

Experimental report

15/09/2023

Proposal: 1-02-371

Council: 4/2023

Title: Residual stress investigation on tapered roller bearings from wind turbine generators

Research area: Materials

This proposal is a resubmission of 1-02-362

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Samples: 100C6 bearing steel

Instrument	Requested days	Allocated days	From	To
SALSA	7	6	09/06/2023	15/06/2023

Abstract:

Small bearings for wind turbines are manufactured via through hardening process. Despite our efforts in quantifying residual stresses in these bearings for better design with the help of lab XRD, the values obtained are near surface and two dimensional. Neutron strain scanning will, eventually, provide stress profiles from near surface to bulk, thanks to the high penetration depth of neutrons.

