



INSTALLATION INSTRUCTIONS FOR CMP CABLE GLAND TYPE TMC2X

CMP TYPE TMC2X CABLE GLAND / GLAND FOR USE WITH INTERLOCKED & CORRUGATED CONTINUOUSLY WELDED METAL CLAD (TYPE MC OR MC-HL) OR TECK ARMORED (CANADA ONLY) AND ARMORED & JACKETED CABLES IN ORDINARY, WET & HAZARDOUS LOCATIONS.

INCORPORATING EU DECLARATION OF CONFORMITY TO DIRECTIVE [2014/34/EU]



TMC2X - Corrugated & Interlocked Metal Clad Armor (MC) or TECK90 (Canada only), Continuously Welded Metal Clad Armor (MCHL), ACIC-HL, ACWU90-HL, RC90-HL, RA90-HL



TYPE MC CABLE FITTING FOR USE IN HAZARDOUS LOCATIONS 29NW
Gland sizes up to and including size 162 only are UL Listed

Order Reference (NPT with RapidEx Resin)		Entry Thread		Minimum Thread Length	Cable Armor Diameter				Cable Jacket Diameter		Max Over Conductors	Across Flats	Across Corners	Nominal Assembly Length	Shroud	Approx Weight Aluminum (oz)	
Aluminum	Nickel Plated Brass	Stainless Steel	NPT		NPT Option	Armor Stop In	Armor Stop Out	Min	Max	Min							Max
TMC2X-050A075X	TMC2X-050N8075X	TMC2X-050S075X	1/2"	-	0.78	0.42	0.55	0.55	0.63	0.500	0.750	0.51	1.20	1.32	2.44	PVC06	2.29
TMC2X-075A075X	TMC2X-075N8075X	TMC2X-075S075X	3/4"	-	0.80	0.42	0.55	0.55	0.63	0.51	0.51	1.48	1.63	2.96	PVC09	3.00	
TMC2X-075A099X	TMC2X-075N8099X	TMC2X-075S099X	1"	-	0.78	0.60	0.65	0.65	0.89	0.690	0.990	0.71	1.81	1.99	3.15	PVC11	5.11
TMC2X-050A099X	TMC2X-050N8099X	TMC2X-050S099X	3/4"	-	0.80	0.60	0.78	0.78	0.89	0.870	1.180	0.94	2.05	2.26	3.55	PVC15	6.70
TMC2X-100A118X	TMC2X-100N8118X	TMC2X-100S118X	3/4"	-	0.80	0.79	0.86	0.86	1.10	1.020	1.370	1.20	2.36	2.60	3.59	PVC18	8.82
TMC2X-075A118X	TMC2X-075N8118X	TMC2X-075S118X	1"	-	0.98	0.79	0.98	0.98	1.10	0.94	0.94	1.20	2.56	2.82	3.59	PVC37	9.45
TMC2X-125A137X	TMC2X-125N8137X	TMC2X-125S137X	1"	-	0.98	0.94	1.08	1.08	1.28	1.020	1.370	1.20	2.36	2.60	3.59	PVC18	8.82
TMC2X-100A137X	TMC2X-100N8137X	TMC2X-100S137X	1 1/4"	-	1.01	0.94	1.18	1.18	1.28	1.020	1.370	1.20	2.36	2.60	3.59	PVC18	8.82
TMC2X-150A162X	TMC2X-150N8162X	TMC2X-150S162X	1 1/4"	-	1.01	1.22	1.35	1.35	1.50	1.300	1.620	1.20	2.36	2.60	3.59	PVC18	8.82
TMC2X-125A162X	TMC2X-125N8162X	TMC2X-125S162X	1 1/2"	-	1.03	1.22	1.42	1.42	1.50	1.46	1.46	1.20	2.56	2.82	3.59	PVC37	9.45
