

Kopex-Ex™ ISR™ Fittings Industrial Strain-Relief Fittings

Globally certified
to meet 100%
of pullout requirements
with no external clamping



Kopex-Ex™ ISR™ Fittings

Meet 100% of cable pullout requirements with no need for external clamping

Thomas & Betts is proud to introduce the next generation of globally-certified industrial strain-relief fittings:

Kopex-Ex™ ISR™ Fittings

The latest in Thomas & Betts' long line of renowned industrial cable termination products, the **Kopex-Ex™ ISR™** fitting was developed in Canada with input from end users in the oil and gas industry. This is a high-level solution for industrial end users looking for a superior-quality fitting that reduces installation time and costs while surpassing global standards for pullout requirements.

The majority of strain-relief fittings on the market today are designed to meet 25% of the IEC pullout requirement for surface applications and, as per IEC standard 60079, require that the installer provide additional clamping as close as possible to the point at which cables exit the enclosure to ensure that pulling and twisting is not transferred to the terminations. The external clamping requirement adds time, complexity and cost to the installation process. In the event that additional clamping is not provided, the integrity of electrical systems as well as compliance with IEC standards are compromised.

With its unique design and integral clamping mechanism, the new **Kopex-Ex™ ISR™** fitting allows you to meet 100% of IEC cable pullout requirements with no external clamping, reducing installation time, complexity and costs.

Developed for the drill rig industry,
with input from the drill rig industry.

Kopex-Ex™ ISR™ fittings

The new design standard
for high-performance industrial strain-relief fittings

TEMPERATURE RANGE

-50°C to 110°C

CERTIFICATIONS and STANDARDS

Class/Zones system
Ex e IIC Gb Ex ta IIIC Da IP66

Class/Divisions system
CLI Div2 ABCD CLII Div2 FG CLIII Div2 Type 4X

CERTIFICATES

CSA 14.70009467X • IECEx CSA 14.0035X • ATEX (pending)



Class I, Zone 1, 2 / Class II, Zone 20, 21, 22

IECEx CSA 14.0035X Ex e IIC Gb Ex ta IIIC Da IP66

IEC Ex
Certificate
Number

Group II
Gas Protection
"Increased Safety"

