



SERIES 927-072
ITS-Ex Hazardous Zone Connectors
 Cable application notes



CABLE CROSS-SECTION AND INTERNAL CONSTRUCTION

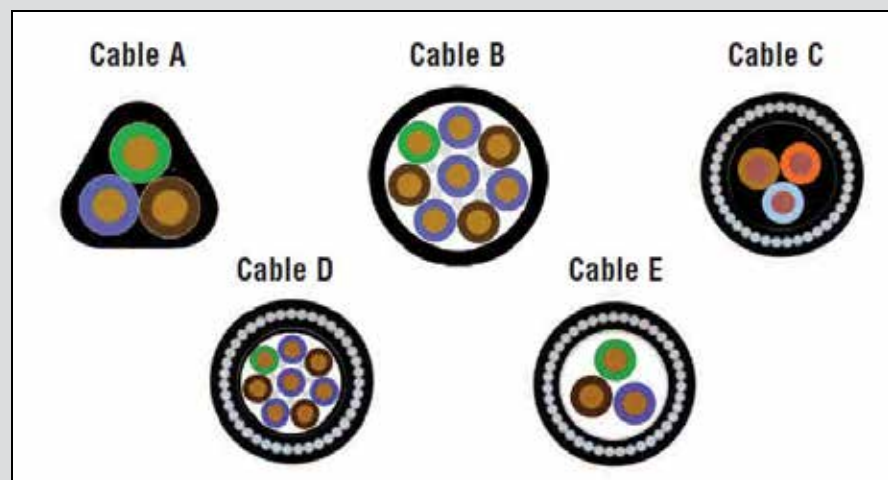
There are no IEC construction standards for the cables intended for use in flammable atmospheres, but minimum cable operating temperature shall be 90°C IAW NEC / 100°C VG95234. Gas-tight sealing of cabling for use in Ex d equipment enclosures depends heavily on cable shape and construction. Please see Glenair Instruction Manual D500500000 for complete information on cable selection, noting that any selected cable should:

1. Be substantially compact and circular (especially the part of the cable entering the enclosure),
2. Have an extruded bedding (without any gaps),
3. Only utilize fillers which are Non-Hygroscopic.

In this illustration, **Cable A** is not suitable due to its irregular shape (impossible for cylindrical sealing gasket to seal).

Cables B, D and E are not suitable due to the presence of internal voids in the cable construction (potential flame migration path between conductors).

Cable C is the only one of the five sample cables illustrated which could be selected (uniformly round with no internal voids or gaps in cable lay or construction).



GROUNDING

Glenair ITS-Ex connectors do not incorporate external grounding/earthing. It is the responsibility of the operator to effect earth continuity during the assembly process. Various methodologies, such as terminating a ground wire to a spare connector contact may be used for signal grounding and continuity. Electrical grounding of the cable armour system may be accomplished with the use of soldering, heat shrink, adhesive electrical tapes, or other methodologies to bond cable armoring to ground.

Glenair recommends that a small strip of outer jacket be cut away a reasonable distance from the entrance to the cable gland servicing the connector. A durable insulated conductor with a cross section not smaller than #14 AWG/4mm should then be bonded to the exposed armour. Protective tape, heat or cold shrink should be applied to protect and seal the bond point. The grounding conductor should be terminated at a fixed-panel receptacle. Periodic inspection of the ground attachment is recommended.

TOPSIDE: ITS-EX™



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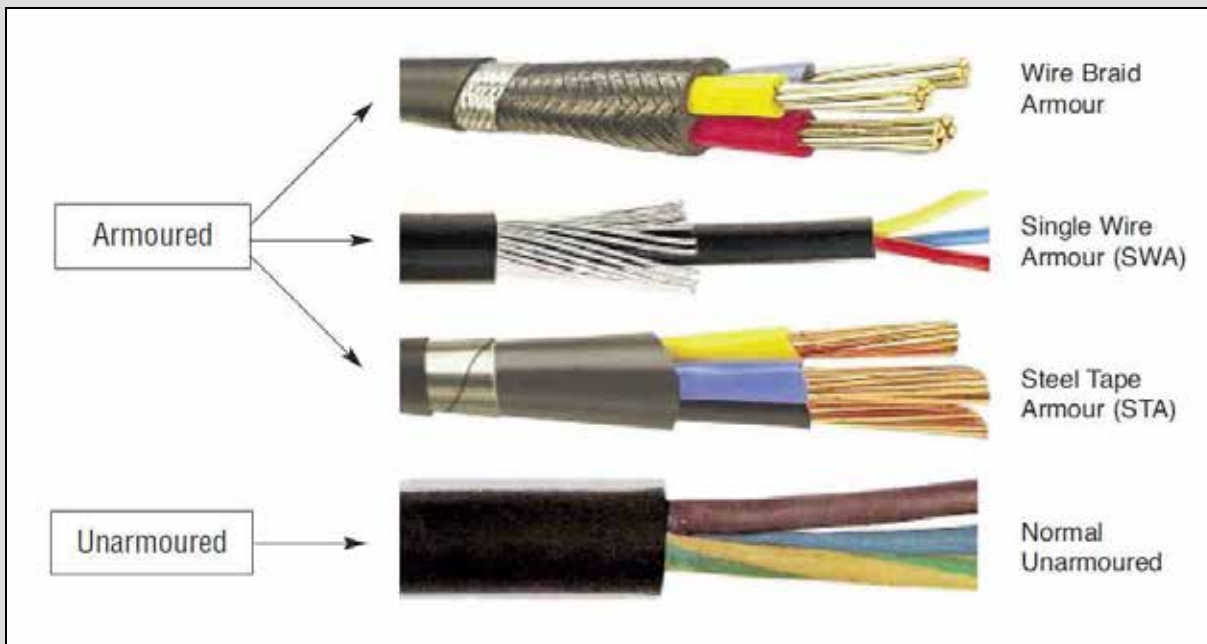
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ARMORED AND UNARMORED CABLE SELECTION AND USE

It is the responsibility of the operator to select appropriate cables for use in hazardous Ex zones. Glenair recommends cables optimized for flexibility (IEC class 5 or higher / ICEA type H or higher) that incorporate flexible basket weave braided shielding when armoring is required (IEC 92-3 or IEEE455 or UL1309). Cables incorporating environmental jacketing, such as those in the following list should always be specified.

1. Halogen free ethylene-propylene elastomer or similar.
2. Halogen free cross-linked polyethylene or similar.
3. Halogen free thermoplastic polyolefin or similar.
4. Halogen free cross-linked polyolefin copolymer or similar.
5. Thermosetting neoprene or similar.

Glenair ITS-Ex cable glands, mechanical grips, and basket weave assemblies support cable diameter ranges from 52mm to 3mm, depending upon shell size. Some example of types of cable jacket and insulation cores materials are as follows (typical for marine, railway, onshore and offshore applications):



In this illustration, among the three armored types shown, Glenair recommends flexible Wire Braid Armor type cables. Single Wire Armor (SWA) and Steel Tape Armor (STA) cable types are not recommended. Standard unarmored cable is suitable for use in non-EMI/RFI applications and/or applications where risks of mechanical damage to cable conductors are minimal.

