



Certificate of Compliance

Certificate: 80011196 **Master Contract:** 182407 (104031_0_000)
Project: 80011196 **Date Issued:** 2019-10-9
Issued to: Hummel AG
Lise-Meitner-Strasse 2
Denzlingen, 79211
GERMANY
Attention: Klaus Gehri

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.



Issued by: *Marin Banu*
Marin Banu, P. Eng.

PRODUCTS

CLASS - 441805 – CABLE - Hardware - For Hazardous Locations
CLASS - 4418 85 - CABLE - Hardware - For Hazardous Locations – US Requirements

CLASS - 441805 - CABLE-Hardware - For Hazardous Locations

Ex eb IIC Gb
Ex ta IIIC Da

Cable glands series Type HSK-M-Ex 1610.****.**, HSK-M-EMV-Ex 1616. ****. **, HSK-M-EMV-D-Ex 1636. ****. **. HSK-MZ-Ex 1611. ****.**, HSK-MZ-EMV-Ex 1617. ****.**, HSK-INOX-Ex 1612. ****. **, HSK-INOX-EMV-Ex 1672. ****. **, HSK-M-Multi-Ex 1687.' HSK-M-FLAKA-Ex 1689. ****. **, HSK-INOX-* -Ex AB61-*****. IP66/68 (10 bar); Ambient temperature range -20°C to +95°C; Type 4, 4X and 6.

Conditions if Acceptability:

1. Permitted temperature range of the cable glands is -20°C to +95°C.
2. The ambient temperature of electrical equipment is usually limited to -20°C to +40°C. The maximum ambient temperature permitted for these cable glands may be exceeded or fall below as long as the permitted temperature range of the cable glands meets the range -20°C to +95°C



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3. Cable glands can be used only for applications accepting cables and cable glands, as allowed by the NEC/CEC Part I, Installation Code under WIRING METHOD.
4. The maximum tightening torque shall not exceeds the following values, as required by the ANSI/UL 60079-0 standard.
 - M 12 / Pg 7 = 6 Nm
 - M 16 / Pg 9 / NPT 3/8" = 9 Nm
 - M 16 / Pg11 = 7,5 Nm
 - M 20 / Pg 13,5 / NPT 1/2" = 12 Nm
 - M 20 / Pg 16 / NPT 1/2" = 15 Nm
 - M 25 / Pg 21 / NPT 3/4" = 18 Nm
 - M 32 / Pg 29 / NPT 1" = 22,5 Nm
 - M 40 / Pg 36 = 22,5 Nm
 - M 50 / Pg 42 = 36 Nm
 - M 63 / Pg 48 = 45 Nm
5. The maximum pull force shall not exceeds the value of:
 - 6.6 lbs (3 kg) for size Pg7
 - 4.4 lbs (2 kg) for size Pg9
 - 6.6 lbs (3 kg) for size Pg9
 - 15.4 lbf (7 kg) for size Pg11
 - Pull force outlined in CAN/CSA-C22.2 No 18.3-12 and UL 514B for all other sizes
6. Cable Glands material may be of brass, nickel-plated brass or stainless steel.
7. Cable Glands will be restricted to Hazardous Location Areas stated under the NEC/CEC Part I, Installation Code under WIRING METHOD.

CLASS 4418 85 - CABLE - Hardware - For Hazardous Locations – US Requirements

Class I, Zone 1, AEx eb IIC Gb

Zone 20, AEx ta IIIC Da

Cable glands series Type HSK-M-Ex 1610.****.**, HSK-M-EMV-Ex 1616. ****.**, HSK-M-EMV-D-Ex 1636. ****.**, HSK-MZ-Ex 1611. ****.**, HSK-MZ-EMV-Ex 1617. ****.**, HSK-INOX-Ex 1612. ****.**, HSK-INOX-EMV-Ex 1672. ****.**, HSK-M-Multi-Ex 1687.' HSK-M-FLAKA-Ex 1689. ****.**, HSK-INOX-*ExAB61-*****. IP66/68 (10 bar); Ambient temperature range -20°C to +95°C; Type 4, 4X and 6.

