



## Cooling of Power Electronics

RoHS (Restriction of Hazardous Substances) and required compliance became effective July, 2006. Specifically RoHS restricts the use of heavy metals Mercury, Chromium VI, Lead, Cadmium, and the flame retardants PBB's and PBDE's.

Heatsinks manufactured by Mersen (formerly Ferraz Shawmut) are processed through an in-house wet processing line to both simply remove cutting fluids and chips or to provide a finish to prevent oxidization of the heatsink material which is predominantly aluminum but increasingly copper and aluminum.

Mersen offers the following finishes that meet the requirements of various MIL specifications as well as RoHS:

<b>Type:</b>		<b>RoHS Compliant</b>
Black Anodize:	MIL-A-8625, Type II, Class 2, Black	Yes
Clear Anodize:	MIL-A-8625, Type II, Class 1, Clear	Yes
Gold Chromate:	MIL-DTL-5541, Type I, Class 3, Gold	No
Trivalent Chromate:	MIL-DTL-5541, Type II, Class 3, Clear	Yes
Electroless Nickel:	ASTM-B-733	Yes
Tin Plated Copper:	Lead Free	Yes
Tin Plated Solderable Tabs:	Lead Free	Yes
Wash:	Degrease Only	Yes

Many BOM's call for Gold or Clear Chromate finish. While we will continue to offer Gold Chromate finish for some period of time, effective, January 2007 BOM's calling for Clear Chromate will be supplied with a Trivalent Clear Chromate finish. We recommend that the Gold Chromate Hexavalent finish be replaced with the Trivalent Clear Chromate finish to be RoHS compliant.