grip ♦ Cat. #
½	B	.125 to .250	.531	CGE192	
½	B	.250 to .375	.531	CGE193	
½	B	.375 to .500	.531	CGE194	RPE417-115
½	B	.500 to .625†	.531	CGE195	RPE417-116
½	C	.625 to .750†	.500	CGE196	RPE417-117
½	C	.750 to .875†	.500	CGE197	RPE421-119
¾	B	.125 to .250	.688	CGE292	
¾	B	.250 to .375	.688	CGE293	
¾	B	.375 to .500	.688	CGE294	RPE417-115
¾	B	.500 to .625	.688	CGE295	RPE417-116
¾	C	.625 to .750†	.688	CGE296	RPE417-117
¾	C	.750 to .875†	.688	CGE297	RPE421-119
1	C	.500 to .625	.906	CGE395	RPE417-129
1	C	.625 to .750	.906	CGE396	RPE417-117
1	C	.750 to .875	.906	CGE397	RPE421-119
1	C	.875 to 1.000†	.906	CGE3239	RPE421-120
1	D	.875 to 1.000†	.906	CGE398	16676N
1	D	1.000 to 1.188†	.906	CGE399	RPE421-121
1	D	1.188 to 1.375†	.906	CGE3911	RPE433-122

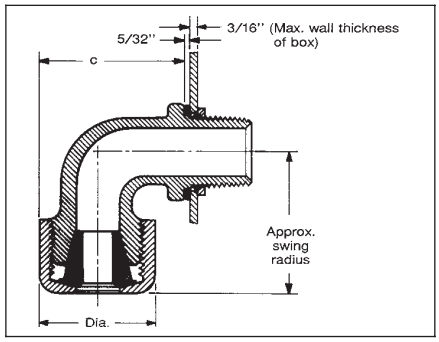
§½″ and ¾″ sizes can be furnished with sealing gasket and locknut. To order, add suffix ''SG'' to cat. no. For example: CGE192-SG. Application, features, materials and finishes are detailed on page 68.

* May be used in hazardous locations with specific cords and cables when installed in accordance with NEC/CEC requirements.

† Remove sufficient outer covering of cord or cable to pass conductors through the connector body.

♦ Order wire mesh grip separately.
Diameter Cord Range
Wire Mesh Grip

Dimensions



CGE assembly

Cat. #	Approx. Swing Radius	Dia.	c
CGE192	1 9/16	1 3/16	1 7/16
CGE193	1 9/16	1 3/16	1 7/16
CGE194	1 9/16	1 3/16	1 7/16
CGE195	1 9/16	1 3/16	1 7/16
CGE196	1 7/8	1 5/8	2
CGE197	1 7/8	1 5/8	2
CGE292	1 5/8	1 3/16	1 13/32
CGE293	1 5/8	1 3/16	1 13/32
CGE294	1 5/8	1 3/16	1 13/32
CGE295	1 5/8	1 3/16	1 13/32
CGE296	2	1 5/8	1 7/8
CGE297	2	1 5/8	1 7/8
CGE395	2 3/16	1 5/8	2 3/32
CGE396	2 3/16	1 5/8	2 3/32
CGE397	2 3/16	1 5/8	2 3/32
CGE398	2 5/8	2 1/4	2 21/32
CGE399	2 5/8	2 1/4	2 21/32
CGE3239	2 3/16	1 5/8	2 3/32
CGE3911	2 5/8	2 1/4	2 21/32

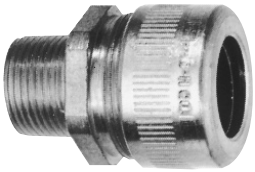
5F Cord and Cable Fittings

Straight Body Male Thread
Portable Cord

Cl. I, Div. 2*, Groups A,B,C,D
Cl. II, Div. 1, Groups E,F,G
Cl. II, Div. 2, Groups F,G
Cl. III
Wet Locations

For portable cord

With oil impregnated flax packing



CGB with Tapered Neoprene Bushing and Cable Clamp

For Portable Cord*

Size	Range Dia.	Cat. #
½	.312 to .437	CGB1013
½	.375 to .500	CGB1014
½	.500 to .625	CGB1015
¾	.312 to .437	CGB2013
¾	.375 to .500	CGB2014
¾	.500 to .625	CGB2015

CGB with Oil Impregnated Flax Packing

Size	Cable Dia.	Cat. #
½	.250 to .625	CGB1
¾	.594 to .688	CGB2
1	.688 to .968	CGB3
1¼	.906 to 1.219	CGB4
1½	1.219 to 1.438	CGB5
2	1.438 to 1.875	CGB6
2½	1.875 to 2.313	CGB7
3	2.313 to 2.625	CGB8

* May be used in hazardous locations with specific cords and cables when installed in accordance with NEC/CEC requirements.

Application:

- CGFP series for use with portable cords and Types MV (unarmored), PLTC, SE (round), TC and UF jacketed unarmored cables
- CGFP cord and cable fittings are installed to:
- Form a mechanically gripping water and/or oiltight termination
- SG series sealing gaskets can be use used with locknuts to provide a watertight seal in slip holes of sheet metal structures and boxes.

RSMP series terminating hub plates can be used on panels, junction boxes and bulkheads.

Features:

- Superior pull out strength.
- Rugged construction protects cable against mechanical damage.
- Compact size permitting close grouping of cables.
- Complete range of sizes for all types of cable.
- Provide double seal against water entry.

Standard Materials:

- ½″ to 1″ body and gland nut – turned steel
- Over 1″ body and gland nut – *Feraloy*® iron alloy

Standard Finishes:

- Steel – electrogalvanized and chromate treatment
- *Feraloy* iron alloy – electrogalvanized with aluminum acrylic paint

Size Ranges:

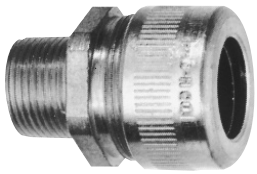
- Cable O.D. – .125″ to 3.500″
- NPT threads – ½″ to 4″

Certifications and Compliances:

- UL Standard: 514B
- NEC: Class I, Division 2*
- Wet locations

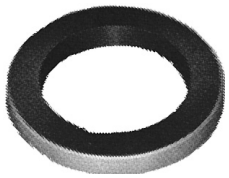
* May be used in hazardous locations with specific cords and cables when installed in accordance with NEC requirements.

‡ All parts of the same form may be used together in an assembly.



CGFP With Neoprene Bushing for Wet Locations

Male Thread Size	O.D. Range	Form‡	Cat. #
½	.125 to .250	B	CGFP192
½	.250 to .375	B	CGFP193
½	.375 to .500	B	CGFP194
½	.500 to .625	B	CGFP195
¾	.625 to .750	C	CGFP296
¾	.750 to .875	C	CGFP297
¾	.875 to 1.000	C	CGFP2239
1	.625 to .750	C	CGFP396
1	.750 to .875	C	CGFP397
1	.875 to 1.000	C	CGFP3239
1¼	1.000 to 1.188	D	CGFP499
1¼	1.188 to 1.375	D	CGFP4911
1½	1.000 to 1.188	D	CGFP599
1½	1.188 to 1.375	D	CGFP5911
2	1.375 to 1.625	E	CGFP6913
2	1.625 to 1.875	E	CGFP6915
2½	1.875 to 2.188	F	CGFP7917
2½	2.188 to 2.500	F	CGFP7920
3	1.875 to 2.188	F	CGFP8917
3	2.188 to 2.500	F	CGFP8920
3½	2.500 to 3.000	G	CGFP923
3½	3.000 to 3.500	G	CGFP927
4	2.500 to 3.000	G	CGFP1023
4	3.000 to 3.500	G	CGFP1027



Sealing Gaskets

For CGF terminators

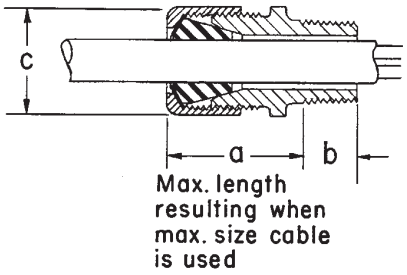
Armored sealing gaskets can be used with locknuts for watertight seals in slip holes of sheet metal structures and boxes. The steel ring positively retains the PVC gasket for a distortion-free 100% seal.

Conduit Size	Cat. #
⅜ – ½	SG1
¾	SG2
1	SG3
1¼	SG4
1½	SG5
2	SG6
2½	SG7
3	SG8
3½	SG9
4	SG10

Dimensions

CGFP Cat. #	a	b	c (max.)
CGFP192	1⅜	¾	1 9/32
CGFP193	1⅜	¾	1 9/32
CGFP194	1⅜	¾	1 9/32
CGFP195	1⅜	¾	1 9/32
CGFP296	1¾	¾	1 25/32
CGFP297	1¾	¾	1 25/32
CGFP2239	1¾	¾	1 25/32
CGFP396	1¾	15/16	1 25/32
CGFP397	1¾	15/16	1 25/32
CGFP3239	1¾	15/16	1 25/32
CGFP499	2⅜	15/16	2¼
CGFP4911	2⅜	15/16	2¼
CGFP599	2⅜	15/16	2¼
CGFP5911	2⅜	15/16	2¼
CGFP6913	3¼	1	3¼
CGFP6915	3¼	1	3¼
CGFP7917	3¼	1 7/16	3⅞
CFGP7920	3¼	1 7/16	3⅞
CGFP8917	3¼	1½	3⅞
CGFP8920	3¼	1½	3⅞
CGFP923	4¼	1 9/16	5½
CGFP927	4¼	1 9/16	5½
CGFP1023	4¼	1⅝	5½
CGFP1027	4¼	1⅝	5½

CGFP



5F TERMINATOR™ Cable Fittings

for Metal Clad Cable and Tray Cable♦
TMC/TMCX Series

Cl. I, Div. 1†, Groups A*,B,C,D
Cl. II, Div. 1†, Groups F,G
Cl. III♦, Div. 1† & 2
Wet Locations

Application:

Terminator cable fittings are designed for use with the following cables:
- Type MC – corrugated aluminum, interlocked aluminum and interlocked steel
- Type TC Tray Cable♦

Terminator cable fittings are installed:
- to provide a means for terminating type MC and TC cable at junction boxes, control centers, panelboards and enclosures for motor control and electrical distribution equipment
- to form a mechanical watertight connection
- to provide ground continuity of cable armor
- indoors and outdoors in wet and dry locations
- in vertical and horizontal cable runs
- in non-hazardous and hazardous (classified) locations. Both TMC and TMCX series can be used in Class I and Class II, Division 2 locations. TMCX series may be used in Division 1 locations and when a seal is required.

Features:

- Ten fittings cover cable O.D. range of .440″ to 4.020″, in ½″ to 4″ NPT sizes.
- Quick and easy to install. No disassembly is required for TMC installation.
- Unique stainless steel grounding/retaining spring with copper plate finish provides positive ground continuity and superior pull-out resistance exceeding that required by UL/CSA.
- Neoprene bushing provides a watertight seal.
- Lightweight, corrosion-resistant/copper-free aluminum construction provides long, maintenance-free service life in industrial environments
- Optional all brass construction available.
- Hex design for easy wrenching.
- Compact size for close nesting of cables.
- TMCX fittings are furnished complete with epoxy sealing compound.‡
- TMCX fittings with sealing chamber have a red colored gland nut for easy identification.
- Hazardous location TMCX Terminators are reusable. An integral union feature simplifies installation on new construction and allows installed TMCX Terminator cable fittings to be disassembled and reused when performing repairs or replacement of equipment.
- Optional Cold-Shrink® Kit for extra corrosion protection against corrosive elements like salt water.

Standard Materials:

- Body, intermediate body, gland nut, and armor stop insert – copper-free aluminum
- Bushing – neoprene
- Grounding/retaining spring – stainless steel
- Slip washer and armor stop reducer – nylon
- Cold Shrink Kit — EPDM Rubber

Standard Finishes:

- Copper-free aluminum – natural
- Neoprene – natural
- Stainless steel – copper flash
- Nylon – natural

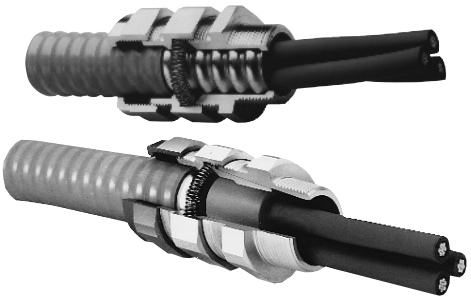
Options:

- All brass construction .... add suffix -BR to catalog number.
- All brass construction with nickel plate finish on entry threads .... add suffix -BR-NP to catalog number.

Certifications and Compliances:

- NEC: Class I, Groups A*,B,C,D
  Class II, Groups F,G
  Class III, Div. 1 and 2 (except when used with Tray Cable)
  Article 334, 340, 501-4(b), 502-4(b), 503-3(a)
- NEMA: FB1-1989
- UL Standards: 514B, 886
- Fed. Spec.: W-F-406B
- CSA Standard C22.2 No. 18-M1987
  Class I, A,B,C,D SL
  Class II, E,F,G
  Class III, Enc. 4 locations

NPT Thread Size	Armor O.D. Range	Non-Hazardous Cat. #	Hazardous Cat. #★	Optional Cold Shrink® Kit Cat. #
½	.440 to .650	TMC165	TMCX165♦	TMC-K1
¾	.600 to .850	TMC285	TMCX285♦	TMC-K2
1	.800 to 1.120	TMC3112	TMCX3112♦	TMC-K3
1¼	1.100 to 1.400	TMC4140	TMCX4140♦	TMC-K4
1½	1.330 to 1.610	TMC5161	TMCX5161♦	TMC-K5
2	1.570 to 2.060	TMC6206	TMCX6206♦	TMC-K6
2½	1.930 to 2.470	TMC7247	TMCX7247♦	TMC-K7
3	2.450 to 3.020	TMC8302	TMCX8302	TMC-K8
3½	2.950 to 3.520	TMC9352	TMCX9352	TMC-K9
4	3.500 to 4.020	TMC10402	TMCX10402	TMC-K10



TMC6206

TMCX6206

★ Hazardous location fittings are supplied with sealing compound for one termination. Additional compound may be ordered separately. See following page.

† TMCX series is suitable for use in hazardous locations when installed in accordance with NEC articles 501-4(b), 501-5(e), 502-4(b), 502-5 and 503-3(a).

♦ TMCX catalog numbers listed are suitable for use with Type TC tray cable in hazardous locations when installed in accordance with NEC articles 501-5(e) and 502-5. TMCX series is not suitable for use in Class III locations when used with tray cable.

‡ In Canada order separately Cat. # TSC1 - 1 oz. TSC4 - 4 oz.

* Terminators ordered in all brass construction (suffix – BR) are *not* suitable for Class I, Group A hazardous area environments.

TMC-K Corrosion Protection Kits

TMC-K Corrosion Protection Kits are specially designed for Cooper Crouse-Hinds TMC and TMCX fittings to provide protection against corrosive elements like salt spray and moisture. The TMC-K kit is made of a Cold Shrink material that is quick and easy to install on the fitting. The Cold Shrink material is made of EPDM rubber that contains no chlorides or sulfurs.

The protection kit installs easily over the fitting ***without*** the use of a heat source to shrink the material tightly over the fitting. Just slide the kit over the fitting and pull out the inner core. The kit shrinks tightly over the fitting forming a watertight seal. The Cold Shrink material can be removed easily from the fitting by simply cutting it off.

See ordering information for complete offering of TMC-K Cold Shrink kits for corrosion protection.

Cold Shrink is a registered trademark of the 3M Company.

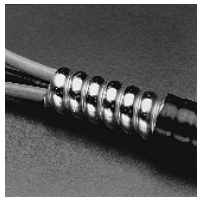
TERMINATOR™ Cable Fittings

for Metal Clad Cable and Tray Cable♦

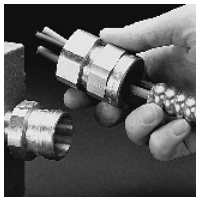
TMC/TMCX Series
Accessories, Dimensions

Cl. I, Div. 1†, Groups A,B,C,D
Cl. II, Div. 1†, Groups F,G
Cl. III, Div. 1† & 2
Wet Locations

Installing a TMCX *Terminator*



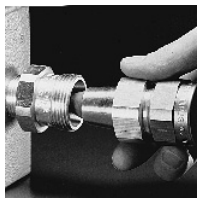
1. Prepare cable.



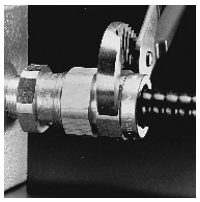
2. Install body into enclosure. Slide gland nut and intermediate body onto cable.

3. Mix sealing compound and pack conductors over armor.

4. Slide armor stop insert over conductor and sealing compound, then back against armor. Pack remaining sealing compound.



5. Insert cable assembly into body.



6. Thread intermediate body with gland nut onto body. Tighten intermediate body, then gland nut.

TSC Epoxy Sealing Compound

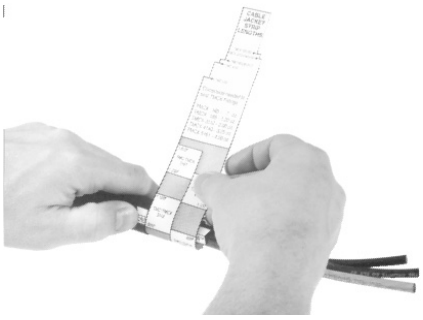
A two part epoxy sealing compound is used to seal TMCX cable fittings. It is quick and easy to measure, mix and install. The compound is kneaded until a uniform color is obtained. It is then packed around the conductors and cable armor to effectively seal the cable.

Each hazardous location fitting is supplied with enough sealing compound for one termination. Additional compound may be ordered separately in one and four ounce packages.

Std. Ctn. Qty.	Tube Size	Cat. #**
10	0.5 oz	TSC05
10	1.0 oz	TSC1
5	4.0 oz.	TSC4

Approximate Amount of Compound Required to Seal Fittings

NPT Size	Cat. #	Ounces Required
½	TMCX165	0.25
¾	TMCX285	0.50
1	TMCX3112	0.70
1¼	TMCX4140	1.50
1½	TMCX5161	1.85
2	TMCX6206	4.50
2½	TMCX7247	8.65
3	TMCX8302	15.75
3½	TMCX9352	25.55
4	TMCX10402	38.95



Cable Gauge and Sizer

TMC and TMCX cable fittings are supplied with a cable gauge and sizer. This installation tool is used:

- to measure the cable armor and select the proper cable fitting.
- to determine how much cable jacket should be removed to ensure proper installation, eliminating any guesswork.
- as a gauge of how much compound to pack around the cable in order to meet UL requirements and ensure a safe, proper installation for TMCX fittings.

