

**PRE-QUALIFICATION CRITERIA FOR CYLINDER HEAD RH & LH TO DRG. NO. 306-16-19 & 306-34-19 UPTO OPN. NO. 215**

1. The prospective vendors must be supplying or must have supplied large intricate aluminum engine casting to reputed engine manufacturers.
2. The vendors who are interested in supplying such castings with machining should have their own manufacturing facilities. 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 vendors 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. Firm should ensure the supply of items as per drawing dimension and technological requirements.
6. **THE FIRM SHOULD HAVE FOLLOWING FACILITIES:**
  - a) Aluminium melting furnace with adequate capacity.
  - b) Casting manufacturing facility.
  - c) Degassing plant.
  - d) Density meter and porosity detection systems to check the effect of the degasification.
  - e) Heat treatment facility (i.e. solutionising and ageing facilities).
  - f) Abrasive blasting / surface cleaning facilities.
  - g) Fettling facilities like band saw, mechanical grinders etc
  - h) Pressure testing facilities or should submit declaration that the firm will create pressure testing facility after getting order.
  - i) Argon TIG welding facility.
  - j) HMC/VMC with axes strokes to accommodate component size 1250 x 300 x 250mm (L X W X H) and weight 50 Kg.
  - k) Expertise in designing of complex fixtures, special tools and gauges in house or tie up with for designing and manufacturing of complex fixtures, special tools.
  - l) Facilities for deburring and checking the components.
  - m) Adequate material handling facilities like EOT cranes and forklifts etc.
  - n) Component washing facility.


## 7. QC CRITERIA

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


- i) Radiography /Radioscopic facilities/Ultrasonic testing equipment.
- ii) Sand lab for green sand and core sand testing and analysis or tied up with reputed firm.
- iii) Wet gravimetric chemical analysis/Spectroscope facility or tied up with reputed firm.
- iv) The firm should have lab facilities to check Mechanical properties.
- v) Microscopes for micro structural analysis or tied up with reputed firm.
- vi) Macro analysis facilities or tied up with reputed firm.
- vii) Gauges and Instruments.
- viii) CMM facility to check machining of castings and critical dimensions should be available in house.

  
WM/P1

  
WM/QC

  
DO/QC

  
DO/FMS

  
GM/OPS