Certificate No: LR22100331REP

Issue Date: 09/09/2021

Expiry Date: 08/09/2024

Certificate Of Thermal Spraying Approval

Manufacturer GfE Fremat GmbH

Address Gewerbegebiet Süd 20, Brand-Erbisdorf, 09618, Germany

Process Plasma

This certificate is issued to the manufacturer named above who has been approved in accordance with the requirements of Lloyd's Register for thermal spraying of components using the above processes in accordance with the approved procedures.

Scope of Approval **Plasma spraying of engineering components.**

Previous Lloyd's Register reference No. REP 0085.

Limitations **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.**

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

Lloyd's Register 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 dependants is placed on the coating for tensile or torsional strength and that machined preparations do not reduce dimensions below Rule requirements.

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 company and, subject to regular audits to ensure continued implementation of the thermal spraying procedures and quality system, is valid until the date given above.

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APPROVED

Clive Arnold

Lead Metallurgist: Metallurgical Assurance to Lloyd's Register EMEA
A member of the Lloyd's Register group

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