

PRE-QUALIFICATION CRITERIA FOR CYLINDER JACKET PROOF /ZERO MACHINED CASTING TO
DRG No.303-06-24 SB

1. The prospective vendors must be supplying or must have supplied large intricate aluminum engine casting to reputed engine manufactures.
2. The vendors, who are interested in supplying such castings, with fully machining should have their own manufacturing facilities or should have tie up for getting the castings from reputed manufacturers. The firm should have a large manufacturing base, adequate financial strength and well-documented quality system. The manufacturer should have adequate infrastructure like sufficient area of industrial shed, power backup, air compressors etc.
3. The casting manufacturer shall buy all input materials for liquid metal as well as for moulding and core making from reputed manufacturers only. Necessary material certificates for all input materials and additives should be available.
4. The vendors must have adequate trained, experienced and skilled manpower.
- 5. THE FIRM/TIED UP FIRM SHOULD HAVE FOLLOWING FACILITIES:**
 - a) Aluminium melting furnace with adequate capacity.
 - b) Suitable core making facilities (like hot box, cold box and shell core) with latest core shooter and related mixers, core ovens etc.
 - c) Capacity for manufacturing Die Casting dies with simulation preferably.
 - d) Heat treatment for T6 process wherever required (solutionising and ageing facilities.)
 - e) Abrasive blasting / surface cleaning facilities.
 - f) Fettling facilities like band saw, mechanical grinders etc.
 - g) The Firm should have Degassing plant.
 - h) Transfer Ladles, holding (preferably with dosing facility) furnaces.
 - i) The firm should have density meter and porosity detection systems to check the effect of the degasification.
 - j) Hydraulically operated gravity die casting machines.
 - k) Vacuum Impregnation plant for sealing micro porosity.
 - l) The general quality requirement of the casting to be manufactured by the vendor shall confirm to the technical document TTM 27-87.
 - m) Pressure testing facilities.
 - n) Argon TIG welding facility.

QC CRITERIA

Testing facilities and test equipment's and lab (preferably NABL accredited) should include following facilities:

- i) Radiography / Ultrasonic testing equipment.
- ii) Sand lab for green sand and core sand testing and analysis.
- iii) Wet gravimetric chemical analysis.
- iv) Spectroscope.
- v) The firm should have Mechanical testing lab & Ultrasonic testing lab.
- vi) Microscopes for micro structural analysis.
- vii) Macro analysis facilities.
- viii) Firm should ensure the supply of items as per drawing dimension and technological requirements.
- ix) CMM to check the Cylinder Jacket after machining.
- x) Instruments / gauges to check the critical parameters of the component.

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