TB Series Materials & Finishes

The material of a connector is the foundation of its protective ability, providing strength and durability. The finish (or plating) offers the foundation material added corrosion resistance along with an aesthetic look. Each material and finish combination offers unique properties and should be selected according to your application requirements.

The TB Series features aerospace-grade aluminum as a standard material, with electroless nickel and olive drab cadmium as finish options. In addition to the standard options, a wide variety of special materials and finishes is available, including space-grade approved materials and RoHS compliant finishes for eco-friendly designs. ■

Standard TB Series Materials & Finishes

Finish Code	Finish	Hermetic Only	Electrically Conductive	RoHS Compliant	Appearance	Shell Material	Salt Spray Rating	Recommended Operating Temperature Range
W	Olive Drab Cadmium		✓		Drab Olive Green	Aluminum	500 hrs	-85° to +347°F (-65° to +175°C)
N	Electroless Nickel		✓+	✓	Bright Metal	Aluminum	48 hrs	-85° to +392°F (-65° to +200°C)
G	Electroless Nickel (Space-Grade)‡		✓+	✓	Bright Metal	Aluminum	48 hrs	-85° to +392°F (-65° to +200°C)
HA	Passivated	✓	✓	✓	Matte Metal	SST Steel	1,000 hrs	-85° to +392°F (-65° to +200°C)
HB	Electrodeposited Nickel	✓	✓+	✓	Bright Metal	SST Steel	48 hrs	-85° to +392°F (-65° to +200°C)
HG	Electroless Nickel (Space-Grade)‡	✓	✓+	✓	Bright Metal	SST Steel	48 hrs	-85° to +392°F (-65° to +200°C)

‡ Outgassed per NASA specifications ATSM E-595 and EEE-INST-002.
✓+ Indicates improved conductivity for shielding effectiveness.

Special TB Series Materials & Finishes*

Finish Code	Finish	Hermetic Only	Electrically Conductive	RoHS Compliant	Appearance	Shell Material	Salt Spray Rating	Recommended Operating Temperature Range
C	Zinc Cobalt			✓	Black	Aluminum	125 hrs	-85° to +347°F (-65° to +175°C)
CC			✓	✓				
T	Hard Anodic			✓	Grey Metal	Aluminum	500 hrs	-85° to +347°F (-65° to +175°C)
NP	Nickel Flurocarbon Polymer		✓	✓	Grey Metal	Aluminum	1,000 hrs	-85° to +347°F (-65° to +175°C)

* Please consult an authorized distributor for lead time information and minimum quantity requirements for special order finishes.
‡ Outgassed per NASA specifications ATSM E-595 and EEE-INST-002. ✓+ Indicates improved conductivity for shielding effectiveness.

TB

About RoHS Finishes

The European Union's Restriction of Hazardous Substances (RoHS) 2002/95/EC Directive and its subsequent amendments restricts the incorporation of six hazardous materials in the manufacture of various types of electronic and electrical equipment. It is closely linked with the Waste Electrical and Electronic Equipment Directive (WEEE) 2002/96/EC, which sets collection, recycling, and recovery targets for electrical goods and equipment.

RoHS ☑ Milnec provides a full offering of RoHS compliant finishes in conductive and non-conductive versions to best suit your application requirements.

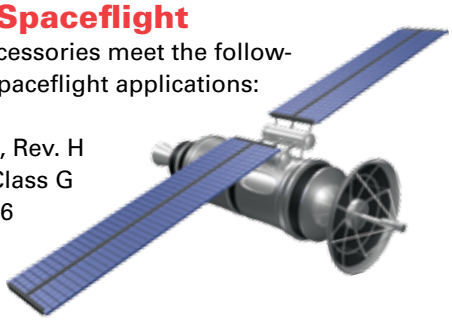
Please consult the latest European Union general and regional regulations to ensure materials are appropriate for your application and compliance requirements.

MIL-DTL-38999 Series IV Style Connector Accessories for Spaceflight

For spaceflight applications, Milnec offers specialized space-grade connector accessories ("G" Finish) with a conductive electroless nickel finish that are rigorously outgassed at high vacuum (5 x 10^{-5} torr) for 48 hours at 350°F (176°C). This process guarantees that all metallic materials such as rubber, plastic, ink, adhesives, and potting compounds shall not release greater than 1.0% total mass loss (TML) and 0.1% collected volatile condensable material (CVCM).

Milnec space-grade accessories meet the following specifications for spaceflight applications:

- NASA SSP-30423, Rev. H
- MIL-DTL-38999, Class G
- ESA/SCC 3401/056
- ATSM E-595
- EEE-INST-002



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