† TMCX series is suitable for use in hazardous locations when installed in accordance with NEC articles 501-4(b), 501-5(e), 502-4(b), 502-5 and 503-3(a).

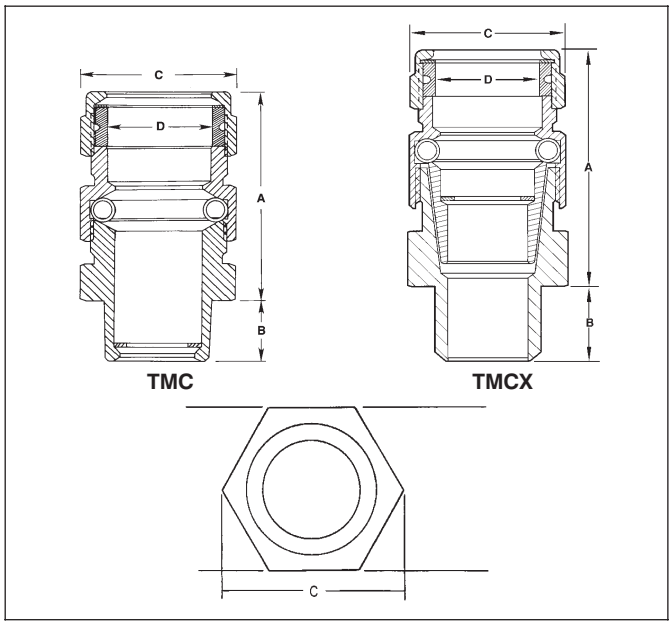
♦ TMCX catalog numbers listed are suitable for use with Type TC tray cable in hazardous locations when installed in accordance with NEC articles 501-5(e) and 502-5. TMCX series is not suitable for use in Class III locations when used with tray cable.

** Order quantity of one (1) TSC1 equals 10 1.0 oz. tubes; one (1) TSC4 equals 5 4.0 oz. tubes.

Dimensions

NPT Size	TMC Cat. #	A	TMCX Cat. #	A	TMC/TMCX B	C	D
½	TMC165	2 3/8	TMCX165	2 5/8	3/4	1 3/8	25/32
¾	TMC285	2 5/8	TMCX285	2 7/8	25/32	1 5/8	1
1	TMC3112	2 5/8	TMCX3112	3 1/8	15/16	2	1 5/16
1¼	TMC4140	2 3/4	TMCX4140	3 1/8	31/32	2 7/16	1 5/8
1½	TMC5161	2 3/4	TMCX5161	3 3/8	31/32	2 3/4	1 25/32
2	TMC6206	4 1/2	TMCX6206	5 5/16	1	3 1/2	2 5/16
2½	TMC7247	4 3/4	TMCX7247	6 1/16	1 7/16	4	2 23/32
3	TMC8302	4 7/8	TMCX8302	6 1/16	1 7/16	4 7/8	3 9/32
3½	TMC9352	5 3/8	TMCX9352	7 3/4	1 5/8	5 3/8	3 25/32
4	TMC10402	5 1/2	TMCX10402	8 5/16	1 5/8	5 7/8	4 9/32

(Dimensions also apply to brass product, suffix — BR)



5F TECK TERMINATOR™ Cable Fittings

for Teck Cable

Cl. II, Division 1, Groups E,F,G
Cl. II, Division 2, Groups F,G
Cl. III
IP56
Wet Locations

Application:

TECK TERMINATORS have a wide array of applications in pulp and paper mills, chemical and petrochemical plants, petroleum refineries, waste treatment facilities, coal mines, electric power generating plants, grain handling and storage facilities, and many other industrial applications.

TECK TERMINATORS are CSA Certified for use with TECK armoured cable:

- to provide a means to terminate at junction boxes, control centers, panelboards, and enclosures for motor control and electrical distribution equipment
- to form a watertight (Encl 4/IP 56) seal around cable and at enclosure entry
- to provide ground continuity of cable armour
- to provide excellent cable pullout protection exceeding CSA requirements
- indoors or outdoors, in wet and dry locations
- in vertical or horizontal cable runs; and
- with TMC-K Series Cold Shrink™ corrosion protection kits to protect fitting from corrosive elements like salt water

Features:

- **CSA Certified** for ordinary and hazardous locations assuring a safe and reliable termination in adverse environments
- **No disassembly required**, resulting in a quick-and-easy installation and lower labour costs
- Available in aluminum, steel, stainless steel and PVC-coated aluminum construction for almost any type of corrosive environment
- **Unique stainless steel grounding spring** provides 360° positive grounding and superior pullout resistance
- Neoprene bushing creates a **watertight seal** to protect electrical equipment
- Neoprene O-ring on connector provides an **environmental seal** when fitting is installed in knockout
- **Hex surfaces** provide a large wrenching area for easy installation
- Hex surfaces on aluminum fittings have **slots for screwdriver tightening/loosening**
- **Compact design** allows close spacing of connectors
- Available in ½″ to 4″ trade sizes for application flexibility

Assembly Detail Shown with TECK Cable Installed

Standard Materials/Finishes:

- Body, Gland Nut – aluminum/natural, steel/zinc electrogalvanized, *Feraloy*®/zinc electrogalvanized, stainless steel/natural
- Drive Washer – aluminum/natural, steel/electrogalvanized, stainless steel/natural
- Bushing, O-ring – neoprene/natural
- Grounding Spring – stainless steel/copper-plated
- Cold Shrink Corrosion Protection Kit – EPDM rubber
- Slip Washer – nylon/natural

Certifications and Compliances:

- CEC: Class II, Division 1 and 2
  Groups E, F and G
  Class III
- CSA Standard: C22.2 No. 18
- Encl 4/IP 56

TECK TERMINATOR™ Cable Fittings

for Teck Cable

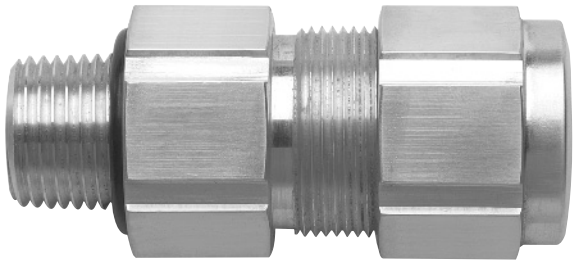
Cl. II, Division 1, Groups E,F,G
Cl. II, Division 2, Groups F,G
Cl. III
IP56
Wet Locations

Ordering Information:

					Range Over Jacket		Range Over Armour	
Hub Size	**Aluminum Cat. #**	**Steel Cat. #**	**Stainless Steel Cat. #**	**PVC Cat. #**	**Min.**	**Max.**	**Min.**	**Max.**
½″	TECK050-1	TECK050-1S	TECK050-1SS	TECK050-1PVC	0.525	0.650	0.415	0.570
½″	TECK050-2	TECK050-2S	TECK050-2SS	TECK050-2PVC	0.600	0.760	0.490	0.680
½″	TECK050-3	TECK050-3S	TECK050-3SS	TECK050-3PVC	0.725	0.885	0.615	0.805
½″	TECK050-4	TECK050-4S	TECK050-4SS	TECK050-4PVC	0.825	0.985	0.715	0.905
¾″	TECK075-5	TECK075-5S	TECK075-5SS	TECK075-5PVC	0.880	1.065	0.770	0.985
¾″	TECK075-6	TECK075-6S	TECK075-6SS	TECK075-6PVC	1.025	1.205	0.915	1.125
1″	TECK100-7	TECK100-7S	TECK100-7SS	TECK100-7PVC	1.187	1.375	1.077	1.295
1¼″	TECK125-8	TECK125-8S	–	TECK125-8PVC	1.350	1.625	1.240	1.545
1¼″	TECK125-9	TECK125-9S	–	TECK125-9PVC	1.500	1.625	1.390	1.545
1¼″	TECK125-10	TECK125-10S	–	TECK125-10PVC	1.600	1.875	1.490	1.795
1½″	TECK150-11	TECK150-11S	–	TECK150-11PVC	1.700	1.965	1.590	1.885
1½″	TECK150-12	TECK150-12S	–	TECK150-12PVC	1.900	2.187	1.790	2.107
2″	TECK200-13	TECK200-13S	–	TECK200-13PVC	1.900	2.187	1.790	2.107
2″	TECK200-14	TECK200-14S	–	TECK200-14PVC	2.100	2.375	1.990	2.280
2″	TECK200-15	TECK200-15S	–	TECK200-15PVC	2.300	2.565	2.190	2.485
2″	TECK200-16	TECK200-16S	–	TECK200-16PVC	2.500	2.750	2.390	2.656
2½″	TECK250-17	TECK250-17S	–	TECK250-17PVC	2.380	2.640	2.240	2.560
2½″	TECK250-18	TECK250-18S	–	TECK250-18PVC	2.580	2.840	2.440	2.750
3″	TECK300-19	TECK300-19S	–	TECK300-19PVC	2.790	3.060	2.640	2.970
3″	TECK300-20	TECK300-20S	–	TECK300-20PVC	3.000	3.270	2.870	3.190
3″	TECK300-21	TECK300-21S	–	TECK300-21PVC	3.210	3.480	3.042	3.390
3½″	TECK350-22	TECK350-22S	–	TECK350-22PVC	3.420	3.690	3.270	3.590
3½″	TECK350-23	TECK350-23S	–	TECK350-23PVC	3.610	3.870	3.440	3.770
4″	TECK400-24	TECK400-24S	–	–	3.810	4.030	3.600	3.930
4″	TECK400-25	TECK400-25S	–	–	3.965	4.185	3.755	4.065
4″	TECK400-26	TECK400-26S	–	–	4.120	4.340	3.910	4.220

Optional Cold Shrink Corrosion Protection Kits

Trade Size	Cat. #	Trade Size	Cat. #
½″	TMC-K1	2″	TMC-K6
¾″	TMC-K2	2½″	TMC-K7
1″	TMC-K3	3″	TMC-K8
1¼″	TMC-K4	3½″	TMC-K9
1½″	TMC-K5	4″	TMC-K10



Dimensions (inches)

Cat. #	A - Throat Dia.	B - Overall	C - Max.
TECK050-1	0.395	2.16	1.34
TECK050-2	0.485	2.24	1.47
TECK050-3	0.612	2.20	1.61
TECK050-4	0.612	2.24	1.61
TECK075-5	0.819	2.37	2.14
TECK075-6	0.819	2.42	2.14
TECK100-7	1.039	2.42	2.41
TECK125-8	1.184	3.42	3.20
TECK125-9	1.375	3.34	3.20
TECK125-10	1.375	3.34	3.20
TECK150-11	1.577	3.81	3.60
TECK150-12	1.600	3.81	3.72
TECK200-13	1.715	4.14	4.20
TECK200-14	1.995	4.06	4.20
TECK200-15	2.063	3.84	4.40
TECK200-16	2.063	3.92	4.40
TECK250-17	2.250	5.15	4.79
TECK250-18	2.437	5.10	4.79
TECK300-19	2.630	4.91	4.89
TECK300-20	2.875	4.97	5.30
TECK300-21	3.032	4.97	5.30
TECK350-22	3.260	5.12	5.90
TECK350-23	3.437	5.25	5.90
TECK400-24	3.594	4.90	6.53
TECK400-25	3.750	4.90	6.53
TECK400-26	3.900	4.90	6.53

TWDC/TBDC SERIES

ATEX and CENELEC Range for Steel Wire Armour or Steel Wire Braid Cable

ATEX and CENELEC Dual E Exd IIC/E Exe II
Zone 1 or 2 Hazardous Areas
IP66/67

Certifications and Compliances

- ATEX E Exd IIC/E Exe II with SIRA 03ATEX2078X
- Standards EN50014:1998, EN50018:2000, EN50019:2000 and EN50281-1-1:1998
- IP66 and IP67

GOST R - Exd IICU/Exe IIU

Design Data (millimeters)

Gland Size	A (across corners)	B
16	25.5	16.0
20S	26.5	16.0
20	33.0	16.0
25	41.4	16.0
32	50.6	16.0
40	60.5	16.0
50S	71.5	16.0
50	71.5	16.0
63S	88.0	19.0
63	88.0	19.0
75S	99.0	19.0
75	99.0	19.0
80	115.2	25.0
80H	115.2	25.0
85	115.2	25.0
90	125.7	25.0
90H	125.7	25.0
100	125.7	25.0

Application

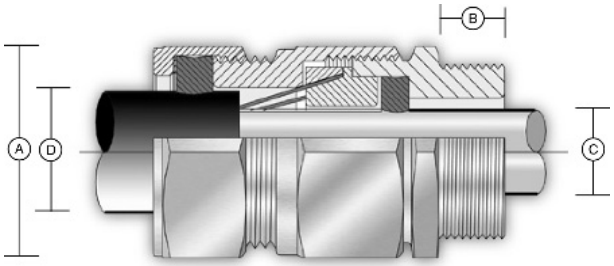
For use in Zone 1 or 2 hazardous areas with ATEX/CENELEC certified equipment and armoured or braided cable.

Features

All TWDC and TBDC glands offer:

- a flameproof or increased safety seal on the inner sheath of the cable
- mechanical clamping, providing retention of armour or braid
- a weatherproof seal to the outer sheath of the cable
- brass construction (optional stainless steel)
- optional nickel-plate finish
- metric or NPT threads

TW3DC/TB3DC cable glands offer a zero halogen version for extreme high and low temperature applications (-60°C to +180°C).



TWDC/TBDC Brass Cable Glands

for Steel Wire Armour or Steel Wire Braid Cable

EEx d IIC
EEx e II
Zone 1 and 2
IP 66/67

Ordering Information

Build your catalog number from the information below. All catalog numbers consist of three main sections:
1. Select the Gland Type based on cable type and seal required (i.e., TW1DC)
2. Select the Gland Size based on cable specifications (i.e., 20S)
3. Specify Thread Size (i.e., 075NPT)

Ordering example:
TW1DC/NP/20S/075NPT

Step 1 – Select Gland Type from Table below:

Gland Types

Gland Type	Description
TW1DC	For steel wire armour with neoprene seal.
TW3DC	For steel wire armour with silicone seal for extreme temperatures.
TB1DC	For braided cable with neoprene seal.
TB3DC	For braided cable with silicone seal for extreme temperatures.

For optional nickel-plate finish add suffix/NP after Gland Type (i.e., TW1DC/NP).
For reduced bore gland add ''R'' at the end of Gland Type (i.e., TW1DCR).
For optional poly-bagged kit including gland, brass locknut, brass earth tag, sealing washer and PCP shroud, add ''K1'' at the end of Gland Type (i.e. TW1DCK1).
For stainless steel construction add ''S'' at the end of Gland Type (i.e., TW1DCS).

Step 2 – Select Gland Size based on Cable Size from Table below:

Cable Sizes (Dimensions are all in millimeters)

Gland Size	Available Entry Threads		Gland Seal Range						Armour Acceptance Range		Shroud Size†
			Cable Inner Sheath [C]		Cable Outer Sheath [D]						
					Standard		Reduced				
	Metric	NPT	Min	Max	Min	Max	Min	Max	SWA	Braided	
16	M20	½″or ¾″	3.5	8.4	8.4	13.5	4.9	10.0	0.90	0.15 – 0.35	L24
20S	M20	½″or ¾″	8.0	11.7	11.5	16.0	9.4	12.5	0.90 – 1.25	0.15 – 0.35	L24
20	M20	½″or ¾″	6.7	14.0	15.5	21.1	12.0	17.6	0.90 – 1.25	0.15 – 0.50	L30
25	M25	¾″or 1″	13.0	20.0	20.3	27.4	16.8	23.9	1.25 – 1.60	0.15 – 0.50	L38
32	M32	1″ or 1¼″	19.0	26.3	26.7	34.0	23.2	30.5	1.60 – 2.00	0.15 – 0.55	L46
40	M40	1¼″ or 1½″	25.0	32.2	33.0	40.6	28.6	36.2	1.60 – 2.00	0.20 – 0.60	L55
50S	M50	1½″ or 2″	31.5	38.2	39.4	46.7	34.8	42.4	2.00 – 2.50	0.20 – 0.60	L65
50	M50	2″	36.5	44.1	45.7	53.2	41.1	48.5	2.00 – 2.50	0.30 – 0.80	L65
63S	M63	2″ or 2½″	42.5	50.1	52.1	59.5	47.5	54.8	2.50	0.30 – 0.80	L80
63	M63	2½″	49.5	56.0	58.4	65.8	53.8	61.2	2.50	0.30 – 0.80	L80
75S	M75	2½″ or 3″	54.5	62.0	64.8	72.2	60.2	68.0	2.50	0.30 – 1.00	L90
75	M75	3″	60.5	68.0	71.1	78.0	66.5	73.4	2.50	0.30 – 1.00	L90
80	M80 × 2	3″ or 3½″	62.2	72.0	77.0	84.0	---	---	3.15	0.45 – 1.00	L104
80H	M80 × 2	3″ or 3½″	62.2	72.0	79.6	90.0	---	---	3.15	0.45 – 1.00	L104
85	M85 × 2	3″ or 3½″	69.0	78.0	79.6	90.0	75.0	85.4	3.15	0.45 – 1.00	L104
90	M90 × 2	3½″ or 4″	74.0	84.0	88.0	96.0	---	---	3.15	0.45 – 1.00	L114
90H	M90 × 2	3½″ or 4″	74.0	84.0	92.0	102.0	---	---	3.15	0.45 – 1.00	L114
100	M100 × 2	3½″ or 4″	82.0	90.0	92.0	102.0	87.4	97.4	3.15	0.45 – 1.00	L114

† For PVC or PCP shrouds see Accessories, page 93.

Step 3 – Specify Thread Size from Table below:

Metric Thread Sizes

Thread Size	Add to Catalog Number
M16	M16
M20	M20
M25	M25
M32	M32
M40	M40
M50	M50
M63	M63
M75	M75
M80	M80
M85	M85
M90	M90
M100	M100

NPT Thread Sizes

Thread Size	Add to Catalog Number
½″ NPT	050NPT
¾″ NPT	075NPT
1″ NPT	100NPT
1¼″ NPT	125NPT
1½″ NPT	150NPT
2″ NPT	200NPT
2½″ NPT	250NPT
3″ NPT	300NPT
3½″ NPT	350NPT
4″ NPT	400NPT
–	–
–	–

US: 1-866-764-5454 CAN: 1-800-265-0502

5F TAB/TAS UNIVERSAL SERIES

ATEX and CENELEC Range

ATEX and CENELEC Dual
E Exd IIC/E Exe II
CSA Exd IIC/Exe II
Class I, Zone 1

Zone 1 or 2 Hazardous Areas
IP66/68
Enclosure Type 4X
DTS01 1991 Deluge

NEW!