Where arcs and sparks
don't normally occur

IIC: Acetylene, hydrogen
and all other gases

Group III
Dust Atmospheres

IIIC: Conductive
and other types
of dusts

Ingress
Protection

Dust-tight
and powerful
water jets



Class I, Zone 1, 2 / Class I, II, III, Division 2

CSA 14.70009467X CLI DIV2 GR-ABCD CLII DIV2 GR-FG CLIII DIV2 TYPE 4X

CSA
Certificate
Number

Gas and vapours protection

A: Acetylene
B: Hydrogen
C: Ethylene
D: Propane and methane

Dust
protection

F: Coal
G: Flour, grain

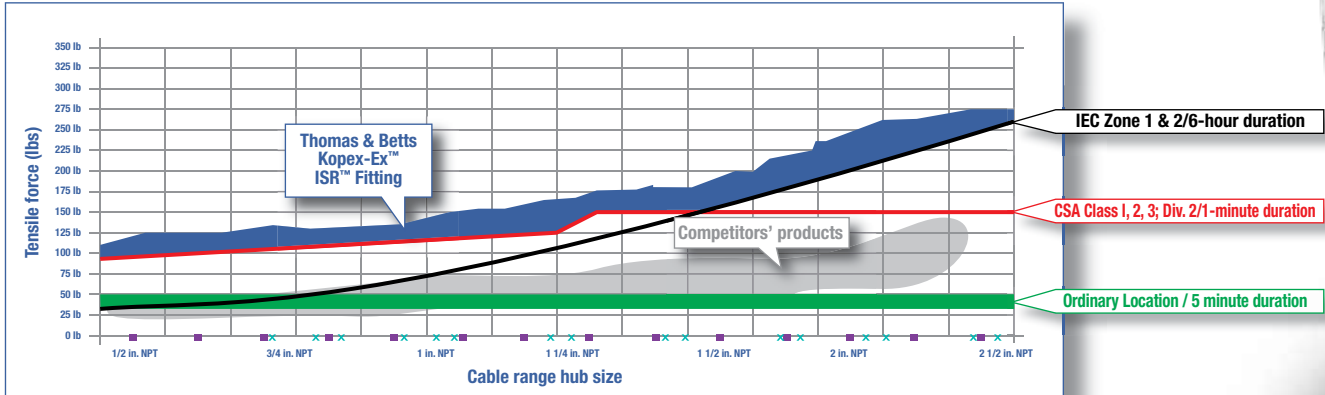
Fibers
and
flyings
protection

Environmental
protection
from dust
and water

Corrosion
resistant

Kopex-Ex™ ISR™ fittings

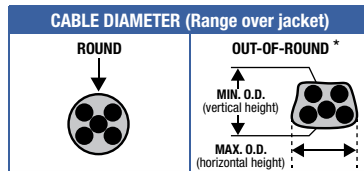
Superior 100% pull-out performance with no external clamping



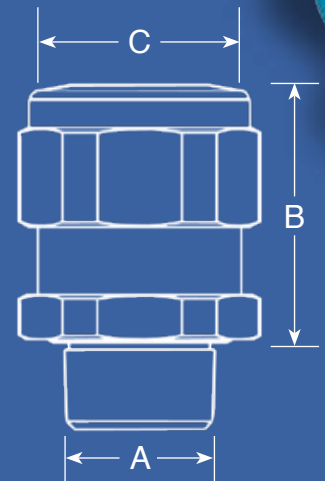
Tensile force vs. cable range hub size

The new Kopex-Ex™ ISR™ fitting consistently exceeds IEC standards for 100% pull-out resistance with no external cable clamping.

Ordering information



CAT. NO.	HUB SIZE	TORQUE	THROAT DIA.	MIN. DIA.	MAX. DIA.	MIN. DIA.	MAX. DIA.	A (THREAD)	B (REF) [†]	C (O.D.)
ISR050-053	1/2 in.	400 lbf-in (45.19 Nm)	0.535 in. (13.59 mm)	0.325 in. (8.25 mm)	0.525 in. (13.34 mm)	0.345 in. (8.76 mm)	0.525 in. (13.34 mm)	1/2-14 NPT	1.65 in. (41.91 mm)	1.350 in. (34.29 mm)
ISR050-062	1/2 in.		0.630 in. (16.00 mm)	0.425 in. (10.79 mm)	0.620 in. (15.75 mm)	0.445 in. (11.30 mm)	0.620 in. (15.75 mm)	1/2-14 NPT	1.683 in. (42.75 mm)	1.500 in. (38.10 mm)
ISR075-082	3/4 in.	600 lbf-in (67.79 Nm)	0.825 in. (20.96 mm)	0.585 in. (14.86 mm)	0.815 in. (20.70 mm)	0.625 in. (15.88 mm)	0.815 in. (20.70 mm)	3/4-14 NPT	1.790 in. (45.47 mm)	1.700 in. (43.18 mm)
ISR100-102	1 in.	800 lbf-in (90.39 Nm)	1.035 in. (26.29 mm)	0.785 in. (19.94 mm)	1.025 in. (26.04 mm)	0.815 in. (20.70 mm)	1.025 in. (26.04 mm)	1-11.5 NPT	1.818 in. (46.18 mm)	1.900 in. (48.26 mm)
ISR125-122	1-1/4 in.	1100 lbf-in (124.28 Nm)	1.225 in. (31.12 mm)	0.985 in. (25.02 mm)	1.215 in. (30.86 mm)	1.025 in. (26.04 mm)	1.215 in. (30.86 mm)	1.25-11.5 NPT	1.993 in. (50.62 mm)	2.320 in. (58.93 mm)
ISR125-137	1-1/4 in.		1.380 in. (35.05 mm)	1.185 in. (30.10 mm)	1.370 in. (34.80 mm)	1.225 in. (31.12 mm)	1.370 in. (34.80 mm)	1.25-11.5 NPT	1.918 in. (48.72 mm)	2.320 in. (58.93 mm)
ISR150-156	1-1/2 in.	1300 lbf-in (146.88 Nm)	1.560 in. (39.62 mm)	1.335 in. (33.91 mm)	1.550 in. (39.37 mm)	1.375 in. (34.93 mm)	1.550 in. (39.37 mm)	1.50-11.5 NPT	1.945 in. (49.40 mm)	2.580 in. (65.53 mm)
ISR200-179	2 in.	1600 lbf-in (180.77 Nm)	1.795 in. (45.59 mm)	1.525 in. (38.73 mm)	1.785 in. (45.34 mm)	1.565 in. (39.75 mm)	1.785 in. (45.34 mm)	2-11.5 NPT	2.017 in. (51.23 mm)	3.012 in. (76.50 mm)
ISR200-206	2 in.		2.070 in. (52.58 mm)	1.755 in. (44.58 mm)	2.055 in. (52.20 mm)	1.795 in. (45.59 mm)	2.055 in. (52.20 mm)	2-11.5 NPT	2.010 in. (51.05 mm)	3.200 in. (81.28 mm)