TMC2X-150A190X	TMC2X-150N8190X	TMC2X-150S190X	1 1/2"	-	1.01	-	-	1.51	1.72	1.570	1.900	1.46	2.56	2.82	3.59	PVC37	9.45
TMC2X-125A190X	TMC2X-125N8190X	TMC2X-125S190X	1 1/2"	-	1.03	-	-	1.51	1.72	1.570	1.900	1.46	2.56	2.82	3.59	PVC37	9.45
TMC2X-200A200X	TMC2X-200N8200X	TMC2X-200S200X	1 1/2"	-	1.03	1.57	1.70	1.70	1.88	1.650	2.000	1.63	2.75	3.03	3.76	PVC21	11.06
TMC2X-150A200X	TMC2X-150N8200X	TMC2X-150S200X	2"	-	1.06	1.57	1.70	1.70	1.88	1.650	2.000	1.63	2.75	3.03	3.76	PVC21	11.06
TMC2X-250A233X	TMC2X-250N8233X	TMC2X-250S233X	1 1/2"	-	1.03	-	-	1.81	2.21	1.46	1.46	2.95	3.25	3.97	PVC23	12.77	
TMC2X-200A233X	TMC2X-200N8233X	TMC2X-200S233X	2"	-	1.06	-	-	1.81	2.21	1.910	2.330	1.90	3.54	3.89	PVC28	14.69	
TMC2X-150A233X	TMC2X-150N8233X	TMC2X-150S233X	2 1/2"	-	1.57	-	-	1.81	2.21	2.13	2.13	3.54	3.89	4.10	PVC28	24.69	
TMC2X-300A272X	TMC2X-300N8272X	TMC2X-300S272X	2 1/2"	-	1.06	2.14	2.46	2.46	2.61	1.900	2.720	1.20	2.56	2.82	3.59	PVC31	24.69
TMC2X-250A272X	TMC2X-250N8272X	TMC2X-250S272X	3"	-	1.57	2.14	2.46	2.46	2.61	2.270	2.720	1.20	2.55	3.34	4.76	PVC31	24.69
TMC2X-200A272X	TMC2X-200N8272X	TMC2X-200S272X	3"	-	1.63	2.14	2.46	2.46	2.61	2.55	3.34	1.20	2.55	3.34	4.76	PVC31	24.69
TMC2X-350A325X	TMC2X-350N8325X	TMC2X-350S325X	3"	-	1.63	2.49	2.78	2.78	2.97	2.620	3.250	2.98	4.33	4.76	4.67	PVC31	42.68
TMC2X-300A325X	TMC2X-300N8325X	TMC2X-300S325X	3 1/2"	-	1.69	2.49	2.78	2.78	2.97	2.98	2.98	4.33	4.76	4.67	PVC31	42.68	
TMC2X-400A376X	TMC2X-400N8376X	TMC2X-400S376X	3 1/2"	-	1.69	2.95	3.45	3.45	3.54	3.160	3.760	3.38	4.84	5.32	4.95	LSF33	53.44
TMC2X-350A376X	TMC2X-350N8376X	TMC2X-350S376X	4"	-	1.73	2.95	3.45	3.45	3.54	3.38	3.38	5.23	5.75	5.16	LSF34	59.19	
TMC2X-400A425X	TMC2X-400N8425X	TMC2X-400S425X	4"	-	1.73	-	-	3.56	3.94	3.700	4.250	3.38	5.23	5.75	5.16	LSF34	59.19

*order code example: TMC2X-050A075 - TMC2X (Gland Type) - 050 (1/2" NPT Thread) - A (Material Aluminum) - 075 (Max Cable Diameter 0.75")

TMC2X*075-162 (UL Listed)
Dimensions are displayed in inches unless otherwise stated

F1401		
Certificate	Revision	Date
IFS	17	11/20
ATEX / IECEx	9	10/20
UL	0	11/20
CSA	7	09/14