Certifications and Compliances

- ATEX E Exd IIC/E Exe II with SIRA 03ATEX2077X
- Standards EN50014:1998, EN50018:2000, EN50019:2000 and EN50281-1-1:1998
- IP66 and IP68 at 25 meters
- DTS01 1991 deluge
- CSA Exd IIC/Exe II, Class I, Zone 1
- Enclosure Type 4X
- Zone 1 and Zone 2
- Ignitible dusts, Zones 21 and 22
- GOST R - Exd IICU/Exe IIU

Design Data (millimeters)

Gland Size	A (across corners)	B
16	28.0	16
20S	28.0	16
20	33.0	16
25	41.4	16
32	50.6	16
40	60.5	16
50S	71.5	16
50	71.5	16
63S	88.0	19
63	88.0	19
75S	99.0	19
75	99.0	25
80	115.2	25
80H	115.2	25
85	115.2	25
90	125.7	25
90H	125.7	25
100	125.7	25

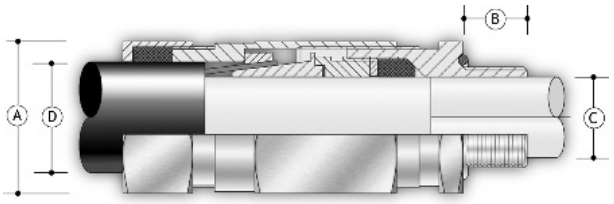
Application

For use in Zone 1 or 2 hazardous areas with ATEX/CENELEC equipment and wire, braided or tape armoured cables. For use in Zone 1 or 2 hazardous areas with CSA equipment with braided and marine shipboard cable.

Features

All TAB and TAS Cable glands:

- offer a universal armour clamp for all armoured cable types (wire, braided, tape, marine shipboard)
- come with no reversible components, eliminating installer error
- maintain Flameproof Exd and Increase Safety Exe methods of explosion protection
- provide a seal on the inner sheath
- provide a seal on the outer sheath offering IP66/68 and Type 4X protection
- provide an O-Ring on the entry seal (metric entry threads only)
- meet DTS01 1991 deluge requirements
- are constructed of all brass or all stainless steel material
- incorporate anti-twist assembly reducing the amount of cable twist during installation
- are available with metric or NPT threads
- are available with optional nickel-plate finish
- are available with optional silicone zero halogen seal for extreme high and low temperature applications (-60°C to +180°C).



Ordering Information

Build your catalog number from the information below. All catalog numbers consist of three main sections:
1. Select the Gland Type based on cable type and seal required (i.e., TAB1)
2. Select the Gland Size based on cable specifications (i.e., 20S)
3. Specify Thread Size (i.e., 075NPT) (Available sizes listed in step 2)

Ordering example:
TAB1/20S/075NPT

Step 1 – Select Gland Type from Table below:

Gland Types

Gland Type	Description
TAB1	Universal gland for steel wire, steel braid & steel tape with neoprene seal - brass construction
TAB3	Universal gland for steel wire, steel braid & steel tape with silicone seal - brass construction
TAS1	Universal gland for steel wire, steel braid & steel tape with neoprene seal - stainless steel construction
TAS3	Universal gland for steel wire, steel braid & steel tape with silicone seal - stainless steel construction

For optional nickel-plate finish add suffix /NP after Gland Type (i.e., TAB1/NP).
For reduced bore gland add ''R'' at the end of gland type (i.e. TAB1R).
For optional poly-bagged kit including gland, locknut, earth tag, sealing washer and PVC shroud, add ''K1'' at the end of Gland Type (i.e., TAB1K1).

Step 2 – Select Gland Size based on Cable Size from Table below:

Cable Sizes (Dimensions are all in millimeters)

Gland Size	Available Entry Threads		GLAND SEAL RANGE						Armour Acceptance Range	Shroud Size
			Cable Inner Sheath [C]		Cable Outer Sheath [D]					
					Standard		Reduced			
	Metric	NPT	Min	Max	Min	Max	Min	Max		
16	M20	½″ or ¾″	3.4	8.4	9.0	13.5	6.7	10.3	0.15 - 1.25	L24
20S	M20	½″ or ¾″	7.2	11.7	11.5	16.0	9.4	12.5	0.15 - 1.25	L24
20	M20	½″ or ¾″	9.4	14.0	15.5	21.1	12.0	17.6	0.15 - 1.25	EL30
25	M25	¾″ or 1″	13.5	20.0	20.3	27.4	16.8	23.9	0.15 - 1.60	EL38
32	M32	1″ or 1¼″	19.5	26.3	26.7	34.0	23.2	30.5	0.15 - 2.00	EL46
40	M40	1¼″ or 1½″	23.0	32.2	33.0	40.6	28.6	36.2	0.20 - 2.00	EL55
50S	M50	1½″ or 2″	28.1	38.2	39.4	46.7	34.8	42.4	0.30 - 2.50	EL65
50	M50	2″	33.1	44.1	45.7	53.2	41.1	48.5	0.30 - 2.50	EL65
63S	M63	2″ or 2½″	39.3	50.1	52.1	59.5	47.5	54.8	0.30 - 2.50	EL80
63	M63	2½″	46.7	56.0	58.4	65.8	53.8	61.2	0.30 - 2.50	EL80
75S	M75	2½″ or 3″	52.3	62.0	64.8	72.2	60.2	68.0	0.30 - 2.50	EL90
75	M75	3″	58.0	68.0	71.1	78.0	66.5	73.4	0.30 - 2.50	EL90
80	M80 x 2	3″ or 3½″	61.9	72.0	77.0	84.0	-	-	0.45 - 3.15	L104
80H	M80 x 2	3″ or 3½″	61.9	72.0	79.6	90.0	-	-	0.45 - 3.15	L104
85	M85 x 2	3″ or 3½″	69.1	78.0	79.6	90.0	75.0	85.4	0.45 - 3.15	L104
90	M90 x 2	3½″ or 4″	74.1	84.0	88.0	96.0	-	-	0.45 - 3.15	L114
90H	M90 x 2	3½″ or 4″	74.1	84.0	92.0	102.0	-	-	0.45 - 3.15	L114
100	M100 x 2	3½″ or 4″	81.8	90.0	92.0	102.0	87.4	97.4	0.45 - 3.15	L114

Step 3 – Specify Thread Size from Table below:

Metric Thread Sizes

Thread Size	Add to Catalog Number
M16	M16
M20	M20
M25	M25
M32	M32
M40	M40
M50	M50
M63	M63
M75	M75
M80	M80
M85	M85
M90	M90
M100	M100

NPT Thread Sizes

Thread Size	Add to Catalog Number
½″ NPT	050NPT
¾″ NPT	075NPT
1″ NPT	100NPT
1¼″ NPT	125NPT
1½″ NPT	150NPT
2″ NPT	200NPT
2½″ NPT	250NPT
3″ NPT	300NPT
3½″ NPT	350NPT
4″ NPT	400NPT
–	–
–	–

5F TACF Series Barrier Gland

Atex and CENELEC Range

NEW!

ATEX and CENELEC E Exd & IIC ATEX I M2 II 2 GD
Ignitible dusts, Zones 21 and 22 CSA Exc I IIC
Class I, Zone 1 or 2 Hazardous Areas
Type 4X, IP66/88
DTS01 1991 Deluge

TACF

Application

The TACF series is a flameproof E Exd compound filled barrier cable gland for use in Zone 1 or 2 hazardous areas with ATEX/CENELEC equipment and steel wire armoured, steel wire braided, steel tape armoured and unarmoured cables. Also, for use in Exd and Exe hazardous areas with CSA equipment and braided and marine shipboard cable. The TACF series will maintain the flameproof Exd integrity of any volume enclosure with an internal ignition source for all gas groups when used with any armoured or unarmoured cable types.

Features:

All TACF Cable glands:

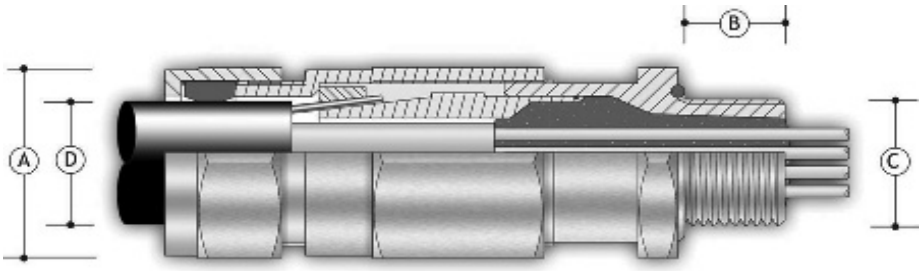
- are available in all brass or all stainless steel construction.
- offer a universal armour clamp for all armoured cable types (steel wire, steel braid, steel tape, marine shipboard) and unarmoured cable.
- are provided with sealing compound that cures in 4 hours at 21°C.
- come with no reversible components, eliminating installer error.
- maintain Flameproof Exd and Increase Safety Exe methods of explosion protection.
- provide a seal on the outer sheath offering IP66/68 and Type 4X protection.
- provide an entry thread seal (metric threads only).
- meet DTS01 1991 deluge requirements.
- may be terminated 1 hour after creation of seal.
- may be energized 4 hours after creation of seal.
- incorporate anti-twist assembly reducing the amount of cable twist during installation.
- are available with metric or NPT threads.
- are available with optional nickel-plate finish.
- are provided with silicone seals, temperature range -60°C to +85°C.

Certifications and Compliances

- ATEX E Exd I & IIC with SIRA 03ATEX1552X
- Standards EN50014, EN50018 and EN50281-1-1:1998
- IP66 and IP68 at 100 meters
- DTS01 1991 deluge
- CSA Exd I & IIC
- Type 4X
- Zone 1 and Zone 2
- Ignitable dusts, Zones 21 and 22
- GOST R-Exd I & IICU
- Mining Equipment Group I, M2

Design Data (millimeters)

Gland Size	A (across corners)	B
16	28.0	16
20S	28.0	16
20	33.0	16
25	41.4	16
32	50.6	16
40	60.5	16
50S	71.5	16
50	71.5	16
63S	88.0	19
63	88.0	19
75S	99.0	19
75	99.0	19
80	115.2	25
85	115.2	25
90	125.7	25
100	125.7	25



TACF Series Barrier Gland

Atex and CENELEC Range

ATEX and CENELEC E Exd & IIC ATEX I M2 II 2 GD
Ignitible dusts, Zones 21 and 22 CSA Exc I IIC
Class I, Zone 1 or 2 Hazardous Areas
Type 4X, IP66/88
DTS01 1991 Deluge

NEW!

Ordering Information

Build your catalog number from the information below. All catalog numbers consist of three main sections:
1. Select the Gland Type based on material required (i.e., TACFB)
2. Select the Gland Size based on cable specifications (i.e., 20S)
3. Specify Thread Size (i.e., 075NPT) (Available sizes listed in step 2)

Ordering example:
TACFB/20S/075NPT

Step 1: Select Gland Type from Table below:

Gland Types

Gland Type	Description
TACFB	Compound filled universal gland for steel wire, steel braid & steel tape w/ silicone seal - Brass construction
TACFS	Compound filled universal gland for steel wire, steel braid & steel tape w/ silicone seal - Stainless steel construction

For optional nickel-plate finish on brass glands add suffix /NP after Gland Type (i.e., TACFB/NP).
For reduced bore gland add ''R'' at the end of Gland Type (i.e., TACFBR).
For optional poly-bagged kit including gland, locknut, earth tag, sealing washer and PVC shroud, add ''K1'' at the end of Gland Type (i.e., TACFBK1).

Step 2: Select Gland Size based on Cable Size from Table below:

Cable Sizes (Dimensions are all in millimeters)

Gland Size	Available Entry Threads		GLAND SEAL RANGE							Armour Acceptance Range	Shroud Size
			Cable Inner Sheath/Cores [C]			Cable Outer Sheath [D]					
						Standard		Reduced			
	Metric	NPT	Max No. of Cores	Max Over Cores	Max Inner Sheath	Min	Max	Min	Max		
16	M20	½″ or ¾″	7	9.0	11.7	9.0	13.5	6.7	10.3	0.15 - 1.25	L24
20S	M20	½″ or ¾″	8	10.4	11.7	11.5	16.0	9.4	12.5	0.15 - 1.25	L24
20	M20	½″ or ¾″	14	12.5	14.0	15.5	21.1	12.0	17.6	0.15 - 1.25	EL30
25	M25	¾″ or 1″	25	17.8	20.0	20.3	27.4	16.8	23.9	0.15 - 1.60	EL38
32	M32	1″ or 1¼″	50	23.5	26.3	26.7	34.0	23.2	30.5	0.15 - 2.00	EL46
40	M40	1¼″ or 1½″	80	28.8	32.2	33.0	40.6	28.6	36.2	0.20 - 2.00	EL55
50S	M50	2″	100	34.2	38.2	39.4	46.8	34.8	42.4	0.20 - 2.50	EL65
50	M50	2″	100	39.4	44.1	45.7	53.2	41.1	48.5	0.20 - 2.50	EL65
63S	M63	2½″	120	44.8	50.1	52.1	59.5	47.5	54.8	0.30 - 2.50	EL80
63	M63	2½″	120	50.0	56.0	58.4	65.8	53.8	61.2	0.30 - 2.50	EL80
75S	M75	3″	140	55.4	62.0	64.8	72.2	60.2	68.0	0.30 - 2.50	EL90
75	M75	3″	140	60.8	68.0	71.1	78.0	66.5	73.4	0.30 - 2.50	EL90
80	M80 x 2	3″ or 3½″	160	64.4	72.0	77.0	84.0	—	—	0.45 - 3.15	L104
85	M85 x 2	3″ or 3½″	180	69.8	78.0	79.6	90.0	75.0	85.4	0.45 - 3.15	L104
90	M90 x 2	3½″ or 4″	200	75.1	84.0	88.0	96.0	—	—	0.45 - 3.15	L114
100	M100 x 2	3½″ or 4″	220	80.5	90.0	92.0	102.0	87.4	97.4	0.45 - 3.15	L114

Step 3: Specify Thread Size from Table below:

Metric Thread Sizes

Thread Size	Add to Catalog Number
M16	M16
M20	M20
M25	M25
M32	M32
M40	M40
M50	M50
M63	M63
M75	M75
M80	M80
M85	M85
M90	M90
M100	M100

NPT Thread Sizes

Thread Size	Add to Catalog Number
½″ NPT	050NPT
¾″ NPT	075NPT
1″ NPT	100NPT
1¼″ NPT	125NPT
1½″ NPT	150NPT
2″ NPT	200NPT
2½″ NPT	250NPT
3″ NPT	300NPT
3½″ NPT	350NPT
4″ NPT	400NPT
—	—
—	—

TUSC SERIES

ATEX and CENELEC Range For Unarmoured or Braided Cable

ATEX and CENELEC Dual E Exd IIC/E Exe II
Zone 1 or 2 Hazardous Areas
CSA Exd IIC/Exe II, Class I, Zone 1
Enclosure Type 4X
IP66/67/68

Certifications and Compliances

- ATEX E Exd IIC/E Exe II with SIRA 03ATEX2079X
- Standards EN50014:1998, EN50018:2000, EN50019:2000 and EN50281-1-1:1998
- Class I, Zone 1
- CSA Exd IIC/Exe II
- Enclosure Type 4X
- IP66, IP67 and IP68
- GOST R - Exd IICU/Exe IIU

Design Data (millimeters)

Gland Size	A (across corners)	B (thread length)
16	28.0	16.0
20S	28.0	16.0
20	33.0	16.0
25	41.4	16.0
32	50.6	16.0
40	60.5	16.0
50S	71.5	16.0
50	71.5	16.0
63S	88.0	19.0
63	88.0	19.0
75S	99.0	19.0
75	99.0	19.0
80	115.2	25.0
85	115.2	25.0
90	125.7	25.0
100	125.7	25.0

Application

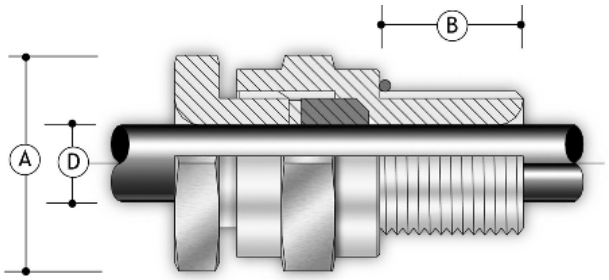
For use in Zone 1 or 2 hazardous areas with ATEX/CENELEC certified equipment and unarmoured, braided or marine shipboard cable.

Features

All TUSC cable glands offer:

- a flameproof or increased safety seal on the outer sheath of unarmoured or braided cable
- a weatherproof seal to the outer sheath of the cable
- integral entry thread seal (metric entry threads only)
- brass construction (optional stainless steel)
- optional nickel-plate finish
- metric or NPT threads

TU3SC cable glands offer a zero halogen version for extreme high and low temperature applications (-60°C to +180°C).



TUSC Brass Cable Glands

ATEX and CENELEC Range for Unarmoured or Braided Cable

ATEX and CENELEC Dual E Exd IIC/E Exe II
Zone 1 or 2 Hazardous Areas
CSA Exd IIC/Exe II, Class I, Zone 1
Enclosure Type 4X
IP66/67/68

Ordering Information

Build your catalog number from the information below. All catalog numbers consist of three main sections:
1. Select the Gland Type (i.e., TU1SC)
2. Select the Gland Size based on cable specifications (i.e., 20S)
3. Specify Thread Size (i.e., 075NPT)

Ordering example:
TU1SC/NP/20S/075NPT

Step 1 – Select Gland Type from Table below:

Gland Types

Gland Type	Description
TU1SC	For Unarmoured or Braided cable with neoprene seal – brass construction.
TU3SC	For Unarmoured or Braided cable with silicone seal for extreme temp. – brass construction.
TU1SCS	For Unarmoured or Braided cable with neoprene seal – stainless steel construction.
TU3SCS	For Unarmoured or Braided cable with silicone seal for extreme temp. – stainless steel construction.

For optional nickel-plate finish add suffix /NP after Gland Type (i.e., TU1SC/NP).
For optional poly-bagged kit including gland, brass locknut, sealing washer and PCP shroud, add ''K1'' at the end of Gland Type (i.e. TU1SCK1).

