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## RoHS Bulletin #8

Dear Customers,

We would like to update you regarding the relative performance of the new RoHS compliant **zinc chromate finishes used on steel components** vs. their traditional non-RoHS predecessors in use prior to 2006.

We have seen recent evidence that the corrosion resistance of the RoHS compliant zinc chromates on steel, while meeting both customer and “historical” industry specifications; do not provide the safety factor enjoyed by the electronics and telecom industries when hexavalent chromates were in use. This fact is evidenced by visible white corrosion now appearing prematurely on components that previously exhibited no such condition. Due to the requirement for electrical conductivity on the majority of these coating surfaces, the use of ‘sealants’ is not an effective option.

The first of these corrosion events occurred in products shipped within Asia where humid climate conditions combine with various environmental contaminants. This combination can result in a formidable chemical attack on these new metal finishes. The components showing premature corrosion were all produced to manufacturers specifications and have passed the “historical” required salt spray testing protocols.

The primary failures were seen on the threads and sharp corner edges of fasteners and areas where the interface between mating parts is subject to surface disruption on the steel during assembly. Premature corrosion (white rust) was also observed on small sheet metal parts having multiple bends. These parts are acceptable based on the salt spray corrosion test limits specified by both customers and manufacturers.

XTech has been proactive in working specific issues with those customers whose products exhibited these conditions. The solution considered most practical for fasteners is to use stainless steel. For small sheet steel parts, we are recommending using either stainless steel or trivalent chromated aluminum if comparable functionality can be achieved. Increasing the thickness of the zinc to provide additional protection has also been suggested. For some assemblies being shipped to and within Asia, we have instituted the addition of desiccant packs and sealed poly-bags.

XTech is pleased to report that our trivalent chromated aluminum components continue to perform without failure worldwide and our focus is on the steel, zinc chromated parts.

Feel free to contact me (or your XTech Program Manager) for additional information.

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