Conditions if Acceptability:

1. Permitted temperature range of the cable glands is -20°C to +95°C.
2. The ambient temperature of electrical equipment is usually limited to -20°C to +40°C. The maximum ambient temperature permitted for these cable glands may be exceeded or fall below as long as the permitted temperature range of the cable glands meets the range -20°C to +95°C
3. Cable glands can be used only for applications accepting cables and cable glands, as allowed by the NEC/CEC Part I, Installation Code under WIRING METHOD.
4. The maximum tightening torque shall not exceeds the following values, as required by the ANSI/UL 60079-0 standard.
 - M 12 / Pg 7 = 6 Nm
 - M 16 / Pg 9 / NPT 3/8" = 9 Nm



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- M 16 / Pg11 = 7,5 Nm
 - M 20 / Pg 13,5 / NPT 1/2" = 12 Nm
 - M 20 / Pg 16 / NPT 1/2" = 15 Nm
 - M 25 / Pg 21 / NPT 3/4" = 18 Nm
 - M 32 / Pg 29 / NPT 1" = 22,5 Nm
 - M 40 / Pg 36 = 22,5 Nm
 - M 50 / Pg 42 = 36 Nm
 - M 63 / Pg 48 = 45 Nm
5. The maximum pull force shall not exceeds the value of:
- 6.6 lbs (3 kg) for size Pg7
 - 4.4 lbs (2 kg) for size Pg9
 - 6.6 lbs (3 kg) for size Pg9
 - 15.4 lbf (7 kg) for size Pg11
 - Pull force outlined in CAN/CSA-C22.2 No 18.3-12 and UL 514B for all other sizes
6. Cable Glands material may be of brass, nickel-plated brass or stainless steel.
7. Cable Glands will be restricted to Hazardous Location Areas stated under the NEC/CEC Part I, Installation Code under WIRING METHOD.

APPLICABLE REQUIREMENTS

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|------------------------------------|---|
| CSA Std. C22.2 No. 0-10 (R2015) | - General Requirements |
| CAN/CSA-C22.2 No 18.3-12 | - Outlet Boxes, Conduit Boxes, and Fittings |
| CAN/CSA-C22.2 No. 60079-0:15 | - Electrical apparatus for explosive gas atmospheres - Part 0: General requirements |
| CAN/CSA-C22.2 No. 60079-7:16 | - Explosive atmospheres - Part 7: Equipment protection by increased safety "e" |
| CAN/CSA-C22.2 No. 60079-31:15 | - Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t" |
| CAN/CSA-C22.2 No.94.2-15 | - Enclosures for Electrical Equipment, Environmental Considerations |
| CAN/CSA C22.2 No. 60529: 2005 | - Degrees of protection provided by enclosures (IP Code) |
| ANSI/UL 514B, Edition 6 | - Conduit, Tubing and Cable Fittings |
| UL 2225, 4nd Ed., | - Cables and Cable-Fittings For Use In Hazardous (Classified) Locations |
| ANSI/UL 50E-2015 2nd Edition | - Enclosures for Electrical Equipment, Environmental Considerations |
| ANSI/UL 60079-0 (6th Edition 2013) | - Explosive Atmospheres – Part 0: Equipment - General Requirements |
| ANSI/UL 60079-7:2008(R2013) | - Electrical Apparatus for Explosive Gas Atmospheres - Part 7: increased safety "e" |
| ANSI/UL 60079-31:2015 | - Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t" |
| ANSI/IEC 60529 (4th Edition 2014) | - Degrees of protection provided by enclosures (IP Code) |

MARKINGS



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The manufacturer is required to apply the following markings:

- Products shall be marked with the markings specified by the particular product standard.
- Products certified for Canada shall have all Caution and Warning markings in both English and French.

Additional bilingual markings not covered by the product standard(s) may be required by the Authorities Having Jurisdiction. It is the responsibility of the manufacturer to provide and apply these additional markings, where applicable, in accordance with the requirements of those authorities.

The products listed are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US (indicating that products have been manufactured to the requirements of both Canadian and U.S. Standards) or with adjacent indicator 'US' for US only or without either indicator for Canada only.

Permanently Die Stamped, etched or rolled stamped on each Body of the Gland:

- Manufacturer name or trade mark
- Catalogue number designation (provided on packaging or on the product)
- Hazardous Location designation (provided on the Installation Instructions shipped with each product)
- IP/Type designation
- Trade size
- CSA Monogram - CSA19.80011196X (provided on the Installation Instructions shipped with each product)

Special conditions of use

1. Tests of the torque and clamping connection (tensile tests) were done with the values required by Appendix A3 of CSA 60079-0, which are lower than required by the UL 2225.; therefore, a X-marking is provided.
2. The cable glands shall not be used in enclosures where the temperature, at the point of mounting, is outside the range of -20°C to +95 °C.
3. The cable glands type HSK have to be used together with permanent installations of cables and wires, unless the cables and wires in question are reinforced.
4. The cable glands with a locknut without strain relief clamp may only be used to insert fixedly installed cables and wires. Only HSK-MZ-Ex 1611. ****.**, HSK-MZ-EMV-Ex 1617 have a locknut with strain relief clamp.

Supplement to Certificate of Compliance