Step 2 – Select Gland Size based on Cable Size from Table below:

Cable Sizes (Dimensions are all in millimeters)

Gland Size	Available Entry Threads		Cable Outer Sheath [D]		Shroud Size †
	Metric	NPT	Min	Max	
16	M20	½″ or ¾″	3.4	8.4	L24
20S	M20	½″ or ¾″	7.2	11.7	L24
20	M20	½″ or ¾″	9.6	14.0	L30
25	M25	¾″ or 1″	13.5	20.0	L38
32	M32	1″ or 1¼″	19.5	26.3	L46
40	M40	1¼″ or 1½″	23.0	32.2	L55
50S	M50	1½″ or 2″	28.2	38.2	L65
50	M50	2″	33.2	44.1	L65
63S	M63	2″ or 2½″	39.3	50.1	L80
63	M63	2½″	46.7	56.0	L80
75S	M75	2½″ or 3″	52.3	62.0	L90
75	M75	3″	58.1	68.0	L90
80	M80 × 2	3″ or 3½″	62.3	72.0	L104
85	M85 × 2	3″ or 3½″	69.1	78.0	L104
90	M90 × 2	3½″ or 4″	74.1	84.0	L114
100	M100 × 2	3½″ or 4″	82.1	90.0	L114

† For PVC or PCP shrouds see Accessories, page 93

Step 3 – Specify Thread Size from Table below:

Metric Thread Sizes

Thread Size	Add to Catalog Number
M16	M16
M20	M20
M25	M25
M32	M32
M40	M40
M50	M50
M63	M63
M75	M75
M80	M80
M85	M85
M90	M90
M100	M100

NPT Thread Sizes

Thread Size	Add to Catalog Number
½″ NPT	050NPT
¾″ NPT	075NPT
1″ NPT	100NPT
1¼″ NPT	125NPT
1½″ NPT	150NPT
2″ NPT	200NPT
2½″ NPT	250NPT
3″ NPT	300NPT
3½″ NPT	350NPT
4″ NPT	400NPT
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5F TUCF Series Barrier Gland

Atex and CENELEC Range

NEW!

ATEX and CENELEC E Exd I & IIC ATEX I M2 II 2 GD
Ignitible dusts, Zones 21 and 22 CSA Exc I & IIC
Class I, Zone 1 or 2 Hazardous Areas
Type 4X, IP66/68
DTS01 1991 Deluge

TUCF

Application

The TUCF series is a flameproof E Exd compound filled barrier cable gland for use in Zone 1 or 2 hazardous areas with ATEX/CENELEC equipment and unarmoured cable. Also, for use in Exd and Exe hazardous areas with CSA equipment and unarmoured cable.
The TUCF series will maintain the flameproof Exd integrity of any volume enclosure with an internal ignition source for all gas groups when used with any unarmoured cable types.

Features:

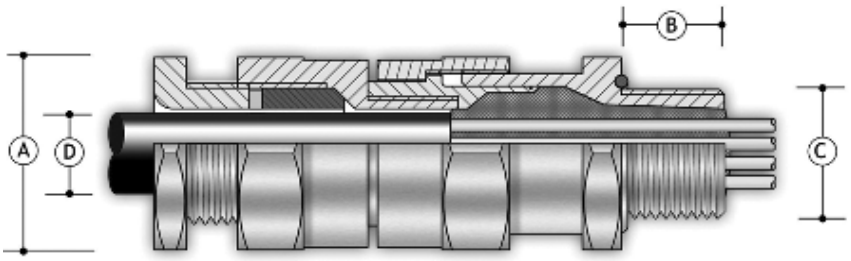
All TUCF Cable glands:
- are available in all brass or all stainless steel construction.
- are provided with sealing compound that cures in 4 hours at 21°C.
- maintain Flameproof Exd methods of explosion protection.
- provide a secondary seal on the outer sheath offering IP66/68 and Type 4X protection.
- provide an entry thread seal (metric threads only).
- meet DTS01 1991 deluge requirements.
- may be terminated 1 hour after creation of seal.
- may be energized 4 hours after creation of seal.
- are available with metric or NPT threads.
- are available with optional nickel-plate finish.
- are provided with silicone seals, temperature range -60°C to +85°C.

Certifications and Compliances

- ATEX E Exd I & IIC with SIRA 03ATEX1552X
- Standards EN50014, EN50018 and EN50281-1-1:1998
- IP66 and IP68 at 100 meters
- DTS01 1991 deluge
- CSA Exd I & IIC
- Type 4X
- Zone 1 and Zone 2
- Ignitable dusts, Zones 21 and 22
- GOST R-Exd I & IICU
- Mining Equipment Group I, M2

Design Data (millimeters)

Gland Size	A (across corners)	B
16	28.0	16
20S	28.0	16
20	33.0	16
25	41.4	16
32	50.6	16
40	60.5	16
50S	71.5	16
50	71.5	16
63S	88.0	19
63	88.0	19
75S	99.0	19
75	99.0	19
80	115.2	25
85	115.2	25
90	125.7	25
100	125.7	25



TUCF Series Barrier Gland

Atex and CENELEC Range

ATEX and CENELEC E Exd I & IIC ATEX I M2 II 2 GD
Ignitible dusts, Zones 21 and 22 CSA Exc I & IIC
Class I, Zone 1 or 2 Hazardous Areas
Type 4X, IP66/68
DTS01 1991 Deluge

NEW!

Ordering Information

Build your catalog number from the information below. All catalog numbers consist of three main sections:
1. Select the Gland Type based on material required (i.e., TUCFB)
2. Select the Gland Size based on cable specifications (i.e., 20S)
3. Specify Thread Size (i.e., 075NPT) (Available sizes listed in step 2)

Ordering example:
TUCFB/20S/075NPT

Step 1: Select Gland Type from Table below:

Gland Types

Gland Type	Description
TUCFB	Compound filled universal gland for steel wire, steel braid & steel tape w/ silicone seal - Brass construction
TUCFS	Compound filled universal gland for steel wire, steel braid & steel tape w/ silicone seal - Stainless steel construction

For optional nickel-plate finish on brass glands add suffix /NP after Gland Type (i.e., TUCFB/NP). For reduced bore gland add ''R'' at the end of Gland Type (i.e., TUCFBR).
For optional poly-bagged kit including gland, locknut, earth tag, sealing washer and PVC shroud, add ''K1'' at the end of Gland Type (i.e., TUCFBK1).

Step 2: Select Gland Size based on Cable Size from Table below:

Cable Sizes (Dimensions are all in millimeters)

Gland Size	Available Entry Threads		GLAND SEAL RANGE					Shroud Size
			Cable Inner Sheath/Cores [C]			Cable Outer Sheath [D] Standard		
	Metric	NPT	Max No. of Cores	Max Over Cores	Max Inner Sheath	Min	Max	
16	M20	½″ or ¾″	7	8.4	8.4	3.4	8.4	L24
20S	M20	½″ or ¾″	8	10.4	11.7	4.8	11.7	L24
20	M20	½″ or ¾″	14	12.5	14.0	9.5	14.0	EL30
25	M25	¾″ or 1″	25	17.8	20.0	11.7	20.0	EL38
32	M32	1″ or 1¼″	50	23.5	26.3	18.1	26.3	EL46
40	M40	1¼″ or 1½″	80	28.8	32.2	22.6	32.2	EL55
50S	M50	2″	100	34.2	38.2	28.2	38.2	EL65
50	M50	2″	100	39.4	44.1	33.1	44.1	EL65
63S	M63	2½″	120	44.8	50.1	39.3	50.1	EL80
63	M63	2½″	120	50.0	56.0	46.7	56.0	EL80
75S	M75	3″	140	55.4	62.0	52.3	62.0	EL90
75	M75	3″	140	60.8	68.0	58.0	68.0	EL90
80	M80 x 2	3″ or 3½″	160	64.4	72.0	61.9	72.0	L104
85	M85 x 2	3″ or 3½″	180	69.8	78.0	69.1	78.0	L104
90	M90 x 2	3½″ or 4″	200	75.1	84.0	74.1	84.0	L114
100	M100 x 2	3½″ or 4″	220	80.5	90.0	81.8	90.0	L114

Step 3: Specify Thread Size from Table below:

Metric Thread Sizes

Thread Size	Add to Catalog Number
M16	M16
M20	M20
M25	M25
M32	M32
M40	M40
M50	M50
M63	M63
M75	M75
M80	M80
M85	M85
M90	M90
M100	M100

NPT Thread Sizes

Thread Size	Add to Catalog Number
½″ NPT	050NPT
¾″ NPT	075NPT
1″ NPT	100NPT
1¼″ NPT	125NPT
1½″ NPT	150NPT
2″ NPT	200NPT
2½″ NPT	250NPT
3″ NPT	300NPT
3½″ NPT	350NPT
4″ NPT	400NPT
—	—
—	—

5F TCCF Series Barrier Gland

Atex and CENELEC Range

NEW!

ATEX and CENELEC E Exd I & IIC ATEX I M2 II 2 GD
Ignitible dusts, Zones 21 and 22 CSA Exd I & IIC
Class I, Zone 1 or 2 Hazardous Areas
Type 4X, IP66/68
DTS01 1991 Deluge

TCCF

Application

The TCCF series is a flameproof E Exd compound filled barrier cable gland for use in Zone 1 or 2 hazardous areas with ATEX/CENELEC equipment and conduit. The gland provides a flameproof Exd seal on the cables individual conductors within a conduit. Also, for use in Exd and Exe hazardous areas with CSA equipment and braided and marine shipboard cable. The TCCF series will maintain the flameproof Exd integrity of any volume enclosure with an internal ignition source for all gas groups when used with conduit.

Features:

All TCCF Cable glands:

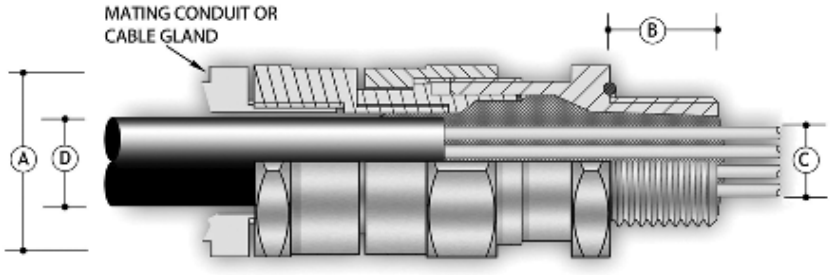
- are available in all brass or all stainless steel construction.
- are provided with sealing compound that cures in 4 hours at 21°C.
- maintain Flameproof Exd and Increase Safety Exe methods of explosion protection.
- provide a seal on the conduit offering IP66/68 and Type 4X protection.
- provide an entry thread seal (metric threads only).
- meet DTS01 1991 deluge requirements.
- may be terminated 1 hour after creation of seal.
- may be energized 4 hours after creation of seal.
- are available with metric or NPT threads.
- are available with optional nickel-plate finish.
- have a temperature range of -60°C to +85°C.

Certifications and Compliances

- ATEX E Exd I & IIC with SIRA 03ATEX1552X
- Standards EN50014, EN50018 and EN50281-1-1:1998
- IP66 and IP68 at 100 meters
- DTS01 1991 deluge
- CSA Exd I & IIC
- Type 4X
- Zone 1 and Zone 2
- Ignitable dusts, Zones 21 and 22
- GOST R-Exd I & IICU
- Mining Equipment Group I, M2

Design Data (millimeters)

Gland Size	A (across corners)	B
20	33.0	16
25	41.4	16
32	50.6	16
40	60.5	16
50	71.5	16
63	88.0	19
75	99.0	19
80	115.2	25
85	115.2	25
90	125.7	25
100	125.7	25



TCCF Series Barrier Gland

Atex and CENELEC Range

ATEX and CENELEC E Exd & IIC ATEX I M2 II 2 GD
Ignitible dusts, Zones 21 and 22 CSA Exc I IIC
Class I, Zone 1 or 2 Hazardous Areas
Type 4X, IP66/88
DTS01 1991 Deluge

NEW!

Ordering Information

Build your catalog number from the information below. All catalog numbers consist of three main sections:
1. Select the Gland Type based on material required (i.e., TCCFB)
2. Select the Fitting Size based on entry threads (i.e., 20)
3. Specify Male Entry Thread Size (i.e., 075NPT)
4. Specify Female Entry Thread Size (i.e., 075NPT)

Ordering example:
TCCFB/20S/075NPT

Step 1: Select Gland Type from Table below:

Gland Types

Gland Type	Description
TCCFB	Cable gland for conduit - Brass construction
TCCFS	Cable gland for conduit - Stainless steel construction

For optional nickel-plate finish on brass glands add suffix /NP after Gland Type (i.e., TCCFB/NP).

Step 2: Select Gland Size based on Cable Size from Table below:

Cable Sizes (Dimensions are all in millimeters)

Fitting Size Ref	Male Entry Threads		Female Entry Threads		SEALING RANGE Cable Conductors / Cores		
	Metric	NPT	Metric	NPT	Max No. of Cores	Max Over Cores [C]	Max Cable Inside Fitting [D]
20	M20	½″ or ¾″	M20	½″ or ¾″	14	12.5	14.0
25	M25	¾″ or 1″	M25	¾″ or 1″	25	17.8	20.0
32	M32	1″ or 1¼″	M32	1″ or 1¼″	50	23.5	26.3
40	M40	1¼″ or 1½″	M40	1¼″ or 1½″	80	28.8	32.2
50	M50	2″	M50	2″	100	39.4	44.1
63	M63	2½″	M63	2½″	120	50.0	56.0
75	M75	3″	M75	3″	140	60.8	68.0
80	M80 x 2	3″ or 3½″	M80 x 2	3″ or 3½″	160	64.4	72.0
85	M85 x 2	3″ or 3½″	M85 x 2	3″ or 3½″	180	69.8	78.0
90	M90 x 2	3½″ or 4″	M90 x 2	3½″ or 4″	200	75.1	84.0
100	M100 x 2	3½″ or 4″	M100 x 2	3½″ or 4″	220	80.5	90.0

Step 3: Specify Male Thread Size from Table Above:

Step 4: Specify Female Thread Size from Table Above:

5F NEMA 4X BREATHER/DRAIN

ATEX and CENELEC Range

I M2 II 2GD, E Exe I & II (Stainless Steel & Brass only)
II 2GD, E Exe II (Nylon version)
CSA Class I, Division 2, Groups A, B, C & D, Exe II

Enclosure Type 4X
IP66

Certifications and Compliances

- SIRA 99 ATEX 3050U
- I M2 II 2GD, E Exe I & II (Stainless Steel & Brass only)
- II 2GD, E Exe II (Nylon only)
- CSA Class I, Division 2, Groups A, B, C & D, Exe II
- Enclosure Type 4X
- IP66

Operating Temperature

- –50°C to +85°C

Application

For use in enclosures to provide a method to effectively drain moisture while allowing the enclosure to breathe.

Features

All NEMA 4X breather/drains offer:

- Castellated locknuts that allow moisture to pass between the enclosure and the locknut to the drain holes in the fitting.
- Available in brass, stainless steel (Type 316) or 30% glass filled nylon.
- Captive ''O'' ring on recess of the face of the breather/drain to optimize ingress protection.
- ATEX and CSA Certified for worldwide market acceptance.
- Available with metric or NPT threads.

Ordering Information

NEMA 4X Breather/Drain

Entry Method	Material	Catalog Number
M20	Brass	ACDPEB/M20/15
M20	Stainless Steel	ACDPES/M20/15
M20	Nylon	ACDPEBN/M20/15
M25	Brass	ACDPEB/M25/15
M25	Stainless Steel	ACDPES/M25/15
M25	Nylon	ACDPEBN/M25/15
½″	Brass	ACDPEB/050NPT/15
½″	Stainless Steel	ACDPES/050NPT/15
¾″	Brass	ACDPEB/075NPT/15
¾″	Stainless Steel	ACDPES/075NPT/15

Thread Data (Dimensions are all in millimeters)

Thread Size	Major Diameter	Pitch	Length	Min. Hex
M16	15.97	1.50	16.00	24
M20	19.97	1.50	16.00	30
M25	24.97	1.50	16.00	38
M32	31.97	1.50	16.00	46
M40	39.97	1.50	16.00	55
M50	49.97	1.50	16.00	65
M63	62.97	1.50	19.00	80
M75	74.97	1.50	19.00	90
M80	79.97	2.00	25.00	104
M85	84.97	2.00	25.00	104
M90	89.97	2.00	25.00	114
M100	99.97	2.00	25.00	114
½″ NPT	21.22	1.81	19.90	24
¾″ NPT	26.57	1.81	20.10	30
1″ NPT	33.23	2.20	25.00	38
1¼″ NPT	41.99	2.20	25.60	46
1½″ NPT	48.05	2.20	26.00	55
2″ NPT	60.09	2.20	26.90	65
2½″ NPT	72.7	3.18	39.90	80
3″ NPT	88.61	3.18	41.50	90
3½″ NPT	101.36	3.18	42.80	104
4″ NPT	113.97	3.18	44.00	114

Weight Data (Weights are all in grams)

Gland Size	TWDC/TBDC	TWCF/TBCF	TWSC/TBSC	TUSC	TUDC
16	141	–	116	85	139
20S	131	191	110	86	129
20	190	188	161	120	176
25	265	275	234	167	246
32	424	429	355	253	396
40	673	673	590	375	626
50S	966	962	532	588	898
50	743	740	616	459	691
63S	1389	–	1255	836	1258
63	1142	–	999	693	1030
75S	1690	–	1473	1091	1537
75	1347	–	1122	844	1225
80	2615	–	–	1690	2379
85	2335	–	–	1510	2124
90	3470	–	–	1650	3157
100	3090	–	–	1520	2811

Glossary of Terms

I M2 - Gas Group 1, M2 is the ATEX category for equipment suitable for Zones 21 & 22 (Mining applications).
II 2GD - Gas Group II, 2 is the ATEX category for equipment suitable for Zones 1 & 2, GD denotes suitability for both Gas and Dust atmospheres.
ATEX- The ATEX Directive (94/9/EC) applies to equipment and protective systems intended for use in potentially explosive atmospheres within Europe. The directive outlines the conformity assessment procedures and product classification for explosion protected (Ex) products. All explosion protected products placed on the market within Europe after 30th June 2003 must comply with these requirements.
Cable Glands - A fitting designed to terminate cable or flexible cord at junction boxes, control centers, lighting fixtures, panelboards and other enclosures. Also provides strain relief and environmental sealing.
CENELEC - The standards-writing body of the European Union.
Deluge Areas - A deluge area is one where the cable gland many be temporarily submersed in water.
(Shell DTS01 tested).
Earth Tag - Designed as a ground connection that is affixed to the entry threads of the cable gland.
E Exe I & II - Increased Safety, Gas Groups I (Mining) & II (Surface).
E Exe II - Increased Safety, Gas Group II (Surface).
GOST - Gosstandart is the state approvals and standards body of the Russian Federation.
IEC - International Electrotechnical Commission.
IP Rating - IP stands for ingress protection and is a term used by the IEC. The IP rating indicates the degree of protection provided by the cable gland from environmental elements. It is similar to NEMA ratings. IP54 is protected against dusts and no ingress of water sprayed from all directions. IP66 is completely dust proof and no ingress of water from jets similar to heavy seas. IP67 is completely dust proof and no ingress of water from immersion at 1 meter depth. IP68 is completely dust proof and no ingress of water from deeper and prolonged immersion.
PCP - polychloroprene.
PVC - poly-vinyl-chloride.
Reduced Bore - Options available on CENELEC certified Terminator Brass Cable Glands for a reduced bore on outer neoprene seal for smaller OD cable.
Shroud - A PVC, PCP or SIO accessory that is designed to cover the cable gland for added environmental protection.
SIO - Silicone, low smoke, zero halogen shroud.