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TECHNICAL DATA

CABLE GLAND TYPE : TMC2X
INGRESS PROTECTION : IP66, NEMA 4X
PROCESS CONTROL SYSTEM : ISO 9001
ISO/IEC 80079-34:2011

EXPLOSIVE ATMOSPHERES CLASSIFICATION

ATEX CERTIFICATION No : CML 18ATEX1336X
ATEX CERTIFICATION CODE : Ⓜ II 2G 1D, Ex db IIC Gb, Ex eb IIC Gb, Ex ta IIIC Da
IECEx CERTIFICATION No : IECEx CML 18.0193X
IECEx CERTIFICATION CODE : Ex db IIC Gb / Ex eb IIC Gb, Ex ta IIIC Da
cSAsus CERTIFICATION No : 2194053
cSAsus CERTIFICATION CODE : Class I Div 1 and 2 Groups A, B, C and D; Class II, Div 1 and 2, Groups E, F and G; Class III, Div 1 and 2; Enclosure Type 4X
Ex d IIC; Ex e II: Class I, Zone 1, AEx d IIC; AEx e II; AEx ta IIC

cULus CERTIFICATION NO : E161256
cULus CERTIFICATION CODE : Class I Div 1 & 2 Groups A, B, C, and D; Class II Div 1 & 2 Groups E, F, and G; Class III; Enclosure type 4X

INSTALLATION INSTRUCTIONS

Installation should only be performed by a competent person using the correct tools. Read all instructions before beginning installation.

INSTALLATION GUIDANCE NOTES

- In accordance with NEC requirements, glands with NPT and Metric entry threads are suitable for Divisions.
- In accordance with CEC requirements, glands with NPT threads are suitable for both Divisions and Zones. Glands with Metric threads are only suitable for Zones fitted with an approved Metric to NPT thread conversion adaptor.
- For IEC and/or ATEX installations:
 - All tapes/shields/foils must be removed and any twisted pairs/triples unwound to form individual conductors.
 - Drain Wires: Pass sleeving/heat shrink tube over the drain, making sure it is positioned within the resin Tube/Resin Dam area. If required, shrink the tube by applying heat, then treat the drain wire as a conductor.
- For NEC Class 1 Div 1 and Zone 1 see article 501.15 of the NEC.
- The interface between a cable entry device and its associated enclosure / cable entry will require additional sealing to achieve ingress protection (IP) ratings higher than IP54. The minimum protection level is IP54 for explosive gas atmospheres and IP6X for explosive dust atmospheres. Parallel threads (and tapered threads when using a non-threaded entry) require a CMP sealing washer or integral O-ring face seal (where available) to maintain IP66. It is the installer's responsibility to ensure the IP rating is maintained at the interface.
Note: When fitted to a threaded entry, all tapered threads on TMC2X product will automatically provide an ingress protection rating of IP66.
- A CMP earth tag should be used when it is necessary to provide an earth bond connection. CMP earth tags have been independently tested to comply with Category B rating specified in IEC 62444 (there are no ratings stated in IEC 60079-0). Ratings are shown in the associated table. CMP earth tags slip over the cable gland or accessory entry thread from inside/outside the enclosure and must be secured with a locknut (if fitted internally).
- Metric entry threads comply with ISO 965-1 and ISO 965-3 with a 6g tolerance as required by IEC 60079-1:2014. The CMP standard metric thread pitch is 1.5mm for threads up to M75, and 2.0mm from M90 and above. Special thread pitches between 0.7 – 2.0mm are available on all products on request. See certificate for details of other thread types. NPT threads are in accordance with ASME B1.20.1-2013 gauging to C1 3.2 for external threads. For details of other thread types refer to IECEx certificate.
- Enclosures must be strong enough to support the cable and cable gland assembly. The enclosure surface finish must be smooth and flat to facilitate sealing with an O-ring or Entry Thread Sealing Washer for the required IP rating.
- Enclosure walls must be sufficiently strong to support the cable and cable gland assembly. Enclosure entries shall be perpendicular. Any draft angles from the casting/moulding process should have a perpendicular flat spot machined to facilitate sealing with an O-ring or Entry Thread Sealing Washer.
- CMP Products recommends that when using the cable gland with a through-hole, the hole must be circular, free of burrs and the diameter no larger than 0.7mm above the thread major diameter. A suitable CMP Products locknut shall be used to secure the product. See CMP Products catalogue for locknut options.

