



**FOR IMMEDIATE RELEASE**

## **Conesys Introduces Class Z Black Zinc Nickel per MIL-DTL-38999**

**TORRANCE, California, USA (July 2015)** – Conesys is pleased to announce that Aero Electric is qualified to Class Z (Black Zinc Nickel) plating for MIL-DTL-38999 rev M, for example D38999/26ZC35PN. This plating will also be available for commercial use in all of the families of mil spec circular connectors and industrial connectors that Conesys offers.

### **DLA Test Report Qualification # 38999-4446-15**

Black Zinc Nickel is RoHS compliant, and meets or exceeds all the mil spec qualification requirements as Class W, Olive Drab Cadmium over Nickel over Aluminum, including but not limited to corrosion resistance, conductivity, EMI Shielding Effectiveness, and durability.



For additional product information on this qualified RoHS compliant plating, please contact Scott Miller, Product Manager, at 310.618.3737, Ext. 108 or email at [smiller@conesys.com](mailto:smiller@conesys.com). For sales in North America, please email [sales@aero-electric.com](mailto:sales@aero-electric.com) and in Europe, please email [sales@conesyseurope.com](mailto:sales@conesyseurope.com).

Conesys is a privately held company headquartered in Torrance, California. The company markets under the brand names Aero-Electric Connector, Aero Industrial Products, EMP Connectors, J-Tech, Conesys Europe, and ATI-Interco. With approximately 675 employees worldwide, Conesys combines financial strength with the flexibility and responsiveness of a world class supplier of interconnect solutions. To learn more about Conesys, visit our website at [conesys.com](http://conesys.com).

**MIL-DTL-38999 III**  
**Black Zinc Nickel**  
**Z Class**



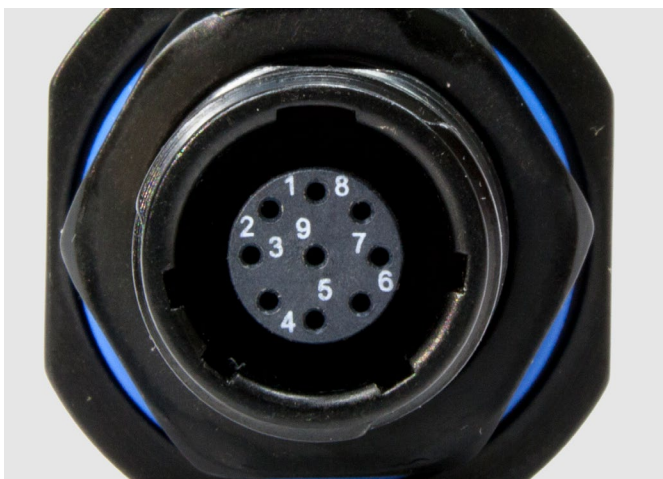
## Features

MIL-DTL-38999 Series III is in a class all by itself as it pertains to harsh environment circular connectors. And with these severe conditions that this connector family must survive in, corrosion resistance is critical, but so are performance, functionality, aesthetics, and most importantly, the health and well-being of our planet and all that exist within. For these reasons alone, Conesys, specifically our Aero Electric Connector division, is proud to announce the qualification of Z class per MIL-DTL-38999 III.

Z class is an aluminum shell with **RoHS** compliant Black Zinc Nickel plating. Our Zinc Nickel plating is free of cadmium, hexavalent chromium, lead, and any other substance deemed hazardous by the EU, but now adopted across the globe.

Z class meets or exceeds all the same requirements as W class (aluminum shell with olive drab cadmium over nickel plating) per MIL-DTL-38999, including corrosion resistance at 500 hour salt spray rating, durability at 500 mating cycles, EMI Shielding Effectiveness, and shell to shell conductivity at 2.5 millivolts maximum potential voltage drop, to name a few. More details on the next page.

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## MIL-DTL-38999 III Black Zinc Nickel Z Class

### Performance Specifications

#### Operating Temperature Range

Class Z: -65°C to +175°C (-85°F to +347°F)

#### Corrosion Resistance

Military Class Z withstands 500-hour salt spray.

#### Durability

Minimum of 500 mating cycles.

#### Fluid Resistance

Connectors resist specified immersions in MIL-PRF-7808, MIL-PRF-23699, MIL-PRF-5606, M2-V Chevron oil, Coolanol 25, MIL-DTL-83133 (JP-8), MIL-DTL-5624 (JP-4, JP-5), SAE-AMS1424 Type I, and other solvents and cleaning agents.

#### Shielding Effectiveness

RFI and EMI attenuation at the specified frequencies meet the requirements of MIL-DTL-38999.

- RFI shielding effectiveness of mated connectors with RFI backshells is measured in a triaxial radio frequency leakage fixture.
- EMI shielding effectiveness is measured at the interface of mated connectors and tested by the mode-stirred technique specified in method 3008 of MIL-STD-1344.

#### Environmental Seal

Wired, mated connectors with specified accessories attached, shall meet the altitude-immersion test specified in MIL-DTL-38999.

#### Shell-to-Shell Conductivity

Maximum potential drop shall not exceed:

- Class Z = 2.5 millivolts

#### Shock and Vibration Requirements

Wired, mated connectors shall not be damaged, nor shall there be a current interruption longer than one microsecond when subjected to the following:

#### Shock

Pulse of approximate half sine wave of 300 G  $\pm$  15 percent magnitude with duration of 3  $\pm$  1 milliseconds applied in three axes.

#### High Impact Shock

When mounted as specified in MIL-S-901, grade A, a drop of a 400 lb. Hammer from 1 foot, 3 feet and 5 feet applied to connector in three axes, totaling nine impacts.

#### Vibration

Wired and mated connectors withstand the following vibration levels:

- Sine vibration where connector samples with simulated accessory load are subjected to simple harmonic motion from 10 to 2,000 Hz in three mutually perpendicular axes, in 20 minute sweeps, for 12 hours in each axis at velocity of 254 mm/sec from 10-50 Hz, displacement of 1.5 mm from 50-140Hz and acceleration of 60G from 140-2,000Hz.
- Random Vibration per MIL-STD-1344, method 2005, test condition V at ambient temperature and test condition VI, Letter "J" at elevated temperature.