5F Brass Cable Gland Accessories

Locknuts, Earth Tags, Sealing Washers, Metric Adapters, PVC Shrouds, PCP Shrouds

Brass Locknut – Standard locknut to affix a hazardous area brass cable gland in a plain hole

Size	Cat. #	Size	Cat. #	Size	Cat. #
M16	BLN/M16	M80	BLN/M80	1½″	BLN/150NPT
M20	BLN/M20	M85	BLN/M85	2″	BLN/200NPT
M25	BLN/M25	M90	BLN/M90	2½″	BLN/250NPT
M32	BLN/M32	M100	BLN/M100	3″	BLN/300NPT
M40	BLN/M40	½″	BLN/050NPT	3½″	BLN/350NPT
M50	BLN/M50	¾″	BLN/075NPT	4″	BLN/400NPT
M63	BLN/M63	1″	BLN/100NPT	–	–
M75	BLN/M75	1¼″	BLN/125NPT	–	–

Brass Earth Tag – Standard earth connection for threaded cable glands

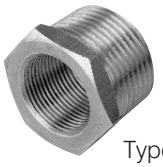
Size	Cat. #	Size	Cat. #	Size	Cat. #
M16	BET/M16	M80	BET/M80	1½″	BET/150NPT
M20	BET/M20	M85	BET/M85	2″	BET/200NPT
M25	BET/M25	M90	BET/M90	2½″	BET/250NPT
M32	BET/M32	M100	BET/M100	3″	BET/300NPT
M40	BET/M40	½″	BET/050NPT	3½″	BET/350NPT
M50	BET/M50	¾″	BET/075NPT	4″	BET/400NPT
M63	BET/M63	1″	BET/100NPT	–	–
M75	BET/M75	1¼″	BET/125NPT	–	–

Sealing Washer – Required to maintain IP ratings above IP54

Size	Cat. #	Size	Cat. #	Size	Cat. #
M16	RNSW/M16	M80	RNSW/M80	1½″	RNSW/150NPT
M20	RNSW/M20	M85	RNSW/M85	2″	RNSW/200NPT
M25	RNSW/M25	M90	RNSW/M90	2½″	RNSW/250NPT
M32	RNSW/M32	M100	RNSW/M100	3″	RNSW/300NPT
M40	RNSW/M40	½″	RNSW/050NPT	3½″	RNSW/350NPT
M50	RNSW/M50	¾″	RNSW/075NPT	4″	RNSW/400NPT
M63	RNSW/M63	1″	RNSW/100NPT	–	–
M75	RNSW/M75	1¼″	RNSW/125NPT	–	–

Brass Cable Gland Accessories

Locknuts, Earth Tags, Sealing Washers, Metric Adapters, PVC Shrouds, PCP Shrouds



Type A

Type B

Metric/NPT Thread Adapters – Brass adapters used to change the thread form and/or size

Adapters: NPT ◗ Metric — Class I, Zone I, Group IIC & Class II

Cat. #	Male Thread	Female Thread	Body Style
CAPRI: 740454	½″	20mm	B
CAPRI: 740714	½″	25mm	B
CAPRI: 740464	¾″	20mm	A
CAPRI: 740724	¾″	25mm	B
CAPRI: 740474	1″	20mm	A
CAPRI: 740734	1″	25mm	A
CAPRI: 740994	1″	32mm	B
CAPRI: 740744	1¼″	25mm	A
CAPRI: 741004	1¼″	32mm	A
CAPRI: 741274	1½″	40mm	A
CAPRI: 741284	2″	40mm	A
CAPRI: 741544	2″	50mm	A
CAPRI: 741804	2″	63mm	B
CAPRI: 741814	2½″	63mm	A

Adapters: Metric ◗ NPT — Class I, Zone I, Group IIC & Class II

CAPRI: 744704	20mm	½″	B
CAPRI: 744964	20mm	¾″	B
CAPRI: 744714	25mm	½″	A
CAPRI: 744974	25mm	¾″	B
CAPRI: 744984	32mm	¾″	A
CAPRI: 745244	32mm	1″	B
CAPRI: 745254	40mm	1″	A
CAPRI: 745514	40mm	1¼″	B
CAPRI: 745524	50mm	1¼″	A
CAPRI: 745794	63mm	1½″	A

Adapters are available with optional nickel-plate finish, add suffix -NP (i.e., ANM21-NP)

Black PVC Shroud – Covers the gland as added environmental protection

Size	Cat. #	Size	Cat. #
L24	PVC-L24	L65	PVC-L65
L30	PVC-L30	L80	PVC-L80
L38	PVC-L38	L90	PVC-L90
L46	PVC-L46	L104	PVC-L104
L55	PVC-L55	L114	PVC-L114

Black PCP Shroud – Covers the gland as added environmental protection†

Size	Cat. #†	Size	Cat. #†
L24	PCP-L24	L65	PCP-L65
L30	PCP-L30	L80	PCP-L80
L38	PCP-L38	L90	PCP-L90
L46	PCP-L46	L104	PCP-L104
L55	PCP-L55	–	–

† For a zero halogen version shroud, to be used with cable glands for extreme high and low temperature applications (i.e. TW3DC) change PCP catalog number to SIO (i.e., PCP-L24 becomes SIO-L24).

5F CAPRI Series Brass Cable Glands

One Gland for Steel-Wire Armour, Steel Wire Braid and Steel-Tape Cable

EEx e II
EEx d IIB
Zone 1 or 2
IP 68

Universal clamping with standard nickel plate finish

Application

For terminating cable in Zone 1 or 2 hazardous areas with ATEX/ CENELEC certified equipment and steel wire armoured, braided or steel-tape cable.For use indoors or outdoors.
● E Exe II rating ● E Exd IIB rating ● E Exd IIC <2000 cm³

Features

All CAPRI Series brass cable glands offer:
- one gland for 3 types of cable.
- a standard nickel plate finish.
- clamping and bonding on the armour.
- a flameproof seal on the inner sheath of the cable.
- a weatherproof seal to the outer sheath of the cable.
- IP68 ingress protection.
- a neoprene bushing temperature range of -40°C to 100°C.
- an optional earthing washer for use with lead sheath cable.
- metric or NPT entry threads.
- a perfect fit for cables with an inner sheath diameter of 4 mm to 82 mm.

Certifications and Compliances

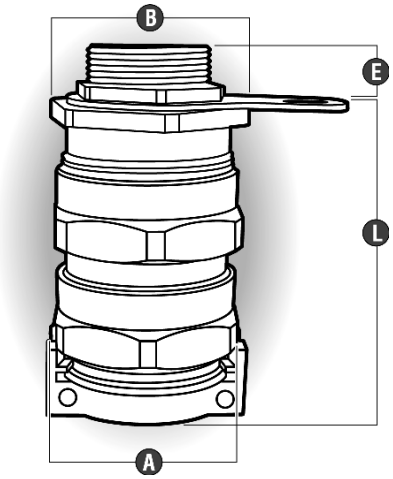
- ATEX E Exd IIC / E Exe II by Securite LCIE 97 ATEX 6006X
- Standards EN50014, EN50018, EN50019:2000, EN50281-1-1 and 2.
- IP68

Metric Design Data (millimeters)

Thread Size	Gland Size	A	B	E	L
16	5	19.0	19.0	15.0	36.0
16	6	24.0	24.0	15.0	42.0
20	5	19.0	24.0	15.0	36.0
20	6	24.0	24.0	15.0	42.0
20	7	30.0	30.0	15.0	46.0
25	6	24.0	30.0	15.0	42.0
25	7	30.0	30.0	15.0	46.0
25	8	41.0	41.0	15.0	56.0
32	8	41.0	41.0	15.0	56.0
32	9	48.0	48.0	15.0	63.0
40	9	48.0	48.0	15.0	63.0
40	10	55.0	55.0	15.0	68.0
50	10	55.0	55.0	16.0	68.0
50	11	64.0	64.0	16.0	74.0
63	12	72.0	72.0	17.0	77.0
63	13	85.0	85.0	17.0	85.0
75	13	85.0	85.0	18.0	85.0
75	14	95.0	95.0	18.0	92.0
80	14	95.0	95.0	20.0	92.0
80	15	110.0	110.0	20.0	104.0
90	15	110.0	110.0	22.0	104.0
90	16	120.0	110.0	22.0	108.0

NPT Design Data (millimeters)

Thread Size	Gland Size	A	B	E	L
½″	5	19.0	24.0	16.0	36.0
½″	6	24.0	24.0	16.0	42.0
½″	7	30.0	30.0	16.0	46.0
¾″	6	24.0	30.0	16.0	42.0
¾″	7	30.0	30.0	16.0	46.0
¾″	8	41.0	41.0	16.0	56.0
1″	8	41.0	41.0	20.0	46.0
1″	9	48.0	48.0	20.0	63.0
1¼″	9	48.0	48.0	20.0	63.0
1¼″	10	55.0	55.0	20.0	68.0
1½″	10	55.0	55.0	20.0	68.0
1½″	11	64.0	64.0	20.0	74.0
2″	12	72.0	72.0	20.0	77.0
2″	13	85.0	85.0	20.0	85.0
2½″	13	85.0	85.0	28.0	85.0
2½″	14	95.0	95.0	28.0	92.0
3″	15	110.0	110.0	30.0	104.0
3″	16	120.0	120.0	30.0	108.0



CAPRI Series
Brass Cable Glands cont.

One Gland for Steel-Wire Armour, Steel Wire Braid and Steel-Tape Cable

EEx e II
EEx d IIB
Zone 1 or 2
IP 68

Ordering Information

Capri ADE 4F Series – Metric

Thread Size	Gland Size	GLAND SEAL RANGE				Armour Range	Catalog Number
		Cable Inner Sheath		Cable Outer Sheath			
		Min	Max	Min	Max		
16	5	4.0	8.5	6.0	12.0	0.90	CAPRI:846594
16	6	6.0	12.0	8.5	16.0	1.25	CAPRI:846504
20	5	4.0	8.5	6.0	12.0	0.90	CAPRI:846674
20	6	6.0	12.0	8.5	16.0	1.25	CAPRI:846694
20	7	8.5	15.5	12.0	21.0	1.25	CAPRI:846604
25	6	6.0	12.0	8.5	16.0	1.25	CAPRI:846774
25	7	8.5	16.0	12.0	21.0	1.25	CAPRI:846794
25	8	12.0	20.5	16.0	27.5	1.60	CAPRI:846704
32	8	12.0	21.0	16.0	27.5	1.25	CAPRI:846894
32	9	16.0	27.5	21.0	34.0	1.60	CAPRI:846804
40	9	16.0	27.5	21.0	34.0	2.00	CAPRI:846994
40	10	21.0	34.0	27.0	41.0	2.00	CAPRI:846904
50	10	21.0	34.0	27.0	41.0	2.50	CAPRI:847094
50	11	27.0	41.0	33.0	48.0	2.50	CAPRI:847004
63	12	33.0	48.0	40.0	56.0	2.50	CAPRI:847294
63	13	40.0	56.0	47.0	65.0	2.50	CAPRI:847204
75	13	40.0	56.0	47.0	65.0	2.50	CAPRI:847394
75	14	47.0	65.0	54.0	74.0	3.15	CAPRI:847304
80	14	47.0	65.0	54.0	74.0	3.15	CAPRI:847494
80	15	54.0	73.0	63.0	83.0	3.15	CAPRI:847404
90	15	54.0	74.0	63.0	83.0	3.15	CAPRI:847594
90	16	63.0	82.0	72.0	93.0	3.15	CAPRI:847504

Capri ADE 4F Series – NPT

Thread Size	Gland Size	GLAND SEAL RANGE				Armour Range	Catalog Number
		Cable Inner Sheath		Cable Outer Sheath			
		Min	Max	Min	Max		
½″	5	4.0	8.5	6.0	12.0	0.90	CAPRI:848674
½″	6	6.0	12.0	8.5	16.0	1.25	CAPRI:848694
½″	7	8.5	15.5	12.0	21.0	1.25	CAPRI:848604
¾″	6	6.0	12.0	8.5	16.0	1.25	CAPRI:848774
¾″	7	8.5	16.0	12.0	21.0	1.25	CAPRI:848794
¾″	8	12.0	20.5	16.0	27.5	1.60	CAPRI:848704
1″	8	12.0	21.0	16.0	27.5	1.25	CAPRI:848894
1″	9	16.0	26.0	21.0	34.0	1.60	CAPRI:848804
1 ¼″	9	16.0	27.5	21.0	34.0	2.00	CAPRI:848994
1 ¼″	10	21.0	34.0	27.0	41.0	2.00	CAPRI:848904
1 ½″	10	21.0	34.0	27.0	41.0	2.00	CAPRI:849094
1 ½″	11	27.0	41.0	33.0	48.0	2.50	CAPRI:849004
2″	12	33.0	48.0	40.0	56.0	2.50	CAPRI:849294
2″	13	40.0	53.0	47.0	65.0	2.50	CAPRI:849204
2 ½″	13	40.0	56.0	47.0	65.0	2.50	CAPRI:849494
2 ½″	14	47.0	62.5	54.0	74.0	2.50	CAPRI:849404
3″	15	54.0	74.0	63.0	83.0	3.15	CAPRI:849594
3″	16	63.0	78.0	72.0	93.0	3.15	CAPRI:849504

Clamping Module

Gland Size	Cable Dia.		Catalog Number
	Min	Max	
5	8.0	12.0	CAPRI:810534
6	8.5	16.0	CAPRI:810634
7	12.0	21.0	CAPRI:810734
8	16.0	27.5	CAPRI:810834
9	21.0	34.0	CAPRI:810934
10	27.0	41.0	CAPRI:811034
11	33.0	48.0	CAPRI:811134
12	40.0	56.0	CAPRI:811234
13	47.0	65.0	CAPRI:811334
14	54.0	74.0	CAPRI:811434
15	63.0	83.0	CAPRI:811534
16	72.0	93.0	CAPRI:811634

PVC Shroud

Gland Size	Cable Dia.		Catalog Number
	Min	Max	
5	6.0	12.0	CAPRI:506050
6	8.5	16.0	CAPRI:506060
7	12.0	21.0	CAPRI:506070
8	16.0	27.5	CAPRI:506080
9	21.0	34.0	CAPRI:506090
10	27.0	41.0	CAPRI:506100
11	33.0	48.0	CAPRI:506110
12	40.0	56.0	CAPRI:506120
13	47.0	65.0	CAPRI:506130
14	54.0	74.0	CAPRI:506140
15	63.0	83.0	CAPRI:506150
16	72.0	93.0	CAPRI:506160

Lead Sheath Earthing Washer

Gland Size	Catalog Number
5	CAPRI:506050
6	CAPRI:506060
7	CAPRI:506070
8	CAPRI:506080
9	CAPRI:506090
10	CAPRI:506100
11	CAPRI:506110
12	CAPRI:506120
13	CAPRI:506130
14	CAPRI:506140
15	CAPRI:506150
16	CAPRI:506160

Earth Tags, Locknuts, Washers – for CAPRI Series only

Thread Size	Nickel Plated Brass Earth Tag	Nickel Plated Brass Locknut	Neoprene Sealing Washer
½″	CAPRI:567064	CAPRI:280124	CAPRI:229012
¾″	CAPRI:567084	CAPRI:280134	CAPRI:229034
1″	CAPRI:567104	CAPRI:280144	CAPRI:229010
1 ¼″	CAPRI:567134	CAPRI:280154	CAPRI:229114
1 ½″	CAPRI:567154	CAPRI:280164	CAPRI:229112
2″	CAPRI:567174	CAPRI:280174	CAPRI:229020
2 ½″	CAPRI:567194	CAPRI:280184	CAPRI:229212

Thread Size	Nickel Plated Brass Earth Tag	Nickel Plated Brass Locknut	Neoprene Sealing Washer
M16	CAPRI:567034	CAPRI:221694	CAPRI:221649
M20	CAPRI:567054	CAPRI:222094	CAPRI:222049
M25	CAPRI:567074	CAPRI:222594	CAPRI:222549
M32	CAPRI:567094	CAPRI:223294	CAPRI:223249
M40	CAPRI:567124	CAPRI:224094	CAPRI:224049
M50	CAPRI:567154	CAPRI:225094	CAPRI:225049
M63	CAPRI:567184	CAPRI:226394	CAPRI:226349
M75	CAPRI:567194	CAPRI:227594	CAPRI:227549

5F CD Series Ordinary Location Drain

Straight Body ● Male Thread

Application:

CD Series drains are for use in conduit systems to:
- Drain accumulated condensate.
- Provide ventilation to minimize condensation.

Drains are installed in hubs or drilled and tapped openings.

Standard Materials:

- CD bodies and nuts – steel or aluminum
- CD screen – stainless steel

Standard Finishes:

- Steel – electrogalvanized with chromate treatment.

Certifications and Compliances:

- UL Standard 514B

Options:

- Copper-free aluminum construction – add suffix -SA

Ordering Information:

Size	Cat. #
½	CD1
¾	CD2

Application:

EBY portable cord connectors are installed to:
- provide means for passing cord into an enclosure, through a bulkhead or into a rigid conduit in hazardous areas.
- form a non-slip connection or termination for cord

Features:

EBY portable cord connectors have:
- heavy duty rating
- factory sealing
- three, 12 inch long, #12 type SF-2 (150° C rating) stranded pigtails; 2 circuit wires and one identified grounding wire
- 3 pressure connectors for 3-conductor cord, range #18 to #12 AWG
- rugged construction to protect cable and cord from mechanical damage
- compact size permitting close grouping of several cords and/or cables
- cord clamp
- long neck bushings to prevent fraying of cord

Standard Materials:

- Copper-free aluminum
- Insulators – phenolic
- Bushing – Neoprene

Standard Finishes:

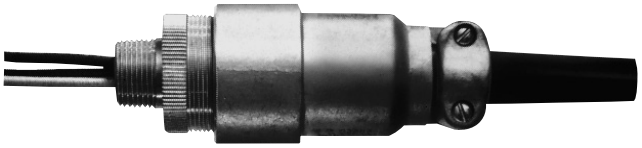
- Natural

Size Ranges:

- Thread – NPT ¾″ only
- Cord O.D. – .250″ to .625″

Certifications and Compliances:

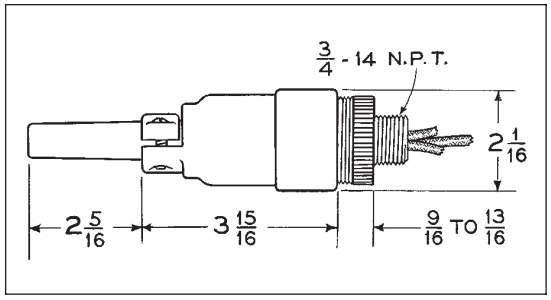
- NEC: Class I, Division 1 & 2, Groups B,C,D
  Class II, Division 1 & 2, Group G
- UL Standard: 886



EBY

Nipple Size	Cord Dia.	Cat. #
¾	.250 to .437	EBY2672
¾	.375 to .500	EBY2682
¾	.500 to .625	EBY26102

Dimensions



5F Sealing Connector

Cl. I, Div. 1 & 2, Groups C,D
Cl. II, Div. 1 & 2, Group G
Cl. III

Application:

CGBS sealing connectors are for use with portable cords and types MV (unarmored), PLTC, SE (round), TC and UF cables. CGBS sealing connectors are installed to:

- provide means for passing cord into an enclosure, through a bulkhead or into a rigid conduit in hazardous areas

These connectors are suitable for use in Class I, Groups C, D, Class II, Group G, and Class III locations.

