

EGS Hard Line Connector



Nuclear Power Products and Services



Product Description

The EGS Hard Line Connector (HLC) is a two connector, screw together, quick disconnect sealed connector whose performance in accident conditions is equivalent to an uninterrupted, nuclear grade, mineral insulated (MI) cable or other existing connectors for core exit thermocouples. Unlike other connectors of similar type, it may be installed by plant personnel with minimal training. This connector has a stainless steel body and a unique design feature with which the user's field wiring is simply pushed into the contacts, requiring no crimping.

Installation training classes are available.

Design Features

- Quick connect/disconnect (push/pull)
- Easy installation
- Utilizes existing MI cable
- Push-in contacts (no crimping)
- Low maintenance
- Rugged construction
- Equivalent performance to high cost connectors
- Installation kits available
- Temperature rating 125°C (257°F)

Qualification Levels

- Qualified life 33.58 years at 170°F (76.67°C)
- Radiation: 2.707E7 rads gamma
- Seismically tested to 15g peak and 6.0g ZPA
- LOCA: tested to 361°F (182.78°C) and 149 psig (1128.7 kPa)
- LOCA Radiation: 1.550E8 rads gamma
- Chemical spray solution for 24 hrs at 250°F (121.11°C) SAT
- Supplied under EGS Nuclear QA Program in accordance with ANSI N45.2, 10CFR50/Appendix B, 10CFR21 and NQA-1

Qualification Levels

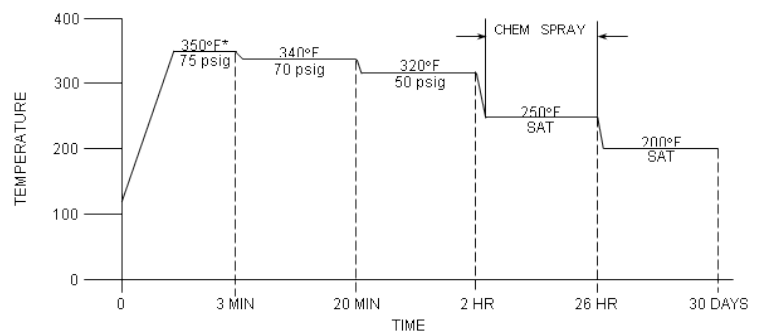
(Per EGS Report EGS-TR-23020-04)

- Qualified Life: 33.58 years at 170°F (76.67°C)
 - Radiation: 1.82E8 rads gamma
 - Seismic: 15 g peak and 6.0 g's ZPA
 - Accident Peaks: 361°F/149 psig (182.78°C/1,128.7 kPa)
- (See graph below)*

Qualification Standards

Successfully qualified by test in accordance with:

- IEEE 323-1974/1983
- IEEE 344-1975/1987
- IEEE 572-1985
- 10CFR50.49

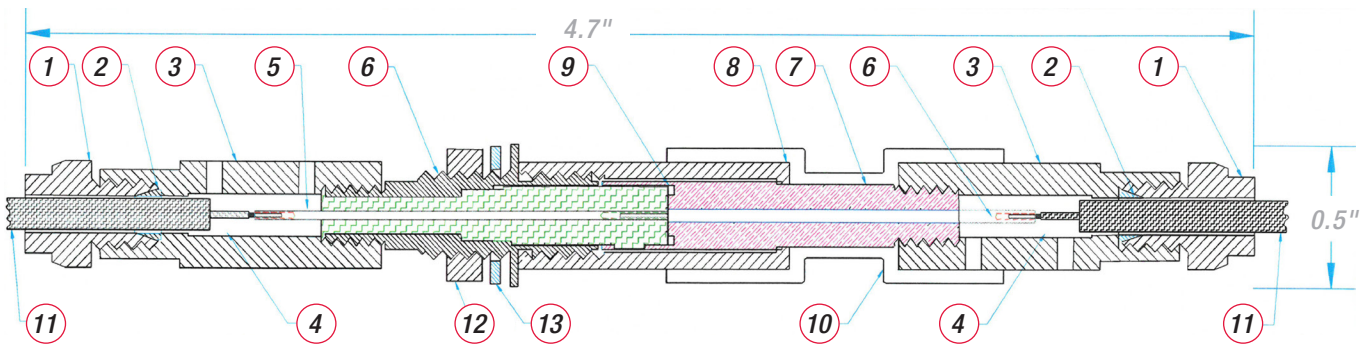


EGS Hard Line Connector

Installation

Installation is quick and easy. The MI cable wire ends (11) are stripped then the end caps (1), ferrules (2), and potting adapters (3) are slipped over the MI cable. The coupling ring (8) is slipped over the pin backshell (7) and environmental seal (9) installed. The MI cable wire is pushed into the contacts (5) on both the socket and pin backshells. The potting adapters, ferrules and end caps are assembled onto the backshells. The connector is potted on both sides, the heat shrink (10) slipped on and coupling ring engaged. The final step is to apply the heat shrink over the connector and coupling ring.

Item	Description	Material
1	End Cap	Stainless Steel 300 Series
2	Ferrule	PEI
3	Potting Adapter	Stainless Steel 300 Series
4	Potting	Epoxy
5	Contacts	Alumel or Chromel
6	Socket Backshell	Stainless Steel 300 Series
7	Pin Backshell	Stainless Steel 300 Series
8	Coupling Ring	Stainless Steel 300 Series
9	Environmental Seal	EPDM
10	Heat Shrink	XLPO
11	MI Cable	Stainless Steel Sheath
12	Nut	Stainless Steel 300 Series
13	Lock Washer	Stainless Steel 300 Series



How to Order

The EGS HLC is ordered by P/N and conductor size per the following:

- A. Connector Designation
- B. Number of Conductors
- C. Socket Side Conductor Size
- D. Pin Side Conductor Size
- E. Thermocouple Type
- F. Diameter of Socket Side Cable
- G. Diameter of Pin Side Cable
- H. If used:
 - PM - Panel Mount
 - S - Socket Side
 - P - Pin Side

Example: 23020 - 2 - 24 - 26 - K - 125 - 083 - PM

A
B
C
D
E
F
G
H

P/N	Description
23020-2-24-26-K-125-083	In-Line HLC Connector Kit
23020-2-26-26-K-083-083-PM	Panel Mount HLC Connector Kit
23020-2-24-K-125-S	In-Line HLC Socket Side Only Connector Kit
23020-2-26-K-083-P	In-Line or Panel Mount HLC Pin Side Only Connector Kit
23020-2-26-K-083-S-PM	Panel Mount HLC Socket Side Only Connector Kit

Notes:

1. Individual components such as environmental seals can be ordered per part numbers shown on HLC Assembly Drawings B-N-23020-11, -12, -17, -18 or -19.
2. P/Ns can be provided to meet various customer requirements such as different thermocouple types or MI cable diameters.

CONTACT INFORMATION:

18001 Sheldon Road, Middleburg Hts., OH 44130
 electricalconnections@curtisswright.com | +1.216.267.3200