SPECIAL CONDITIONS FOR SAFE USE

- The glands shall only be fitted to enclosures where the temperature, at the point of mounting, is below 85°C (185°F).
- The cable shall be effectively clamped as close as possible to the gland.
- When used for increased safety (Ex e) or dust protection by enclosure (Ex t) applications, the user shall provide a suitable interface seal between the gland and associated enclosure to maintain the appropriate level of ingress protection of IP54 for increased safety and IP6X for dust protection by enclosure.
- The TMC2X cable glands comprise a flameproof labyrinth joint having length and gap dimensions which are other than those specified in IEC 60079-1 and are not intended to be repaired in service.
- Installation must be according to CEC wiring method for the types of cables that can be used in Class I, Div. 1 and 2 and Class I, Zone 1 and 2 Classified Areas, according to 60079-14 installation wiring method restrictions.
- Installation must be according to US (NEC) wiring method for the types of cables that can be used in Class I, Div. 1 and 2 and Class I, Zone 1 and 2 Classified Areas, according to 60079-14 installation wiring method restrictions.
- Prior to commissioning or operation of electrical equipment in the presence of flammable materials, the sealing compound must be cured for 24 hours at a temperature of no less than 5°C (41°F).
- For Metric threads, the installer shall follow guidance from the NEC or CEC to ensure that the enclosure entry meets the requirements for thread engagement.
- When the connector is supplied with metric entry threads, a CMP Entry Thread Washer should be fitted between the connector and the enclosure to prevent the ingress of moisture or dust into the enclosure. Thread tape must not be applied to the entry threads.
- Before installing the connector, ensure that the connector thread form and enclosure thread form are compatible.
- For guidance on mixing the RapidEx, please refer to FH320.

UL approved glands in sizes 075 to 162 to be tightened to the values specified in the following table:

Number of turns	TMC2 UL Tightening Guide Gland Size					Number of turns	TMC2 UL Tightening Guide Gland Size				
	75	99	118	137	162		75	99	118	137	162
3.50	19.1	25.1	-	-	-	3.50	0.75	0.99	-	-	-
4.00	18.4	24.4	-	-	41.1	4.00	0.72	0.96	-	-	1.62
4.50	17.7	23.7	30.0	34.8	40.5	4.50	0.70	0.93	1.18	1.37	1.59
5.00	16.9	23.0	29.2	34.1	39.9	5.00	0.67	0.91	1.15	1.34	1.57
5.50	16.3	22.4	28.4	33.4	39.2	5.50	0.64	0.88	1.12	1.31	1.54
6.00	15.6	21.7	27.5	32.8	38.6	6.00	0.61	0.85	1.08	1.29	1.52
6.50	14.9	21.0	26.7	32.1	38.0	6.50	0.59	0.83	1.05	1.26	1.50
7.00	14.1	20.3	25.9	31.4	37.4	7.00	0.56	0.80	1.02	1.24	1.47
7.50	13.4	19.6	25.0	30.7	36.8	7.50	0.53	0.77	0.98	1.21	1.45
8.00	12.7	18.9	24.2	30.0	36.1	8.00	0.50	0.74	0.95	1.18	1.42
8.50	-	18.2	23.4	29.3	35.5	8.50	-	0.72	0.92	1.15	1.40
9.00	-	17.5	22.5	28.6	34.9	9.00	-	0.69	0.89	1.13	1.37
9.25	-	-	22.1	28.3	34.6	9.25	-	-	0.87	1.11	1.36
9.50	-	-	-	28.0	34.3	9.50	-	-	-	1.10	1.35
10.00	-	-	-	27.3	33.6	10.00	-	-	-	1.07	1.32
10.50	-	-	-	26.6	33.0	10.50	-	-	-	1.05	1.30
11.00	-	-	-	25.9	-	11.00	-	-	-	1.02	-

