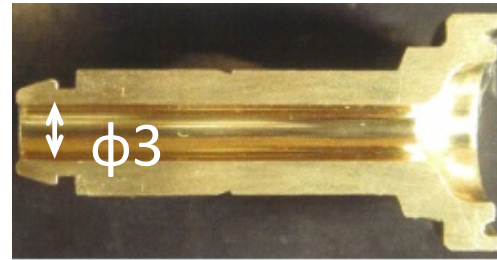

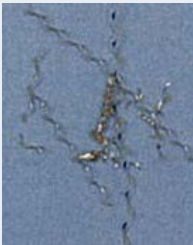


Product Parts of Copper alloy

Part Name	Thermostat
Part weight	80g
Copper Alloy Component weight	10g
Content % of Lead	1.8-3.7

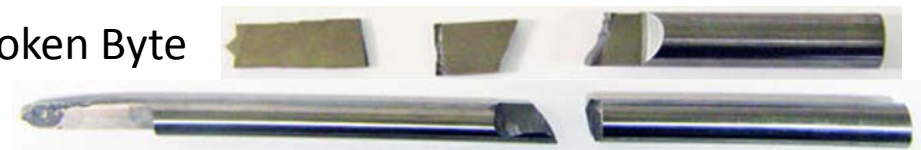


name : Guide

Pb (ave.%)	0.2	<0.1 Eco brass
sawdust shape	curly	curly
		
judgment	NG	NG

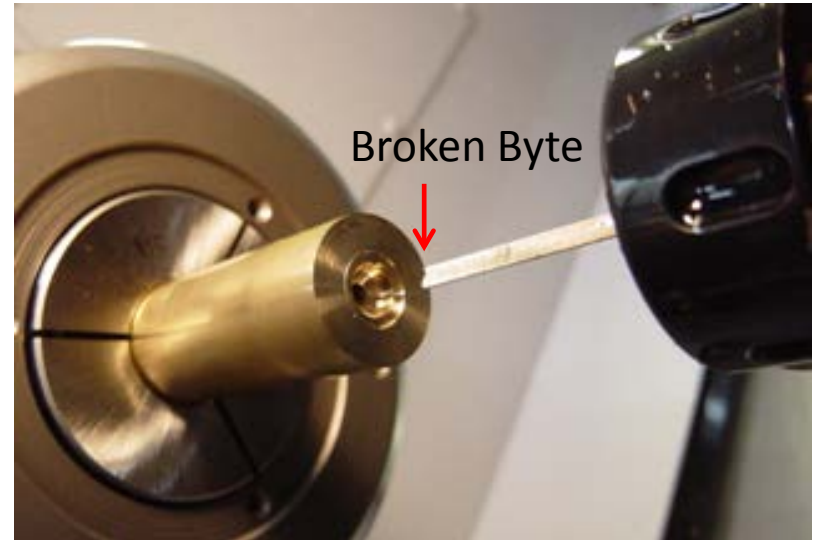
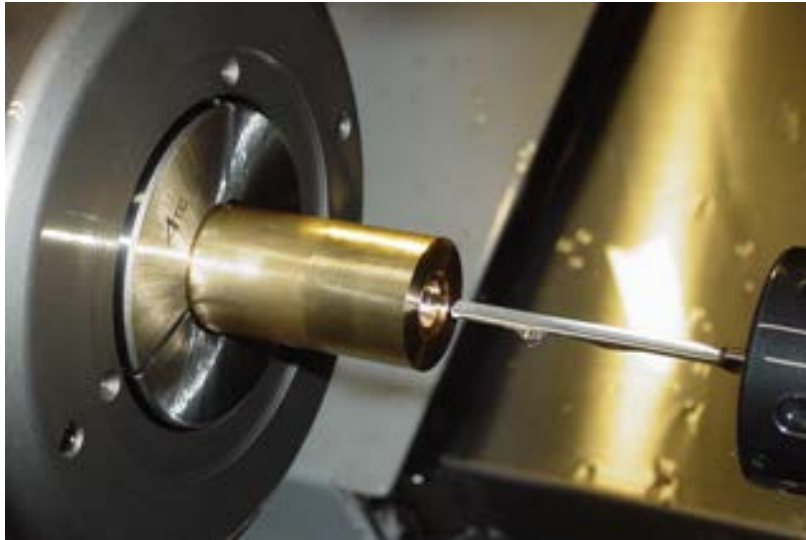


Broken Byte



φ3 drilling that only C3604 (3.2%) was possible. Byte breakage the others because the curly sawdust occurred.

Could not work because of occurring byte breakage at 2.2% alloy.



Product Parts of Copper alloy

Part Name	Union
Part weight	—
Copper Alloy Component weight	i.e. 4g
Content % of Lead	1.8-3.7

After cutting only 400 sample pieces the Pb2.2% sample exhibited a rough surface with grooves in the radial direction and a continuous burr on the edge.

The surface of the Pb3.07% sample was smooth.

