



Certificate No: MNDE/REP/0016/06

Aludra b.v.
Marconistraat, 18
3133 KL Vlaardingen
The Netherlands

has been approved in accordance with the requirements of Lloyd's Register for the application of thermal spray coatings using the following processes:

Flame, Arc, Plasma and HVOF spraying of engineering components

This approval is subject to compliance with the requirements of Lloyds Register. Each application is to be separately approved by Lloyds Register and carried out to the satisfaction of the Surveyor.

LR will consider thermal spraying for surfacing applications to improve resistance to wear and corrosion, and to restore worn or inaccurately machined parts to original dimensions. Approval is based, however, on the condition that no dependence is placed on the coating for tensile or torsional strength and that machined preparations do not reduce dimensions below Rule requirements.

Each application for thermal spraying of engine crankshafts and main propulsion shafting is to be approved by Lloyd's Register Global Technology Centre, Southampton on a case by case basis.

Lloyd's Register is to be notified of any change of plant, formulation, or quality control routines introduced during the validity of this Certificate.

This Certificate is issued to the above contractor and, subject to regular audits to ensure continued implementation of the thermal spraying procedures and quality system, is valid until the date given below.

Valid until: 15 October 2018
Date of issue: 7 September 2015

Colin Waylen
Principal Specialist to Lloyd's Register EMEA
A member of the Lloyd's Register group