CABLE DIAMETER, mm

CABLE DIAMETER, inches

CMP Products Limited on its sole responsibility declares that the equipment referred to herein conforms to the requirements of the ATEX Directive 2014/34/EU and the following standards:
EN 60079-0:2018, EN 60079-1:2014, EN 60079-7:2015, EN 60079-31:2014, BS 6121:1989, EN 62444:2013

J. Hichens

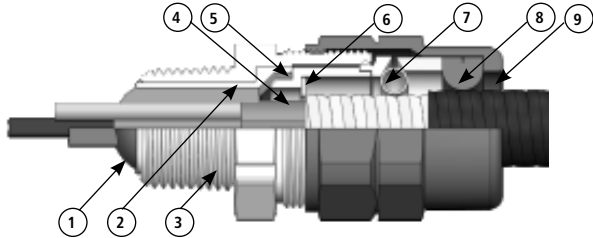
Jonathan Hichens - Lead Certification Engineer - (Authorised Person)
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15 April 2019

Notified body: CML B.V., Koopvaardijweg 32, 4906CV Oosterhout, The Netherlands



INSTALLATION INSTRUCTIONS FOR CMP TMC2X

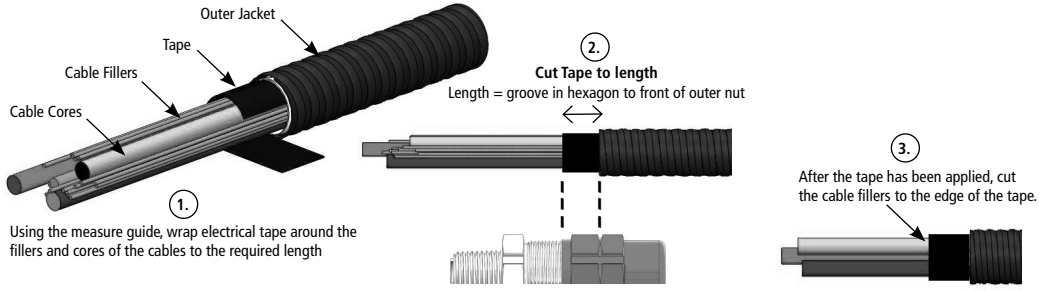
1. RapidEx Resin
2. Resin Tube
3. Entry Component
4. Sealant Tape or Inner Jacket
5. Resin Dam
6. End Stop
7. Grounding Spring
8. Jacket Seal
9. Outer Nut



PLEASE READ ALL INSTRUCTIONS CAREFULLY BEFORE BEGINNING THE INSTALLATION

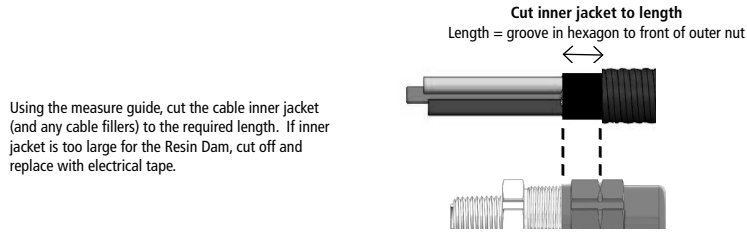
1. Cable preparation — Without Inner Jacket

Strip back the jacket armor to suit the equipment geometry.