- form a watertight seal for cord
- form a non-slip connection of termination for cord

Features:

CGBS sealing connectors have:

- rugged construction to protect cable and cord from mechanical damage
- compact size permitting close grouping of several cords and/or cables
- body well for Chico A sealing compound
- watertight seal by tightening one nut
- cord clamp
- large range of NPT sizes to permit use with any conduit system
- long neck bushings prevent cord fraying

Standard Materials:

- Body – steel
- Gland nut – copper-free aluminum
- Bushing – Neoprene

Standard Finishes:

- Steel – electrogalvanized with chromate treatment
- Aluminum – natural

Size Ranges:

- Thread – NPT ½″ to 1¼″
- Cord O.D. – 5⁄16″ to 1 3⁄16″

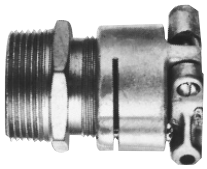
Certifications and Compliances:

- NEC: Class I, Division 1 & 2, Groups C,D
  Class II, Division 1 & 2, Group G
  Class III

* Supplied complete with wire mesh grip in Canada.

Style A

Style B*

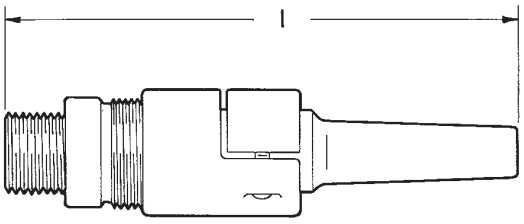


CGBS

Size	Style	Cord Dia.	Complete with Gland Nut and Neoprene Bushing Cat. #	Neoprene Bushing Cat. #
½	A	.312 to .437	CGBS1013	BUSH013
¾	A	.312 to .437	CGBS2013	BUSH013
¾	A	.375 to .500	CGBS2014	BUSH014
1	B	.500 to .625	CGBS3015	BUSH95
1	B	.625 to .750	CGBS3016	BUSH96
1¼	B	.750 to .875	CGBS4017	BUSH97
1¼	B	.875 to 1.000	CGBS4018	BUSH98
1¼	B	1.000 to 1.188	CGBS4019	BUSH99

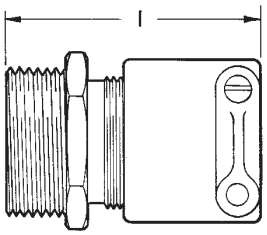
Note: See page 196 for Chico A Sealing Compound required to complete seal installation on CGBS series.

Dimensions



Style A

Cat. #	Style	l
CGBS1013	A	5¼
CGBS2013	A	5¼
CGBS2014	A	5¼
CGBS3015	B	2⅞
CGBS3016	B	2 15⁄16
CGBS4017	B	2 13⁄16
CGBS4018	B	3½
CGBS4019	B	3 9⁄16



Style B

LCC Series Cable Tray Conduit Clamps

Application:

LCC cable tray conduit clamps are used for installation on cable tray side rails with inside flanges (requiring inside tray mounting) and outside flanges; LCCF clamps are for use exclusively on inside flanges.

LCC/LCCF cable tray conduit clamps:

- provide a means of clamping metal conduit (rigid steel or aluminum, IMC and EMT) to cable tray to provide for the exit of power and/or control cables from tray
- provide a means to firmly bond exit conduit to cable tray for best grounding continuity
- provide strong mechanical support for exit conduits and cables
- can be used indoors or outdoors, wherever cable tray systems are installed
- facilitate the safe exit of cables from tray – insure protection of cables from damage

Features:

- Quick and easy installation – low installed cost. Merely tighten clamp nut and/or set screw(s)
- Swivel hook clears conduit. No disassembly required for installation
- No drilling or welding necessary for installation
- Provides superior ground continuity between conduit and cable tray
- Clamps conduit at any angle with relation to tray – facilitates wire pulling, minimizes conduit bending
- Malleable iron body provides great strength
- Knurled body has no-slip surface for conduit and tray – positive grip assured
- Compact design has low profile – minimum tray space required for assembly
- Design accommodates all popular types of cable tray
- Accommodates wide range of conduit sizes – ½″ through 4″

LCCF features:

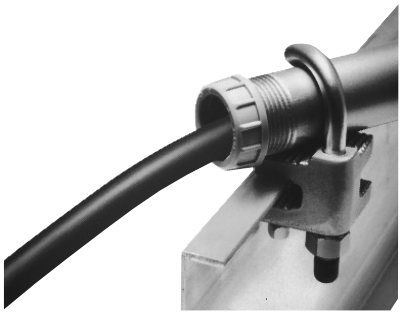
- Outside mounting facilitates inside rail installation
- Adjustable hook assures positive grip on inside rail
- Accommodates ¾″ through 1¾″ wide flange

Standard Materials:

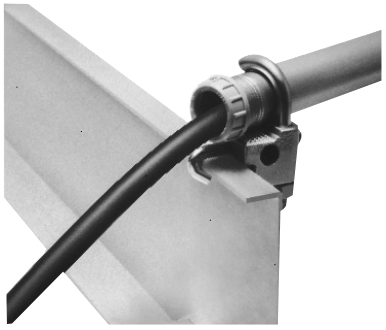
- Body – cast iron
- Hook – steel
- Set screws and clamping nut – steel
- Hook cap – vinyl

Standard Finishes:

- Cast iron – electrogalvanized and aluminum acrylic paint
- Steel – zinc electroplate
- Vinyl – natural



LCC – for use with outside rail tray



LCCF – for use with inside rail tray

Conduit Size Ranges:

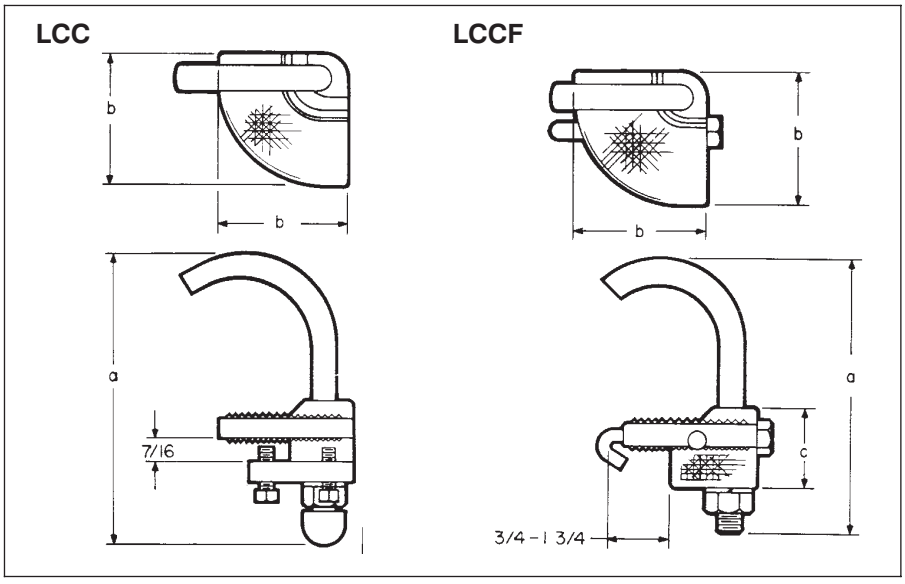
- ½″ to 4″

Certifications and Compliances:

- UL Standard: 467 (grounding and bonding equipment)

Conduit Size	Cat. #	Cat. #
½	LCC1	LCCF1
¾	LCC2	LCCF2
1	LCC3	LCCF3
1¼	LCC4	LCCF4
1½	LCC5	LCCF5
2	LCC6	LCCF6
2½	LCC7	LCCF7
3	LCC8	LCCF8
3½	LCC9	LCCF9
4	LCC010	LCCF010

Dimensions



Conduit Size	LCC a	LCC b
½	3 3/16	1 1 1/16
¾	3 7/16	1 1 1/16
1	3 9/16	1 1 1/16
1¼	4	1 1 1/16
1½	4 13/16	2 1 1/16
2	5 5/16	2 1 1/16
2½	5 13/16	2 1 1/16
3	6 13/16	3 3/4
3½	7 5/16	3 3/4
4	7 13/16	3 3/4

LCCF a	LCCF b	LCCF c
3 1/8	1 5/8	1 11/32
3 11/32	1 5/8	1 11/32
3 19/32	1 5/8	1 11/32
3 15/16	1 5/8	1 11/32
4 3/4	2 3/4	1 11/16
5 1/4	2 3/4	1 11/16
5 3/4	2 3/4	1 11/16
6 3/4	3 11/16	2 3/16
7 1/4	3 11/16	2 3/16
7 3/4	3 11/16	2 3/16

5F TGC Cable Tray Ground Conductor Clamp

Application:

Cable tray grounding conductor clamps are designed for use in heavy industrial applications:

- to provide a means for securely attaching a grounding conductor to cable tray to maintain grounding continuity for the entire cable tray system
- to provide protection of equipment through a reliable method for carrying ground fault currents
- to meet UL and NECode requirements
- for installation indoors or outdoors, with most types of cable trays with inside or outside flanges

Features:

- Meets requirements of NECode Article 318-7 for grounding and bonding
- Quick and easy installation – low installed cost. No drilling or special tools required.
- Accommodates solid (where suitable) or stranded aluminum or copper grounding conductors in sizes from #6 to 2/0
- Set screw bonds the clamp to the tray and another set screw securely attaches the grounding conductor to the clamp – outstanding pull-out and vibration resistance
- Design accommodates most popular types of cable tray
- Mechanical device – can be easily inspected
- Malleable iron body provides high strength

Standard Materials:

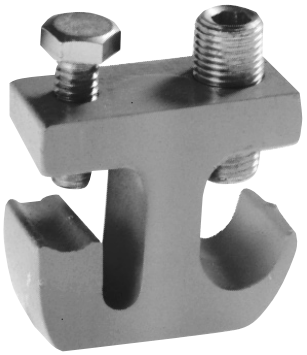
- Body – malleable iron
- Set screws – steel

Standard Finishes:

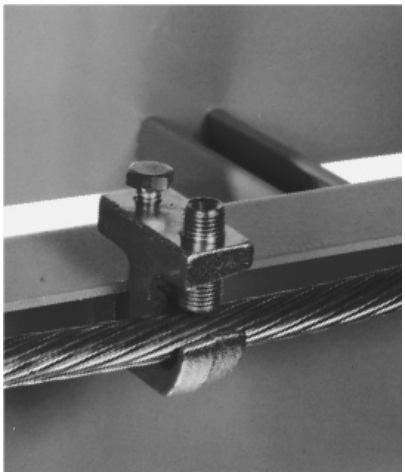
- Malleable iron and steel – electrogalvanized

Certifications and Compliances:

- UL Standard: 467 (Grounding and Bonding Equipment)

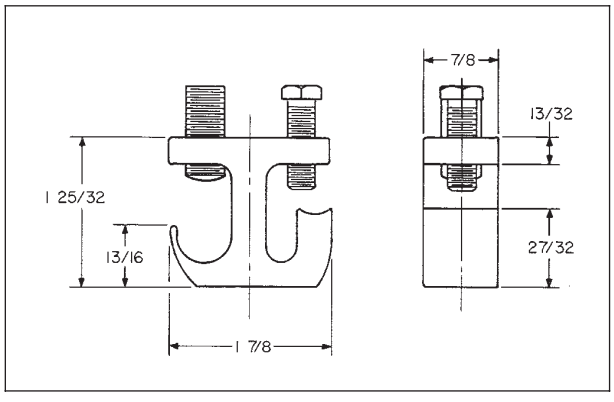


Ground Wire Size	Cat. #
#6 to 2/0	TGC40



TGC Clamp installs on cable trays with inside or outside flanges

Dimensions



TW Series THRU-WALL BARRIER® Cable/Conduit Sealing Device

Ordering Information Pgs. 102 to 105
Dimensions Pgs. 105 and 106

Application:

THRU-WALL BARRIER cable/conduit sealing device is used wherever there is a need to seal cables or conduits penetrating fire- or non-fire-rated walls, ceilings, floors, bulkheads or decks. For non-fire-rated walls, ceilings, floors, bulkheads or decks, THRU-WALL BARRIER also restricts water and dust and will help contain treated air.

THRU-WALL BARRIER is designed:

- to provide a seal for cable/conduit penetrations through masonry, concrete or steel; to restrict the entrance of contaminants through cable/conduit penetrations into clean areas
- for use with most types of power, instrument and control cables as well as conduits
- to be used indoors or outdoors, in new construction or existing structures

Features:

System

- Few parts required to seal a wide range of diameters of cables or conduits
- Easy and fast installation, using factory assembled components
- High degree of flexibility with interchangeable sealing block assemblies and a selection of different sizes of frames

Mounting frame

- One-piece cast malleable iron or steel mounting frame can be cast into concrete during wall construction, grouted in masonry surfaces or welded into steel bulkheads at any time
- Retrofit frame allows for easy installation of frame where cables/conduit are already installed
- Available in sizes to accommodate a wide range of cable tray sizes and loadings including single and multiple layers of cables for power or instrument applications
- Cast keyways in mounting frame align and position sealing block assemblies
- Frames can be installed in wall such that sealing block assemblies can be inserted in either horizontal or vertical position

Sealing block assembly

- Specially formulated elastomeric material between cast malleable iron pressure plates protects cable from mechanical damage; provides high pullout resistance and positive cable separation; expands during fire to seal any voids left by burned cable insulation
- Interchangeable sealing block assemblies fit all THRU-WALL BARRIER mounting frames
- Cast stops on front pressure plate prevent sealing block assembly from slipping through mounting frame during installation
- Assemblies are offered for all cable/conduit outside diameters from .250″ to 4.500″ (6.4 mm to 114.3 mm). Cables with diameters less than .250″ can be accommodated – consult Cooper Crouse-Hinds.

- Sealing block openings will accommodate undersize and out-of-round cable
- Each sealing block assembly seals multiple cables/conduits. Compact design permits close nesting of cables, saving space.
- Reducers permit sealing block assemblies to accept cables with smaller O.D. than the specified range
- Plugs are used to fill unused openings in sealing block assemblies. Blank sealing block assemblies fill unused spaces in mounting frames, providing for future expansion.

Standard Materials:

- Mounting frame:
  TWF, TWFR – cast malleable iron
  TWFS – cast carbon steel, ASTM A27 Grade 60-30
- Pressure plate – cast malleable iron
- Sealing material – special elastomeric material
- Clamping hardware – steel

Standard Finish:

- Malleable iron and hardware – electrogalvanized
- Steel – aluminized weldable paint
- Special elastomeric material – natural

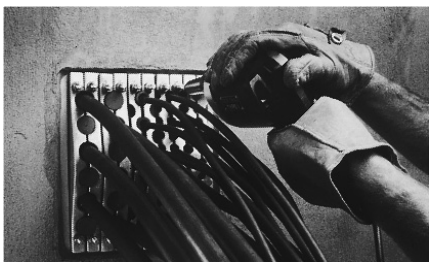
Certifications and Compliances:

- ASTM Standard E-119
- NFPA 251
- UL Classification per UL Standard 1479
- USCG Acceptance – consult Cooper Crouse-Hinds
- NAVSEA Approval – Electric Plant Installation Standard Methods No. S9300-AW-EDG-010/EPISM – TWFS/TWBS assemblies

Easy three step installation

1. Cast, grout or weld the one-piece mounting frame into masonry or steel surface.

2. Feed cables/conduit through the frame.



3. Position cables/conduit, insert factory-assembled sealing blocks into keyways in mounting frame, and tightened nuts on clamping hardware to effect the seal.

5F TW Series THRU-WALL BARRIER® Cable Conduit Sealing Device

Sealing Block Assemblies & Mounting Frames

Dimensions Pgs. 105 and 106

TWB Sealing Block Assemblies

TWB sealing block assemblies are offered for cable/conduit outside diameters (O.D.) from .250″ to 4.500″ (6.4 mm to 114.3 mm). Cables with diameters less than .250″ can be accommodated – consult Cooper Crouse-Hinds. Each assembly opening will accommodate a .250″ (6.4 mm) O.D. range. When clamping hardware is tightened, the elastomeric material is uniformly compressed around all cable/conduits for a completely tight fit.

Sealing block assemblies are offered for use in marine applications. Each assembly has the required lubrication and sealing gaskets to meet U.S. Navy Hydrostatic Pressure Test Requirements. Assemblies for marine applications are available for cable/conduit outside diameters (O.D.) from .250″ (6.4 mm) through 3.500″ (88.9 mm). To order, add suffix S to TWB sealing block assembly Cat. No. **Example: TWBS4036.**

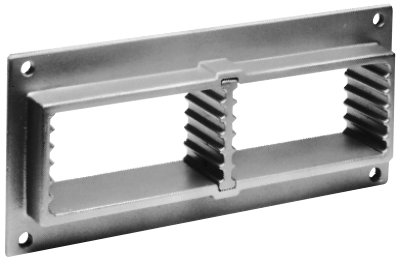
TWB2063
Depending on opening size range, a standard sealing block assembly will seal from one to eleven cables

Opening Size Range In. / mm	.250-.500 6.4-12.7		.500-.750 12.7-19.1		.750-1.000 19.1-25.4	1.000-1.250 25.4-31.8	1.250-1.500 31.8-38.1	1.500-1.750 38.1-44.5	1.750-2.000 44.5-50.8	2.000-2.250 50.8-57.2	2.250-2.500 57.2-63.5
No. Openings In Block	11	11 Added*	6	11 Added*	6	5	4	3	3	3	2
Sealing Block Assembly Cat. #	TWB2111 TWB1111		TWB2062 TWB2112		TWB2063	TWB3054	TWB3045	TWB30355	TWB4036	TWB40366	TWB5027
Frame Spaces Required	2	1	2	2	2	3	3	3	4	4	5
Plug Cat. #	TWP1				TWP3		TWP5		TWP6		TWP7
Reducer Cat. #§	— ◀		TWR2 ◀		TWR3 ◀	TWR4 ◀	TWR5 ◀	TWR55 ◀	TWR6 ◀	TWR66 ◀	TWR7 ◀

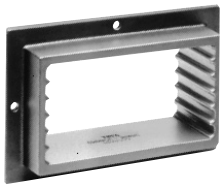
TWF Mounting Frames

TWF(S) mounting frames may be installed either horizontally or vertically. TWFR retrofit frames are used wherever cables/conduits are already installed through a fire- or non-fire-rated wall, floor or ceiling. They are designed with a removable section to permit installation around cables/conduits. TWFR retrofit frames can be grouted into walls, floors, or ceilings; or welded into steel bulkheads or decks. TWFR retrofit frames will perform in the same manner as the one-piece TWF(S) frames.

