SuperNine® Glass seal hermetic

MIL-DTL-38999 Series III Type

Materials and specifications summary

SUMMARY OF MATERIALS AND SPECIFICATIONS FOR GLASS-TO-METAL HERMETICS

GLASS-SEALED Hermetic CONNECTORS

Standard Materials and Finishes

- Shell, barrel coupling jam nut, coupling nut – CRES/passivate or CRES/nickel plate
- Contact, pin - nickel-iron alloy/gold plate
- Contact, Socket - copper alloy/gold plate
- Insulator, pin - vitreous glass
- Insulator, socket - high-grade rigid dielectric
- Ground spring - copper alloy/gold plate
- O-rings and seals - fluorosilicone blend

Test Requirements

- DWV - per DWV Voltage Level table
- I.R. - 5 gigohms min @ 500 VDC
- Hermeticiy - <1 x 10^{-7} ccHe/sec @ 1 ATM Differential

Shell Type and Sizes

- Shell Type – D38999 Series III Type, sizes 9 through 25

Hermetic Class Materials	
Shell, Barrel, Coupling and Jam Nut (Hermetic)	Stainless steel per AMS-QQ-S-763
Front and Rear Insulators	Glass-filled liquid crystal polymer (LCP) in accordance with MIL-M-24519, Type GLP-30F
Grommet, Peripheral Seal and Interfacial Seal	Blended elastomer, 30% silicone per ZZ-R-765, 70% fluorosilicone per MIL-R-25988
Hermetic Insert	Vitreous glass
Pin Contact (Hermetic)	Nickel-iron alloy per ASTM F30 (Alloy 52),50 microinches gold plated per ASTM B488 Type II Code C Class 1,27 over nickel plate per QQ-N-290 Class 2, 50-100 microinches
Socket Contact (Hermetic)	Copper Alloy, Gold Plated IAW ASTM B488, Type II, Code C
Adhesives	Silicone and epoxy

Additional Hermetic Finishes				
Glenair	**Mil-Spec**	**Material**	**Finish**	**Specification**
Z1	**Y**	Stainless Steel	Passivate	AMS-QQ-P-35
ZL	**N**	Stainless Steel	Electrodeposited Nickel	SAE-AMS-QQ-N-290, Class 2
ZMT*	**N/A**	Stainless Steel	Nickel-PTFE	SAE AMS2454
ZW*	**N/A**	Stainless Steel	Cadmium, Olive Drab	SAE-AMS-QQ-P-416 Type II Class 2 over electroless nickel
TD*	**N/A**	Titanium	Titanium	ASTM B348/AMS4928

*Contact factory for specific performance restrictions

DWV Voltage Levels	
Service Rating	Voltage AC RMD 60 Hz
M	1300 VAC
I	1800 VAC
II	2300 VAC
N	1000VAC

Hermetic Leak Rate and Shell Material Mod Codes	
Designator	Required Leak Rate
-585A	1 x 10^{-10} cc's Helium per second
-585B	1 x 10^{-9} cc's Helium per second
-585C	1 x 10^{-8} cc's Helium per second
-185C	Changes receptacle shell/plug barrel to "Inconel 625" material (UNS N06625) per ASTM B446/ SAE-AMS-5666
-185D	Changes receptacle shell/plug barrel to "Inconel X750" material (UNS N07725) per ASTM B637/ SAE-AMS-5670

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Dimensions in Inches (millimeters) are subject to change without notice.