

Mechanical testing of the RAMPA Type B Inserts when used in Pb99.94cU Lead shielding

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As part of the transfer of the BioRef instrument from Helmholtz Zentrum Berlin (HZB) to ANSTO, Sydney, a number of lead shielding components will need to be lifted in and out of their positions. These lifts utilise RAMPA Type B inserts embedded in the lead shielding via a self-tapping process with a pilot hole. These inserts have been used extensively at other facilities and there is data on the use of RAMPA Type A inserts in PbSb4 see Ofner (2015). Data on load limits for inserts when used in Pb99.94Cu lead alloy are not readily available. In order to fulfill the requirements of the Lifting Equipment Approval process at ANSTO a safe load limit needs to be determined prior to utilisation at ANSTO.

The process to determine that safe load limit made use of a number of mechanical analytical tools including Pull-out testing, fatigue testing, and creep testing; along with tensile testing and XRF Spectroscopy for material characterisation. The results of this testing and the resulting safe load limit applied to these lift points will be presented.

Formal Invitation Letter Required

No

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