Emhart Teknologies
Industrial Division

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Ref. Dodge Brass Inserts

Please reference the below information regarding our position as it relates to the Initial Hazardous Substances noted in the European RoHS and WEEE initiatives.

At this time we manufacture fasteners on five spindle high-speed screw machines. The most commonly used material in this industry is 360 brass, which falls under the designation, UNS C36000 ½ hard free-cutting brass. The CDA specification is C360, ½ hard per ASTM B-16. The following is a chemical breakdown of the material as listed in the above-mentioned specifications:

1) Copper, 63.0% Max. – 60.0% Min.
2) Lead (Non-Water Soluble), 3.7% Max. – 2.5% Min.
3) Iron, .35% Max.
4) Other material then listed, .5% Max.
5) Zinc, Remaining Percentage

As shown in the chemical composition, there is a concern with the lead content. The alloy requires 2.5% to 3.7% of the material to be non-water soluble lead.

This material is approved and considered “Lead-Free” by the US Environmental Protection Agency under USF Standard 61, Section 9. Additionally, UNS C36000 brass is an approved material for the manufacturing of plumbing fittings and fixtures for drinking water systems, under the Safe Drinking Water Act, Section 1417. The term “Lead-Free” applies to any approved copper alloy that contains less than 4% lead. In practice this means the lead content is considered captive and no concern of contamination exists to the environment or workforce by handling and processing of this alloy.

Due to the increasing restriction of harmful materials in the workplace and the restrictions being stated in European Directives 2000/53/EC and 2002/95/EC, we are researching the use of no-lead brass and steel material. The materials that are currently available in the marketplace are greatly limited, which makes it virtually impossible to use these material at the present time here in the US. No US material manufacturer currently makes a material of this type. All no-lead brass materials are imported, which increases lead-time and causes reductions in the scrap credit. In addition the increased lead-time make for difficult forecasting. We have also looked into the use of non-leaded free-machining steels, but at the present time there is only one proprietary material manufactured, but the lead-times are extensive because they are meeting the demands of their leaded materials first.

Emhart Teknologies is considered a world leader in the manufacturing of engineered fasteners. We are continually looking as new materials that are hitting the market, as well as existing products from all over the world. We are dedicated to moving toward non-leaded environmentally friendly materials, but until they become more readily available within the US, we need to way the Pros & Cons of moving to quickly.

Since both European Directives noted, 200/53/EC and 2002/95/EC, have exemptions noted in within them for copper alloys with lead contain up to 4%, we are in compliance with these regulations at this time. We understand the initiative to provide "lead-free" products to the market and continue to move forward with this project. Thank you for your patience, but at this time we cannot offer you any solution except for a stainless steel insert, which will greatly increase the cost of your insert.

If you have any questions or if we can be of further assistance with this matter, please do not hesitate to contact us at any time.

Sincerely,

Gregory R. Peck

Helicoil / Dodge
Senior Applications Engineer