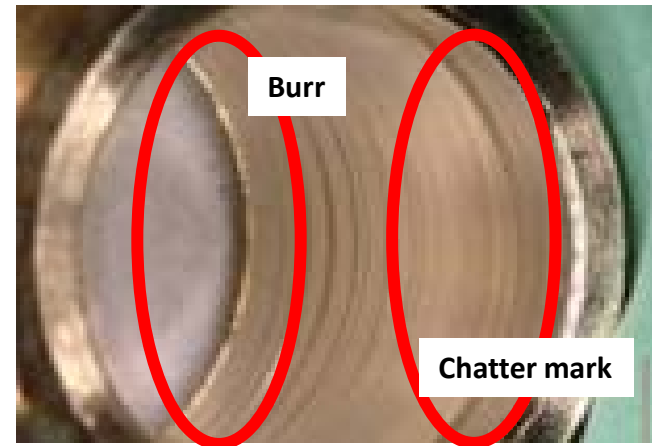


Photo: Pb2.2%

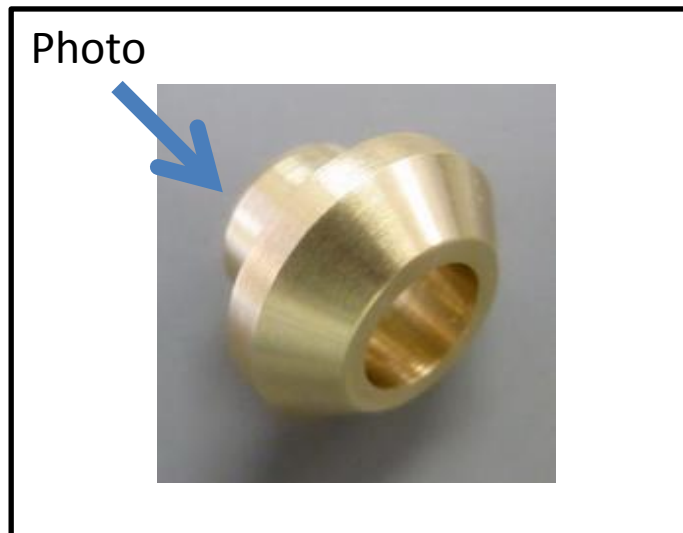


Photo: Pb3.07%

Product Parts of Copper alloy

Part Name	Union
Part weight	—
Copper Alloy Component weight	i.e. 4g
Content % of Lead	1.8-3.7

At some point during the Pb2.2%, 430 piece test, the cutting tool edge became chipped. No damage to the cutting tool tip was observed on the 3.07% Pb cutting tip until 25,000 pieces.

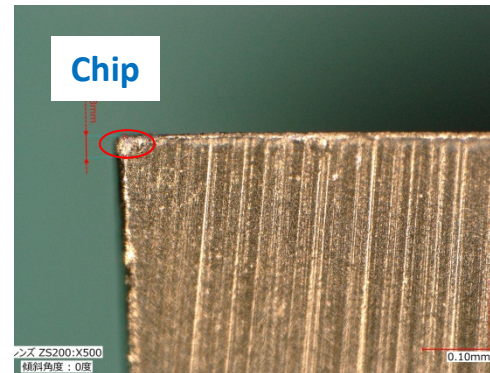


Photo: Tool Pb2.2% (430pcs.)



Photo: Tool Pb3.07% (430pcs.)

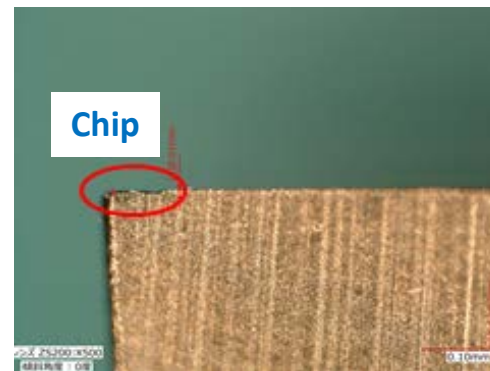


Photo: Tool Pb3.07% (a.25,000pcs.)

In order to have accurate testing, the actual manufacturing process was used for these tests. However, time restrictions limited the sample size to 430 pieces.

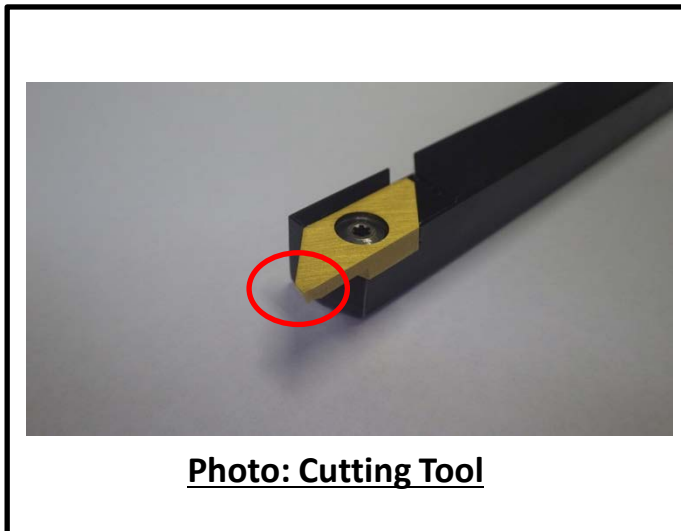


Photo: Cutting Tool