Table 3.4.2 B: Wheel Weights – Copper

	Technical/ Performance Parameter	Measure/Metric	Source of Information
	Component/End-product		
	Key physical characteristics	Density: The density of copper is 8.96 g/cm^3 vs. 11.34 g/cm^3 for lead, which means that, for a given weight size (mass), a copper weight will be 27% larger volume than a lead weight. (MatWeb) Melting Point: At 1980° F, the melting point of copper is significantly higher than the 622° F melting point of lead and well above the maximum operating temperatures required for wheel weights. (MatWeb) Corrosion resistance: Copper has good resistance to atmospheric corrosion. However, it develops a protective coating that over time thickens to give a green patina, which would be unacceptable for wheel weight applications. Therefore, copper weights require a protective coating. (Corrosion Doctors) A manufacturer of copper adhesive wheel weights states that its copper weights are coated to meet OE standards. (Trax) Malleability: Like lead, copper is very malleable. Hardness: Annealed Copper, Vickers: 50 Lead, Brinell: 4.2 Lead, Vickers: 5 (MatWeb) Recyclability – Copper can be recycled without any loss of quality. Copper recovered from refined or remelted scrap composes 30% of the total U.S. copper supply.	MatWeb, 2006 Corrosion Doctors, 2006. Trax, 2006 Edelstein, 2006.