* Some cables such as tray cable are not perfectly round.
[†] Reference dimension before installation.

Applications

Tray Cable

Complies with IEC requirements when used with enclosures containing no arcing or sparking devices. For enclosures with arcing or sparking devices, Kopex-Ex™ ISR™ fittings must be used in combination with a certified Class I hazardous location sealing fitting.

Portable Cord

Complies with IEC requirements when used with enclosures containing no arcing or sparking devices. For enclosures with arcing or sparking devices, Kopex-Ex™ ISR™ fittings must be used in combination with a certified Class I hazardous location sealing fitting.

N.B.: Tray cable is not suitable for use in Zone 1 locations. Portable cord can be used in Zone 1 applications only when installed on portable equipment.

Utilization

For use with unarmoured cable types suitable for use in Class I, Zone 1 (e.g. Extra Hard Usage Cord). When used with tray cables, Series ISR™ cable glands are suitable to be installed in Class I, Zone 2/Div. 2 classified hazardous location area according to CEC/NEC wiring method, or subject to local inspection authority having jurisdiction.



Gland Nut

- Distinctive domed profile
- High-strength, corrosion-resistant copper-free aluminum construction (less than 0.4%)
- Heavy-duty, wide hex design for ease of installation
- Smooth, snag-free contour design prevents injury and sheds water
- Laser-etched certification markings are visible no matter where it is installed

Chuck Ring

- Fiber-reinforced nylon construction and unique over-molded design provide both strength and flexibility
- Acts as a built-in clamp - superior 100% pull-out performance eliminating need for external clamping
- Jaws grasp cable jacket over a large surface preventing damage and tearing
- Flexible TPE belt positions the chucks radially, allowing uniform cable engagement

Sealing Bushing

- High-tech silicon polymer performs in extreme temperature conditions (-50°C to +110°C)
- Wide surface of engagement provides dependable seal against dust and liquids
- Excellent engagement even on irregular cable shapes

Body

- High-strength, corrosion-resistant copper-free aluminum construction (less than 0.4%)
- Small turning radius allows close spacing of fittings
- Fine thread for easy tightening; ample anti-seizing grease prevents "cold-welding" to gland nut threads
- Anti-rotation splines prevent cable and bushings from twisting and deforming during tightening
- Biting, box-side teeth ensure electrical ground with enclosure and allow draining of trapped moisture to prevent corrosion
- O-ring seated in a recessed shoulder prevents over-compression of sealing bushing

Interface Sealing O-Ring

- Wide and flexible – adapts easily to variations in knockout dimensions
- Wide sealing footprint to prevent moisture and dust from migrating into enclosure

Uniquely-designed chuck ring acts as a built-in clamp, eliminating the need for external clamping while ensuring compliance with IEC pull-out standards.



Kopex-Ex™ ISR™ Fittings

Competition
25% pullout
resistance

External
clamping
required



Kopex-Ex™
ISR™ Fitting

100% pullout
resistance
No external clamping
required

Kopex-Ex™ ISR™ Fittings

from Thomas & Betts

With a variety of manufacturers to choose from, engineers, end users and installers often see Thomas & Betts as the logical first choice for a variety of reasons:

- Preferred supplier to the Canadian electrical industry for close to a century
- A wide range of ever-evolving quality products and superior solutions customized to meet application-specific challenges
- An established company invested and committed to helping engineers, contractors and end users reduce costs while increasing performance and safety
- Canadian-based sales and marketing, customer service and logistics
- 80% of products sold in Canada are manufactured in Canada

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