

Necessity of Bimetallic strip or washer:

When two metals are brought in close contact, current flows from the one metal to another due to electrochemical action. When two dissimilar metals form a electrical joint, it causes corrosion known as galvanic corrosion which increases contact resistance. This can result in localized heating and failure. This can be prevented by the use of bimetallic strips and washers when an electrical connection is needed to be made with two dissimilar metals. Bimetallic strips are made by cladding two metals such as copper and aluminium.

Observation and Recommendation: Generally bimetallic strips of good quality works for safely. During routine checking of material quality and purity at Jean mueller, we noticed that off late bimetallic washers have far less copper in relation to the required quantum. The minimum copper content required in copper/Aluminium bimetal is 25%. If the copper content is low, this copper gets quickly eroded at high current and temperatures. Hence the

bimetal looses its purpose and creates a dissimilar joint.



25% copper thickness of total thickness of bimetallic

75% Aluminium thickness of total thickness of bimetallic



RECOMMENDED PREVENTIVE ACTION FOR SUSTAIN GOOD ELECTRICAL CONTACT:

- 1. Our fuse switch conductive parts are copper material with tin plated. In case fuse switches are connecting to Aluminium busbar or aluminium cable lug, Please ensure aluminium busbar and Aluminium cable lug should be tin plated to get the good electrical connection.
- 2. During panel assembly and cable termination, please ensure washer, tinned aluminium busbar and aluminium cable lug contact surface area should be cleaned properly using metal brush.
- 3. Use bimetallic washer between NH strip fuse switch disconnector and Main bus bar of each phase
- 4. If fuse switch disconnector with flat bolted type cable termination, use bimetallic between aluminium cable lug and disconnector cable termination point
- 5. Ensure washer or strip should cover disconnector joint in the entire area of contact with correct size holes.



Please take care of the above critical point while building your panels and terminations.

Jean Mueller India Private Limited • 266, SIDCO Industrial Estate, Thirumudivakkam • Chennai-600044 • web: www.jeanmueller.de