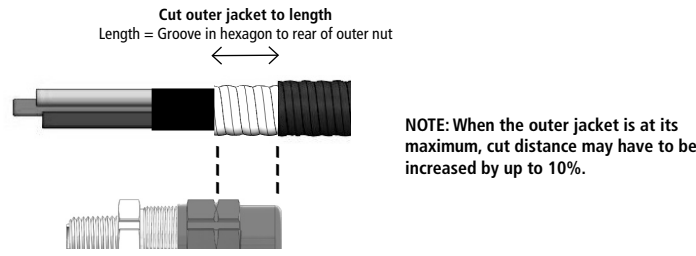


1. Cable preparation — With Inner Jacket

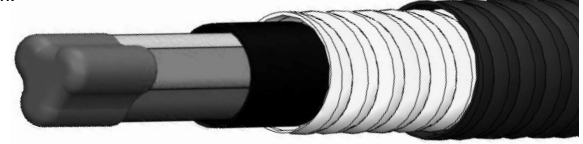
Strip back the jacket armor to suit the equipment geometry.



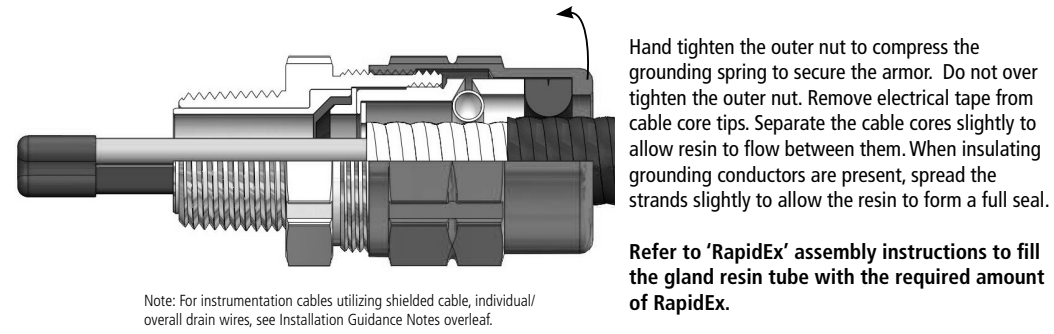
2. Using the armor measure guide, expose the armor further by stripping back the cable jacket.



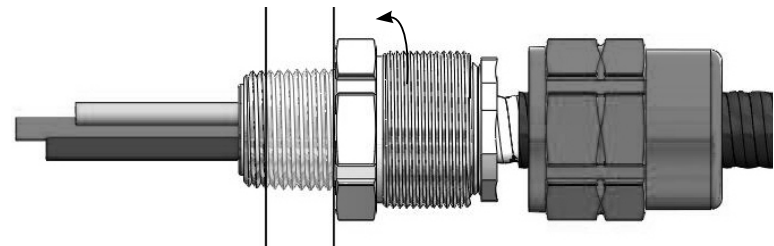
3. Electrical tape MUST be wrapped around the tips of the cable cores. This is to ensure the cable cores are together and also to cover any sharp edges that could potentially tear the resin dam during installation.



4. Pass the cable through the gland until the armor makes contact with the end stop. If it is not possible for the insulated conductors to pass through the end stop then it should be removed so that the armor can make contact with the integral end stop within the entry component. At this stage unscrew the outer nut and slide it back over the cable, enough to have access to the armor spacer. If no access is gained repeat step 2 and trim the outer jacket up to the length plus 10%. Assemble the gland.



5. Once the resin has cured, loosen the outer nut to ensure that the grounding spring is not gripping the cable. Slide the outer nut back over the cable, enough to loosen the armor spacer from the entry component. Screw the entry component into the enclosure. Retighten the armor spacer when the entry component is fully tightened into the enclosure.



6. Finally, holding the cable central in the gland, tighten the Outer Nut to compress the Grounding Spring to secure the armor and the seal to engage the cable jacket. Do not over tighten the Outer Nut. The Entry Component and Outer Nut do not have to close face-to-face.

