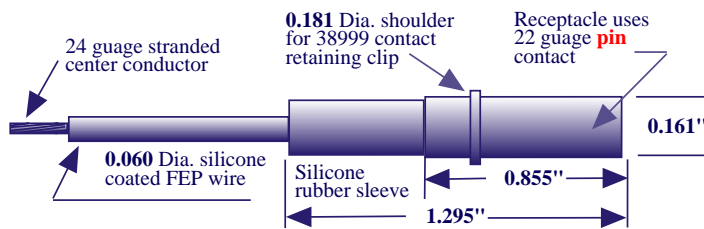


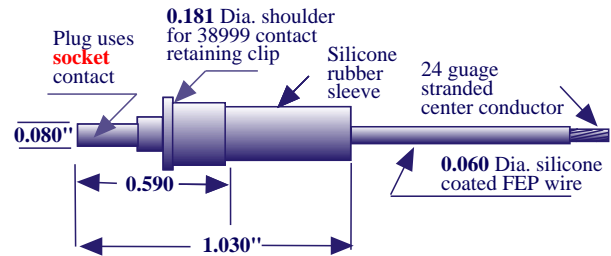
Hi/Mate is a miniature, high voltage contact rated at 13.5 KVDC and precisely dimensioned to fit into a 12 guage cavity of a 38999 insert. It is installed and removed in the same manner as a 12 guage, low voltage contact. Same tools. Same procedures. **Hi/Mate** contains its own dielectric and environmental seals and simply uses the 38999 insert as a holder and retainer. **Hi/Mate** can:

- Add a high voltage capability to new or existing 38999 connectors
- Be operated at 70,000 feet at temperature extremes with excellent corona characteristics
- Be combined in inserts with fiber optic, co-axial or low voltage pins because **Hi/Mate** is independently sealed
- Be installed without potting compounds or adhesives. Interface seals assure 13.5 KVDC operation at altitude
- Be purchased tested and ready to install at your facility, a depot or in the field
- Be assembled at Reynolds using your 38999 connectors by MIL-STD 2000 approved solderers
- Be assembled to your specifications and have group 'B' testing performed at Reynolds

Receptacle Contact Assembly P/N 178-5238



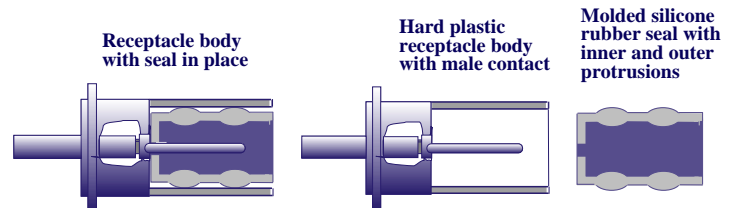
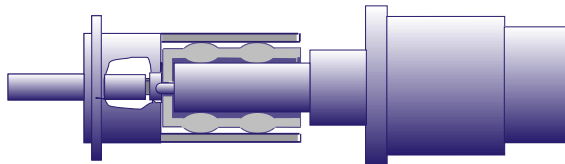
Plug Contact Assembly P/N 178-5237



The Advanced Interface Sealing System

Hi/Mate uses the interface sealing system developed by Reynolds for its proven, highly successful Advanced series of connectors. Illustrations not to scale.

When mated, the hard plastic nose of the plug assembly creates four sealing points as it engages the receptacle seal. Female contact in plug engages male receptacle pin



Test Description	Test Method	Results
Dielectric Withstanding Vol. 12 KVDC, 1 min., 70,000 Ft. (simulated)	Mil-Std-1344 (modified)	Pass <10 μA
Dielectric Withstanding Vol. 16 KVDC, 3 min., 70,000 Ft. (simulated)	Mil-Std-1344 (modified)	Pass <10 μA
Thermal Shock, 3 cycles -55°C to + 125°C 30 minute dwell at temperature	Mil-Std- 1344 method 107	Pass
Dielectric Withstanding Vol. 16KVDC, 3 min 70,000 Ft. Alt. (sim)	Mil-Std-1344 (modified)	Pass <10 A
Partial Discharge	ASTM D 1868	
Inception Voltage		13.6 KV min
Extinction voltage		11KV min.
Charge rate in 1 min. intervals over a period of 10 min. in pc/sec.		3.4, 5.8
Contact retention, 25 LBS	MIL-C-38999	Pass

Design Verification Testing

In-house verification testing has been conducted using 4 high voltage contact assemblies in each of two mated pairs of MIL-C-38999 series III connectors. A 25-24 insert arrangement was used. The contacts were installed in four of the available 12 guage insert cavities. The 16 guage cavities were filled with contacts. The chart to the left depicts the tests and the results . Corona attributes are shown in red.

Group 'A' Tests (100%)

1. Mechanical and visual examination
2. Continuity and Resistance.
3. Dielectric withstanding: 16 KVDC for 3 minutes at 70,000 feet simulated altitude at room ambient temp.

Group 'B' Tests (optional)

1. Thermal Shock. MIL-STD 1344. Method 107
2. Hot and cold cycling. Dielectric withstanding 16 KVDC at 70,000 feet (simulated) .
3. Corona inception and extinction levels
4. EMI testing to customer requirements.