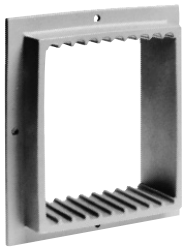
TWFS steel mounting frames are welded directly into steel bulkheads, decks and prepared sleeves. For marine applications, keeper bars are provided to securely hold TWBS sealing block assemblies in position when installed.



TWF12

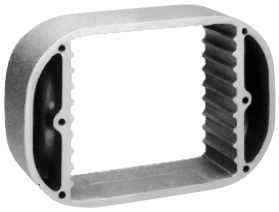


TWF6



TWF10

No. of Spaces Available	Frame Cat. #	Retrofit Frame Cat. #	Cast Steel Frame Cat. #
6	TWF6	TWFR6	
10	TWF10	TWFR10	TWFS10
12	TWF12♦	TWFR12♦	
20	TWF20	TWFR20	TWFS20
24	TWF24	TWFR24	
30	TWF30	TWFR30	TWFS30

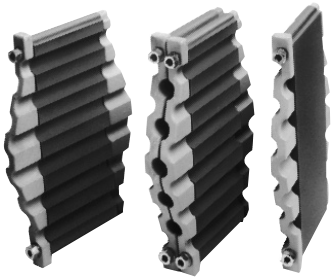


TWFS10

TW Series THRU-WALL BARRIER® Cable/Conduit Sealing Device

Plugs, Reducers, Closure Cover Kits, Anchors & Lubricant Ordering Information

TWB2062



TWB2112

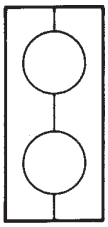
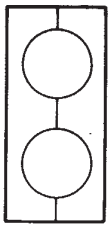
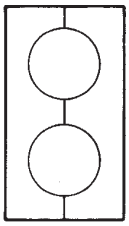
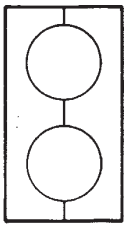
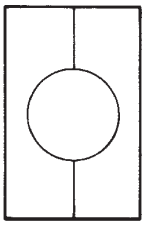
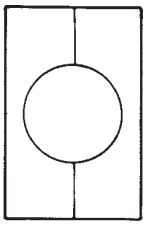
TWP Plugs

TWP plugs will close any unused openings in sealing block assemblies. See table for plug catalog numbers which match specific sealing block assemblies.

TWR Reducers

TWR reducers will reduce openings by .250″ (6.4 mm) in sealing block assemblies. See table for reducer catalog numbers which match specific sealing block assemblies. More than one reducer can be used in a single opening.

It is possible to increase cable fill density with double-sided sealing block assemblies (TWB1111 and TWB2112) sandwiched between halves of a standard assembly.

	2.500-2.750 63.5-69.9	2.750-3.000 69.9-76.2	3.000-3.250 76.2-82.6	3.250-3.500 82.6-88.9	3.500-4.250† 101.6-108.0	4.250-4.500 108.0-114.3	Blank – No Openings	
	2	2	2	2	1	1	None	None
	 TWB50277	 TWB5028	 TWB60288	 TWB6029	 TWB7011010	 TWB70111	 TWB1	 TWB3
	5	5	6	6	7	7	1	3
	TWP7	TWP8		TWP9	TWP10	TWP11	—	
◀	TWR77 ◀	TWR8 ◀	TWR88 ◀	TWR9 TWR99 ◀	TWR1010 TWR10 ◀	TWR11 ◀	—	

TWB Closure Cover Kits

TWB closure cover kits offer an optional method to close TWF frames installed for future expansion or those that are abandoned. Closure cover kits include two covers clamped to opposite sides of the frame with hardware provided. The insulating material provided is sandwiched between the two covers to maintain the fire rating of the assembly. See table below for closure kit catalog numbers.

No. of Spaces Available	Closure Cover Kit Cat. #**
6	TWB600
10	TWB1000
12	TWB600‡
20	TWB2000
24	TWB2400
30	TWB3000

TWK Anchors

TWK anchor assemblies are used to attach mounting frames to wall, ceiling or floor when grouting in frames.

Mounting Type	Cat. #
Flush	TWK1
Recessed	TWK2

† For 3.5″ - 4″ cable/conduit – use TWB7011010 assembly and reduce down using TWR reducers.

* Catalog # TWB1111 and TWB2112 are used between TWB2111 and TWB2062 in cases where the number of cables to be sealed in .250-.750 range exceeds the number of openings in standard assemblies. Use as many of these higher density assemblies as needed, sandwiched between halves of a standard assembly.

** TWB closure cover kits are not designed to provide a watertight seal in marine/shipboard applications or washdown areas. One kit seals one unused frame opening of same size. Example: use one TWB2000 kit to seal one TWF20, or TWFR20 frame.

‡ Use two TWB600 kits to seal one TWF12 or TWFR12 frame opening.

§ TWR reducers match TWB sealing block assemblies shown in column above Cat. No. and reduce openings to accept cable size ranges shown in adjacent column to the left (in direction of arrow).

◆ Includes removable partition.

5F TW Series THRU-WALL BARRIER® Cable/Conduit Sealing Device

Ordering Information
Ordering Example A

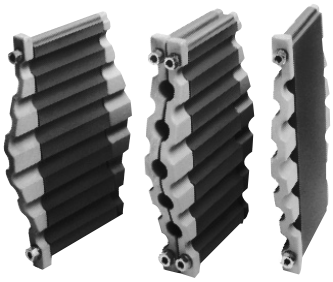
Product Information

Selecting and specifying THRU-WALL BARRIER components is a simple procedure. Primary components for the THRU-WALL BARRIER consist of TWF mounting frames in various sizes and TWB sealing block assemblies for cable/conduit outside diameters (O.D.) in ¼-inch increments from .250″ to 4.500″ (6.4 mm to 114.3 mm). Cables with diameters less than .250″ can be accommodated – consult Cooper Crouse-Hinds.

Cable/conduit sizes can be mixed within a sealing block assembly by inserting TWR reducers to accommodate smaller diameters. The use of reducers can decrease the number of sealing block assemblies required. More than one reducer can be used in a single opening.

Another way to increase density is to use TWB1111 and TWB2112 sealing block assemblies wherever there is a large number of cables/conduits in sizes ranging from .250″ to .750″.

TWB2112



TWB2062

Shown here is a double-sided sealing block assembly (TWB2112) sandwiched between halves of a standard sealing block assembly (TWB2062). Additional double-sided sealing block assemblies may be used to accommodate larger quantities of cables or conduits.

Unused sealing block openings must be closed with TWP plugs. Blank sealing block assemblies TWB1 and TWB3 are used to fill each unused space in the mounting frame and permit future expansion of the system. Typical practice is to include space allowance of 20 to 50% for future expansion. TWB closure kits are used to seal entire frames and permit future system expansion.

Specifying & Ordering

The selection of components is based on the quantity and sizes of cables or conduits going through the penetrations. Once these are known, the sealing block assemblies and frames can be selected.

Step 1. Group cables/conduits by outside diameter (O.D.) and rank from the largest to the smallest.

Step 2. Keeping in mind that sealing block assemblies are available in one-quarter inch increments, group cables/conduits that fall within the same sealing block assembly O.D. size range.

Step 3. Starting with the largest cable/conduit O.D., select the sealing block assemblies required. All openings in each sealing block assembly must be filled. Specify TWR reducers to accommodate smaller diameter cables where possible and TWP plugs to fill openings not used.

Step 4. Total the frame spaces required for the specified sealing block assemblies and select an appropriate mounting frame(s). Frames are available in 6-, 10-, 12-, 20-, 24- and 30-space sizes. Keep future expansion requirements in mind when specifying frame. Specify blank sealing block assemblies to fill unused mounting frame space and TWB closure cover kits to fill unused frames.

Step 5. Check specification/order to be sure it includes 1) frames, 2) sealing block assemblies, 3) plugs and 4) reducers.

Ordering Example A:

Cable tray size: 24″
Cables specified: 5 power cables – sizes ranging from 1.960″ to 2.200″ O.D.
Spare capacity required: 50%

Step 1. Group cables by O.D. and rank from largest to smallest.

	Cable Qty.	Cable O.D.
	4	2.200
	1	1.960
Total	5	

Step 2. Group cables that fall within the same sealing block assembly size.

	Cable Qty.	Sealing Block O.D. Range
	4	2.000-2.250
	1	1.750-2.000
Total	5	

Step 3. Starting with the largest cable O.D., select the quantity of sealing block assemblies required. Specify TWR reducers to accommodate smaller diameter cables where possible and TWP plugs to fill openings not used. (See Example A diagram.)

Note: In the example, one TWR66 reducer is required to accommodate the cable with 1.960″ O.D. and one TWP6 plug is required for the unused opening.

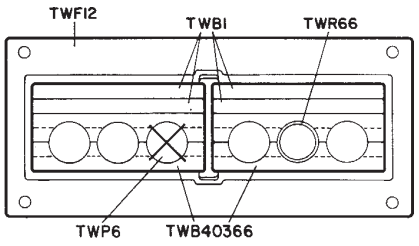
Step 4. Total the frame spaces required for sealing block assemblies and select appropriate size mounting frame. Factor in spare capacity required for future expansion.

Total frame spaces required	8
Specification requires 50% spare capacity	4
Total spaces	12

Selection: One TWF12 mounting frame with capacity of 12 spaces. Four TWB1 blank sealing block assemblies to fill unused frame space. (Choice of frame could vary based on future expansion needs and/or specific cable arrangement.)

Sealing Block Assy Cat. #	O.D. Range	Number of Openings	Cables to be Sealed	Openings Not Used	Frame Spaces Required
TWB40366	2.000-2.250	3	3	—	4
TWB40366	2.000-2.250	3	2	1	4
	Totals	66	5	1	8

Step 5. Bill of materials for specification/order should read:
(1) TWF12
(2) TWB40366
(4) TWB1
(1) TWR66
(1) TWP6



Example A diagram

TW Series THRU-WALL BARRIER® Cable/Conduit Sealing Device

Ordering Example B
Dimensions

Ordering Example B:

Cable tray size: 24″
Cables specified: 6 power cables – sizes ranging from 2.140″ to 2.180″ O.D.
31 control cables – sizes ranging from .550″ to .945″ O.D.
Spare capacity required: 25%

Step 1. Group cables by O.D. and rank from largest to smallest

	Cable Qty.	Cable O.D.
	4	2.180
	2	2.140
	1	.945
	4	.890
	7	.700
	9	.637
	10	.550
Total	37	

Step 2. Group cables that fall within the same sealing block assembly O.D. range.

Cable Qty.	Sealing Block O.D. Range
6	2.000-2.250
5	.750-1.000
26	.500- .750
Total 37	

Step 3. Starting with the largest cable O.D., select the quantity of sealing block assemblies required. Specify TWR reducers to accommodate smaller diameter cables where possible and TWP plugs to fill openings not used. (See Example B diagram.)

Sealing Block Assy Cat. #	O.D. Range	Number of Openings	Cables to be Sealed	Openings Not Used	Frame Spaces Required
TWB40366	2.000-2.250	3	3	—	4
TWB40366	2.000-2.250	3	3	—	4
TWB2063	.750-1.000	6	5	1	2
TWB2062	.500- .750	6	6	—	2
TWB2112	.500- .750	11	11	—	2
TWB2112	.500- .750	11	9	2	2
	Totals	40	37	3	16

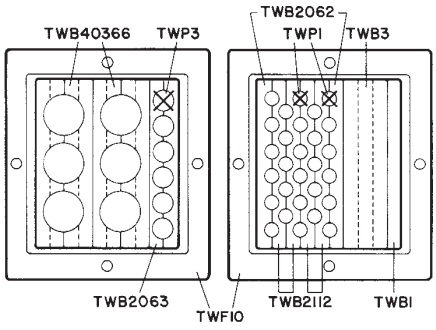
Note: In this example, two TWB2112 sealing block assemblies are sandwiched between two halves of a TWB2062. This dramatically increases cable density in minimum frame space. One TWP3 plug is required for unused opening in TWB2063 and two TWP1 plugs are required for unused openings in the TWB2112.

Step 4. Total the frame spaces required for sealing block assemblies and select appropriate size mounting frame(s). Factor in spare capacity required for future expansion.

Total frame spaces required	16
Specification requires 25% spare capacity	4
	Total 20 spaces

Selection: Two TWF10 (or one TWF20) mounting frames with total capacity of 20 spaces. One TWB3 and one TWB1 blank sealing block assembly to fill unused frame space. (Choice of frame could vary based on future expansion needs and/or specific cable/conduit arrangement.)

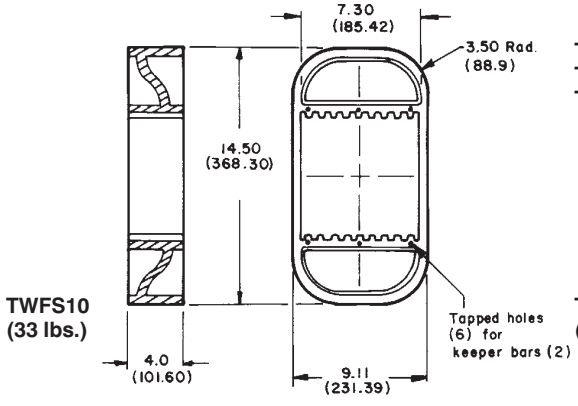
Step 5. Bill of materials for specification/order should read:
(2) TWF10 or (1) TWF20
(2) TWB40366
(1) TWB2063
(1) TWB2062
(2) TWB2112
(1) TWP3
(2) TWP1
(1) TWB3
(1) TWB1



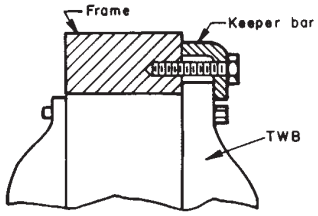
Example B diagram

* For TWFS mounting frame hole dimensions, contact Cooper Crouse-Hinds ECM field representative or headquarters.

Dimensions*

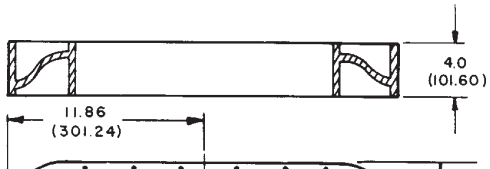


TWFS10 (33 lbs.)

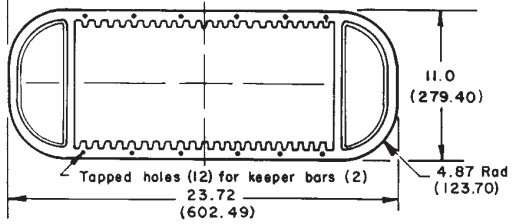


Detail – Typical assembly with keeper bar

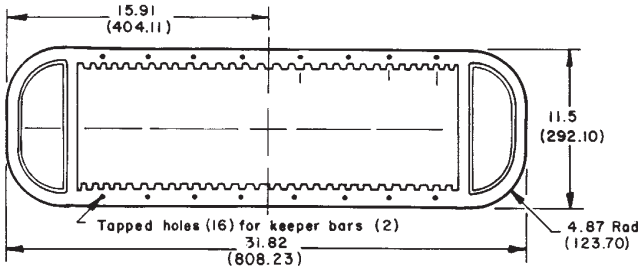
Typical – TWFS20, TWFS30



TWFS20 (55 lbs.)



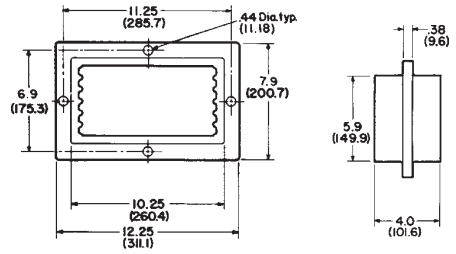
TWFS30 (88 lbs.)



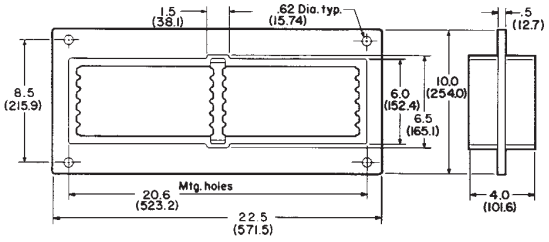
NOTE: Dimensions are shown as: inches (mm)

5F TW Series THRU-WALL BARRIER®

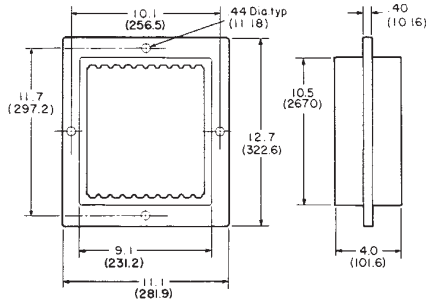
Cable/Conduit Sealing Device Dimensions*



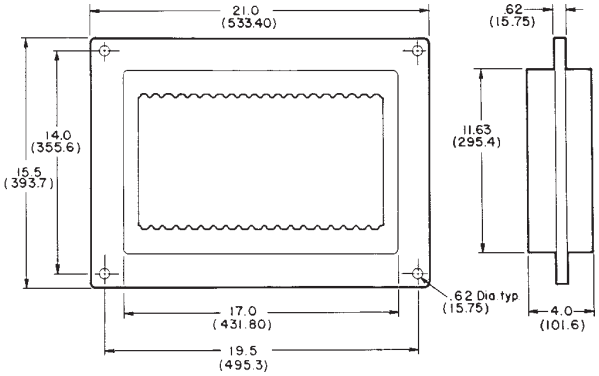
TWF6
(20 lbs.)



