

Quality Clause 240507 - LCS Castings (08/10/18)

If provided, the pattern used and proven during first article inspection shall be used to create castings. All surfaces of the casting (except the inner diameter in the case of the impeller) are targeted to have 10mm of machining stock. Use of a new pattern must be approved by Rolls-Royce.

Conduct chemical analysis per drawing requirements and report results. ABS certification for each casting to be obtained by the Supplier (per relevant drawing note) is required. Actual American Bureau of Shipping (ABS) witness of chemical or physical material tests requires coordination and agreement between the casting Supplier and ABS.

Any welding required to repair surface defects or build up low areas must be done using an ABS and Rolls-Royce approved welding procedure. All weld repairs and casting upgrades by welding shall be documented. Personnel performing welding shall be qualified and certified in accordance with ABS High-Speed Naval Craft Rules.

In the case of the impeller, the Supplier is to heat treat the casting per drawing 617252002C-LH with accompanying test coupons. A chart indicating the annealing cycle shall be provided to Rolls-Royce. Rolls-Royce practice is to weld support braces between vanes to minimize distortion during this process and shall be used unless otherwise agreed to with Rolls-Royce.

Test and Certify Actual Casting Physical Properties: The casting shall require four (4) coupon test samples to confirm yield strength, tensile strength and Charpy V-notch mechanical tests per the drawing. Only two (2) tests are required. The remaining two (2) test coupons are for contingency. Non-destructive (NDT) personnel shall be qualified and certified to meet requirements as specified in ABS High-Speed Naval Craft Rules.

Castings are to have the unique identifying heat number stamped or cast on each item for identification and traceability.

Supplier to machine per Rolls-Royce supplied sketch (current revision) and dimensional inspect as necessary to confirm datums and compliance. Machined surfaces of the casting to be liquid penetrant (LP) inspected per Rolls-Royce approved procedures in accordance with LI SP4.1-003 and associated appendices for criticality zones.

Subject to US Export Requirements, chemical and physical certifications along with other quality documentation must be emailed to [RRNMI.Certs@Rolls-Royce.com](mailto:RRNMI.Certs@Rolls-Royce.com).

The Rolls-Royce purchase order (PO) number and Rolls-Royce part number shall be referenced in the email subject line in the following format: "Report(s) for PO XXXXXXXXXXXX Part Number YYYYYYYYYY" or "Report(s) for PO XXXXXXXXXXXX, Multiple Part Numbers".

Supplier emails with attached files must be less than 10 MB in size due to Rolls-Royce email system limitations. We recommend the email subject line format: "Report(s) for PO XXXXXXXXXXXX, Part Number YYYYYYYYYY 1st of X Emails" should multiple emails be required due to file size limitations. Documentation must be legible and of reproducible quality. Files cannot contain macros or executables.