



APPROVAL CERTIFICATE NO-2016/XI/01/006

This is to certify that the undermentioned company has been granted the approval of

In Situ Crankshaft Annealing

- Company:** GOLTENS India Private Limited, Navi Mumbai
- Description:** Insitu crankshaft annealing of medium speed 4-stroke engines with installed crankshaft.
- Process:** The process has been developed in order to reduce the hardness of a damaged crankpin / main journal of the crankshaft to the allowable limits given by engine makers without removal of the shaft from engine.
- The annealing treatment process is detailed in Document - GI/QP/17, "Procedure for INSITU Crankshaft Annealing", 10-09-2013. Further prerequisite for permission of complete crankshaft repair is a successful surface crack test and true running test, dimension, surface roughness and crank web deflection confirmation.
- Range of Application:** This procedure is limited to crankpin / main journal of one piece forged crankshafts made of tempering steel of medium speed 4-stroke engines.
- Remarks:** Every repair case requires a detailed repair procedure according to Document - GI/QP/17, "Procedure for INSITU Crankshaft Annealing", 10-09-2013, which has been submitted by GOLTENS India to RINA Mumbai office for approval.
- Every repair case remains a single case decision by RINA. Every repair case requires a detailed repair procedure which has to be submitted to RINA for approval prior the beginning of the repair.

Issued at: Mumbai

On: 1st February 2016



Dhiraj Sudi

The rules, surveys and activities performed by RINA, reports, certificates and other documents issued by RINA are in no way intended to replace the duties and responsibilities of other parties such as Governments, designers, ship builders, manufacturers, repairers, suppliers, contractors or sub-contractors, owners, operators, charterers, underwriters, sellers or intended buyers of a ship or other product or system surveyed. These documents and activities do not relieve such parties from any fulfilment, warranty, responsibility, duty or obligation (also of a contractual nature) expressed or implied or in any case incumbent on them **according to the law**, nor do they confer on such parties any right, claim or cause of action against RINA. With particular regard to the duties of the ship Owner, the services undertaken by RINA do not relieve the Owner of his duty to ensure **at all times** proper maintenance of the ship and seaworthiness. Likewise, the rules, surveys performed, reports, certificates and other documents issued by RINA are intended neither to guarantee the buyers of the ship, its components or any other surveyed or certified item, nor to relieve the seller of the duties arising out of the law or the contract, regarding the quality, commercial value or characteristics of the item which is the subject of transaction. In providing the services, as well as other correlated information or advice, RINA, its surveyors, servants or agents operate with due diligence for the proper execution of the activity. However, considering the nature of the activities performed (see art. 2.4 of the General Conditions), it is not possible to guarantee absolute accuracy, correctness and completeness of any information or advice supplied. **Therefore**, express and implied warranties are specifically disclaimed. In providing its services, and also in the case of activities carried out by delegation of Governments, neither RINA nor any of its surveyors will be liable for any loss, damage or expense of whatever nature sustained by any person, in tort or in contract, derived from carrying out the services. However, should any user of RINA's services prove that he has suffered a loss or damage due to any negligent act or omission of RINA, its surveyors, servants or agents, then RINA will pay compensation to such person for his proved loss, up to, but not exceeding, five times the amount of the fees charged for the specific services, information or opinions from which the loss or damage derives or, if no fee has been charged, a maximum of one hundred thousand Euro. Any liability for indirect or consequential loss, damage or expense is specifically excluded. In any case, irrespective of the amount of the fees charged, the maximum damages payable by RINA will not be more than 1 million Euro. No report, statement, notation on a plan, review, class certificate, document or information issued or given as part of the services provided by RINA shall have any legal effect or implication other than a representation that, on the basis **and at the time** of the checks made by RINA, the ship, structure, materials, equipment, machinery or any other item covered by such document or information meet the rules issued by RINA **or by the Governments delegating RINA**. Therefore, RINA cannot be held liable for any act made or document issued by other parties on the basis of the statements or information given by RINA.