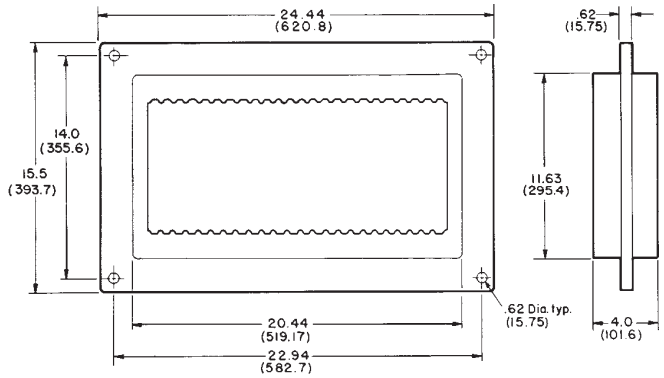
TWF12
(38 lbs.)



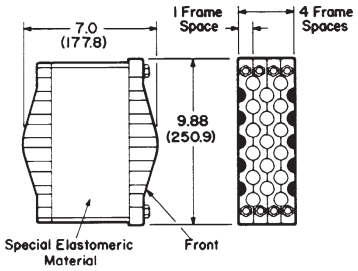
TWF10
(25 lbs.)



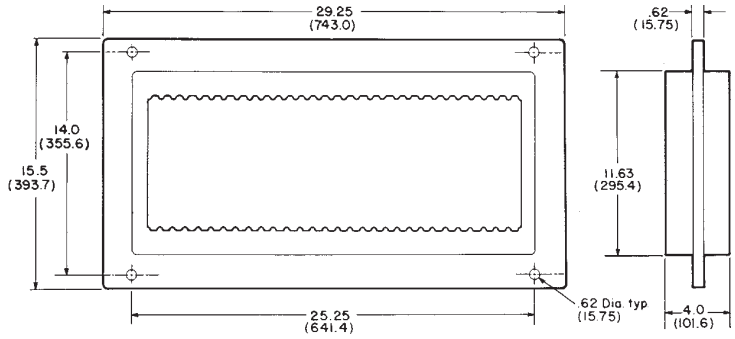
TWF20
(82 lbs.)



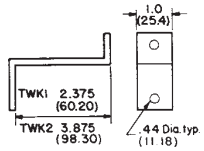
TWF24
(88 lbs.)



TWB



TWF30 (97 lbs.)



TWK

NOTES:
1. Dimensions are shown as inches (mm).
2. Dimensions shown for TWF frames also apply for TWFR retrofit frames.

* For TWF mounting frame hole dimensions, contact Cooper Crouse-Hinds ECM field representative or headquarters.

Link-Seal Devices

Environmental Seal for Conduit passing through Concrete Walls, Floors or Ceilings

Link-Seal® Devices

Application:

Cooper Crouse-Hinds Link-Seal® is the quick, economical way to seal around conduit in concrete walls, floors and casings. Link-Seal is a modular mechanical seal used for any type of penetration.

Features & Benefits:

- Saves time and money – Link-Seal installs in up to 75% less time than competition products
- Positive Hydrostatic Sealing – properly installed, Link-Seal is rated at 20 psig (40 feet of head), which exceeds the performance requirements of most applications
- Environment Seals – Link-Seal environmental seal is designed for long life and use as a permanent seal. Seal elements are specially compounded to resist aging, ozone, sunlight, water and a wide range of chemicals
- Fire Seals – for fire protection in floor and wall penetrations Link-Seal is Factory Mutual approved
- Resistance to high and low temperatures – Link-Seal environmental seal is manufactured from special compounds that resist temperatures from –40°F to +250°F. Link-Seal Fire Seal is manufactured from a silicone material that resists temperatures from –67°F to +400°F
- Corrosion protection – where installation against galvanic corrosion (or electrolysis) is required, Link-Seal provides complete separation pipe and casing. Metal-to-metal contact is eliminated
- Compensates for misalignment – Link-Seal allows for some angular and off-center conduit conditions and still seals effectively
- Absorbs shock, sound and vibration – this inherent benefit of Link-Seal helps reduce conduit failure due to fatigue and threaded connections

Standard Materials:

- Rubber Seal Elements:

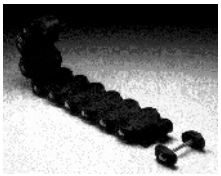
EPDM (Black) – Environmental Seals
Silicone (Grey) – Fire Seals

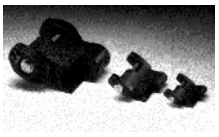
- Pressure Plates:

Glass Reinforced Nylon – Environmental Seals
Steel w/Zinc Dichromate Plate – Fire Seals

- Fasteners:

Carbon Steel, Zinc Dichromate Plate – Environmental Seals
316 Stainless Steel – Environmental with Option S316
Carbon Steel w/Zinc Dichromate – Fire Seals





Environmental Conduit Seal

Ordering Information:

It's easy. Locate the conduit size and type you are installing in the columns on the left. Then locate the seal and sleeve part numbers under the installation method you've selected. No sleeve is needed for cored or cast hole installation.

Cored or Cast Hole Method:

Note the appropriate hole diameter and select the seal part number. Example: For ¾″ EMT conduit through a cored hole – Core a 2″ diameter hole and install the conduit using Link-Seal Part number LSA200-C-04.

Sleeve Methods:

Select either the plastic or metal sleeve. Both types of sleeves are designed to be cast into concrete walls or floors. Sleeves are ordered separately. Remember to add the wall or floor thickness to the steel sleeve part number to insure the sleeve is provided in the proper length. Plastic sleeves are a standard 16″ long and can be modified in the field.

Materials:

The standard product for environmental conduit seals is made from EPDM supplied with steel bolts and nuts with a zinc dichromate finish. These seals are suitable for use in water, direct ground burial and atmospheric conditions. They provide electrical insulation where cathodic protection is required. EPDM rubber is resistant to most inorganic acids and alkalis, and some organic chemicals (acetone, alcohol, ketones).

Options:

To order the standard product with 316 stainless steel bolts and nuts, for corrosive environments, replace the ''C'' in the seal catalog number with ''S316''. For example, a ½″ seal for rigid steel conduit for a cored hole is an LSA200-C-04; ordered with stainless steel bolts and nuts the catalog number becomes LSA200-S316-04.

Ordering Information

Environmental Conduit Seal

Conduit Nominal Size	Conduit Type*	Conduit Actual O.D. (inches)	Cast/Cored Hole Dia. (inches)	Seal for Cast/Cored Hole Cat. #	Plastic Sleeve Cat. #	Seal for Plastic Sleeve Cat. #	Steel Sleeve Cat. #	Seal for Steel Sleeve Cat. #
½″	EMT	.706	2.000	LSA275-C-04	LS-CS-2-16	LSA200-C-04	WS2-15-**	LSA275-C-04
½″	IMC	.815	2.000	LSA200-C-04	LS-CS-2-16	LSA200-C-04	WS2-21-**	LSA200-C-04
½″	RSC	.840	2.000	LSA200-C-04	LS-CS-2-16	LSA200-C-04	WS2-21-**	LSA200-C-04
¾″	EMT	.922	2.000	LSA200-C-04	LS-CS-3-16	LSA315-C-04	WS2-15-**	LSA200-C-04
¾″	IMC	1.029	2.500	LSA275-C-06	LS-CS-3-16	LSA315-C-04	WS2-15-**	LSA200-C-04
¾″	RSC	1.050	2.500	LSA275-C-06	LS-CS-3-16	LSA315-C-04	WS2.5-20-**	LSA275-C-06
1″	EMT	1.163	3.000	LSA315-C-04	LS-CS-3-16	LSA300-C-04	WS2.5-20-**	LSA275-C-06
1″	IMC	1.290	3.000	LSA300-C-04	LS-CS-3-16	LSA300-C-04	WS2.5-10-**	LSA275-C-06
1″	RSC	1.315	3.000	LSA300-C-04	LS-CS-3-16	LSA300-C-04	WS2.5-20-**	LSA200-C-05
1¼″	EMT	1.510	3.000	LSA300-C-04	LS-CS-3.5-16	LSA315-C-05	WS3.5-22-**	LSA315-C-05
1¼″	IMC	1.638	3.000	LSA275-C-07	LS-CS-3.5-16	LSA300-C-05	WS3.5-22-**	LSA315-C-05
1¼″	RSC	1.660	3.000	LSA275-C-07	LS-CS-3-16	LSA200-C-06	WS3.5-22-**	LSA315-C-05
1½″	EMT	1.740	3.500	LSA315-C-05	LS-CS-3.5-16	LSA300-C-05	WS3.5-32-**	LSA315-C-05
1½″	IMC	1.883	3.500	LSA300-C-05	LS-CS-3.5-16	LSA275-C-08	WS3.5-22-**	LSA300-C-05
1½″	RSC	1.900	3.500	LSA300-C-05	LS-CS-3.5-16	LSA275-C-08	WS3.5-22-**	LSA300-C-05
2″	EMT	2.197	4.000	LSA315-C-06	LS-CS-4-16	LSA315-C-06	WS4-23-**	LSA315-C-06
2″	IMC	2.360	4.000	LSA300-C-06	LS-CS-4-16	LSA300-C-06	WS4-23-**	LSA300-C-06
2″	RSC	2.375	4.000	LSA300-C-06	LS-CS-4-16	LSA300-C-06	WS4-23-**	LSA300-C-06
2½″	EMT/RSC	2.875	4.000	LSA200-C-09	LS-CS-4-16	LSA200-C-09	WS4-23-**	LSA200-C-09
2½″	IMC	2.857	4.000	LSA200-C-09	LS-CS-4-16	LSA200-C-09	WS4-23-**	LSA200-C-09
3″	EMT/RSC	3.500	5.000	LSA300-C-08	LS-CS-5-16	LSA300-C-08	WS5-25-**	LSA300-C-08
3″	IMC	3.476	5.000	LSA300-C-08	LS-CS-5-16	LSA300-C-08	WS5-25-**	LSA300-C-08
3½″	EMT/RSC	4.000	6.000	LSA325-C-05	LS-CS-6-16	LSA325-C-05	WS6-28-**	LSA325-C-05
3½″	IMC	3.971	6.000	LSA325-C-05	LS-CS-6-16	LSA325-C-05	WS6-28-**	LSA325-C-05
4″	EMT/RSC	4.500	6.000	LSA300-C-10	LS-CS-6-16	LSA300-C-10	WS6-28-**	LSA300-C-10
4″	IMC	4.466	6.000	LSA300-C-10	LS-CS-6-16	LSA300-C-10	WS6-28-**	LSA300-C-10
5″	RSC	5.563	8.000	LSA425-C-06	LS-CS-8-16	LSA425-C-06	WS8-32-**	LSA425-C-06
6″	RSC	6.625	10.000	LSA475-C-10	LS-CS-10-16	LSA475-C-10	WS8-18-**	LSA300-C-15

* EMT – Electrical Metallic Tubing; IMC – Intermediate Metal Conduit;
RSC – Rigid Steel Conduit

** Specify length of steel sleeve in inches. Example: WS6-28-08 is 8″ long. All plastic sleeves come in standard 16″ lengths and can be field cut to desired length.

Note: The last two digits of the seal part number indicate the number of links (and the number of bolts) per seal.

Fire Seal for Conduit passing through Concrete Walls, Floors or Ceilings

Fire Conduit Seal

Ordering Information:

Locate the conduit size and type you are installing in the columns on the left. Then locate the seal and sleeve part number under the installation method you've selected. No sleeve is needed for cored or cast hole installation.

Cored or Cast Hole Method:

Note the appropriate hole diameter and select the seal part number. Example: For ¾″ EMT conduit through a cored hole – Core a 2″ diameter hole and install the conduit using Link-Seal Part number LSA200-T-04.

Sleeve Methods:

Select the appropriate metal sleeve for the size and type of conduit being installed. The sleeve should be ordered separately. Remember to add the wall or floor thickness to the steel sleeve part number to insure the sleeve is provided in the proper length.

Materials:

The standard product for fire conduit seals is made from grey silicone supplied with steel bolts and nuts with a zinc dichromate finish. These seals are Factory Mutual approved for use as a 1-hour fire stop and can handle temperature extremes of –67°F to +400°F.

Options:

To order the fire seal for a 3-hour rating, replace the ''T'' in the seal catalog number with a ''FS''. For example, a ½″ seal for rigid steel conduit for a cored hole is an LSA200-T-04; ordered with option FS the catalog number becomes LSA200-FS-04. A 3-hour fire seal can also be made by using two Model T's back-to-back.

The Model FS is basically two Model T's back-to-back. In Model FS, a tie rod tightens both seals simultaneously – for use when only one side of an opening is accessible.

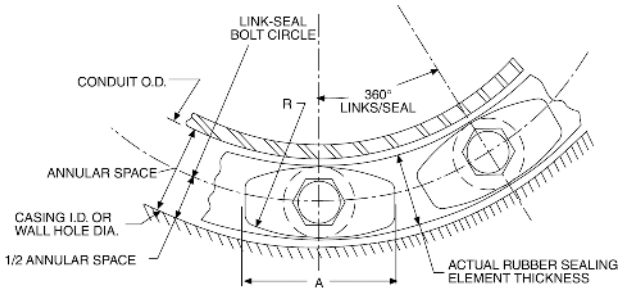
Conduit Nominal Size	Conduit Type*	Conduit Actual O.D. (inches)	Cast/Cored Hole Dia. (inches)	Seal for Cast/Cored Hole Cat. #	Steel Sleeve Cat. #	Seal for Steel Sleeve Cat. #
½″	EMT	.706	2.000	LSA275-T-04	WS2-15-**	LSA275-T-04
½″	IMC	.815	2.000	LSA200-T-04	WS2-21-**	LSA200-T-04
½″	RSC	.840	2.000	LSA200-T-04	WS2-21-**	LSA200-T-04
¾″	EMT	.922	2.000	LSA200-T-04	WS2-15-**	LSA200-T-04
¾″	IMC	1.029	2.500	LSA275-T-06	WS2-15-**	LSA200-T-04
¾″	RSC	1.050	2.500	LSA275-T-06	WS2.5-20-**	LSA275-T-06
1″	EMT	1.163	3.000	LSA315-T-04	WS2.5-20-**	LSA275-T-06
1″	IMC	1.290	3.000	LSA300-T-04	WS2.5-10-**	LSA275-T-06
1″	RSC	1.315	3.000	LSA300-T-04	WS2.5-20-**	LSA200-T-05
1¼″	EMT	1.510	3.000	LSA300-T-04	WS3.5-22-**	LSA315-T-05
1¼″	IMC	1.638	3.000	LSA275-T-07	WS3.5-22-**	LSA315-T-05
1¼″	RSC	1.660	3.000	LSA275-T-07	WS3.5-22-**	LSA300-T-05
1½″	EMT	1.740	3.500	LSA315-T-05	WS3.5-32-**	LSA300-T-05
1½″	IMC	1.883	3.500	LSA300-T-05	WS3.5-22-**	LSA300-T-05
1½″	RSC	1.900	3.500	LSA300-T-05	WS3.5-22-**	LSA275-T-08
2″	EMT	2.197	4.000	LSA315-T-06	WS4-23-**	LSA315-T-06
2″	IMC	2.360	4.000	LSA300-T-06	WS4-23-**	LSA300-T-06
2″	RSC	2.375	4.000	LSA300-T-06	WS4-23-**	LSA300-T-06
2½″	EMT/RSC	2.875	4.000	LSA200-T-09	WS4-23-**	LSA200-T-09
2½″	IMC	2.857	4.000	LSA200-T-09	WS4-23-**	LSA200-T-09
3″	EMT/RSC	3.500	5.000	LSA300-T-08	WS5-25-**	LSA300-T-08
3″	IMC	3.476	5.000	LSA300-T-08	WS5-25-**	LSA300-T-08
3½″	EMT/RSC	4.000	6.000	LSA325-T-05	WS6-28-**	LSA325-T-05
3½″	IMC	3.971	6.000	LSA325-T-05	WS6-28-**	LSA325-T-05
4″	EMT/RSC	4.500	6.000	LSA300-T-10	WS6-28-**	LSA300-T-10
4″	IMC	4.466	6.000	LSA300-T-10	WS6-28-**	LSA300-T-10
5″	RSC	5.563	8.000	LSA425-T-06	WS8-32-**	LSA425-T-06
6″	RSC	6.625	10.000	LSA475-T-10	WS8-18-**	LSA300-T-15

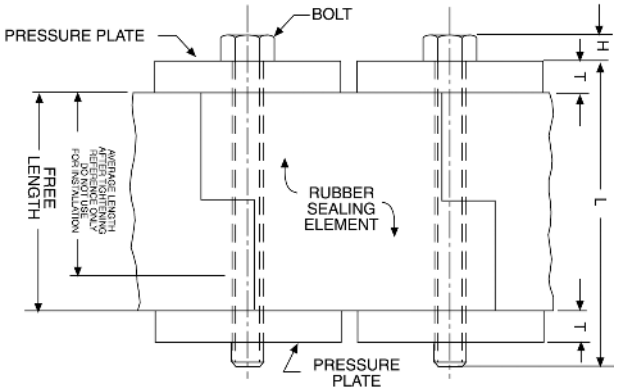
* EMT – Electrical Metallic Tubing; IMC – Intermediate Metal Conduit; RSC – Rigid Steel Conduit

** Specify length of steel sleeve in inches. Example: WS6-28-08 is 8″ long.

Note: The last two digits of the seal part number indicate the number of links (and the number of bolts) per seal.

Technical Information





	Rubber Sealing Element			Pressure Plate			Bolt			
Link-Seal Model #	**Actual Thickness (inches)**	**Free Length (inches)**	**Avg. Length After Tightening (inches)**	**A (inches)**	**R (inches)**	**T (inches)**	**Hex Across Flats**	**H (inches)**	**Thread Size (inches)**	**L**
LSA200-C	.478	1¾	1⅜	1⅛	2¼	5/16	M5 slotted hex	.180	M5	2½
LSA275-C	.607	1¾	1⅜	⅞	1⅞	5/16	M5 slotted hex	.180	M5	2½
LSA300-C	.687	2½	2	1½	2½	7/16	½	7/32	5/16–5/18	3½
LSA315-C	.807	2½	2	1 7/16	2½	7/16	½	7/32	5/16–5/18	3½
LSA325-C	.875	3	2⅜	3⅛	2	½	½	7/32	5/16–5/18	4
LSA425-C	1.062	3½	2¾	3½	3	¾	9/16	¼	3/8–3/16	5
LSA475-C	1.562	3½	2¾	3½	3½	½	9/16	¼	3/8–3/16	4½