

Product Information



VETRA GROUP
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Bi-metal Washers

Vetra Industrial Group's bi-metal washers are manufactured through explosive welding, which atomically bonds two dissimilar metals, creating a seamless connection with no air gap. This process ensures that placing a bi-metal washer—such as a copper/aluminum washer—between different materials effectively prevents galvanic corrosion, as it eliminates the need for an electrolyte.

Bi-metal washers are designed to prevent galvanic corrosion between dissimilar metals, such as aluminum and copper. When these metals are in contact and exposed to moisture, conductive salts, or surface contaminants, galvanic corrosion can occur. This increases contact resistance, reduces current flow, generates heat, and may ultimately lead to equipment failure.

Installation Tip:

For proper installation, the aluminum side of the washer should contact steel or aluminum surfaces, while the copper side should be in contact with copper or copper-based alloys (such as brass).

Advantages and Reasons for Using Bi-metal Washers:

- ❖ Prevents electrochemical reactions between different metals, reducing galvanic corrosion.
- ❖ Maintains consistent electrical conductivity and ensures a stable, reliable electrical connection.
- ❖ Extends equipment lifespan and reduces maintenance and repair needs.

Product Specification:

Mechanical Properties		Specification & Physical Properties	
Tensile Strength	≥110 Mpa	Ratio for Aluminum: Copper (Volume)	80%: 20% 60%: 40%
Shearing Strength	≥80 Mpa	Ratio for Aluminum: Copper (Weight)	55%: 45% 30%: 70%
Temperature Service	≤ 400 °C	Density (gr/cm ³)	3.95 5.2
Elongation (%)	28-38	Resistivity (Ω mm ² /m)	<0.019 <0.017

Available Washer Types:

- ❖ 1mm to 3mm (or customized as per order).
- ❖ Size range: M3 to M100 (or customized as per order).
- ❖ Available in round or square shapes (or customized as per order).

