

PART- A PRE-QUALIFICATION CRITERIA

The BIDDER/VENDOR has to compulsorily meet all the following requirements to get qualified for consideration of their technical offer for the SUPPLY OF STEEL SHOTS. If the vendor does not qualify as per PRE-QUALIFICATION CRITERIA, the technical offer of such BIDDER(s)/VENDOR(s) offer will not be considered.

1. The BIDDER(s)/VENDOR(s) shall be a Manufacturer or an Authorized dealer of STEEL SHOTS. In case of dealers, valid authorization certificate should be submitted along with offer, failing which the offer will not be considered.
2. The BIDDER(s)/VENDOR(s) shall have a minimum of Three years of continuous experience in the field of STEEL SHOTS for shot blasting. The BIDDER/VENDOR should necessarily have attached Certificate of Incorporation / Deed of Partnership/ Certification of Registration or any other documents supporting the above experience.
3. The BIDDER(s)/VENDOR(s) shall have supplied Cast Steel Shots for shot blasting to at least Two Major industries in the past Two Years and the performance of the same should have been satisfactory. The BIDDER/VENDOR should necessarily attach Purchase order copy/ Performance Certificate or any other documents supporting the above supply.
4. The reference list of customers to whom earlier supplies were made shall be attached with the details (Name, Phone Number/ Email Id) of the CONTACT PERSON for cross reference by BHEL.
5. Any Deviations in technical specification may lead to rejection of offer.

PART- B TECHNICAL SPECIFICATION

1. **Purpose:** To blast clean external surfaces of header, pipeline components, structural sections
2. **Surface condition of the target components:**
 - (a) Thick/thin scales (Oxide formation) coated due to the heat treatment activities such as Normalising/Tempering/Stress Relieving.
 - (b) Rusted materials/ Paint coated materials/ Rust preventive oil coated raw materials
3. **Throwing velocity of shots:**
 - (a) 70-80 meters/sec through shot blasting machines
 - (b) Manual shot blasting using air supplied at pressure around 70-90psi or 6.0 bar

4. Surface preparation grade after shot blasting:

Class Sa 2 ½ as per Svensk Standard SIS 0559 00 -1967

5. Blasting media specification and properties:

- (a) Shape: spherical shots
- (b) Testing and Analysis: As per IS 4606 (SAE J827/J444)
- (c) Chemical Analysis: Carbon: 0.85-1.2%; Manganese: 0.6-1.2%; Silicon: Min. 0.4%; Phosphorous/Sulphur: Max 0.05%
- (d) Average Hardness: 400-500 HV with lowest and highest individual hardness ranging from 375-550 HV
- (e) Mean Hardness Deviation: ± 2 HRC
- (f) Typical Microstructure: Tempered Martensite and Bainite
- (g) Min Density: Shall not weigh less than 7 g per cc nor contain more than 10% hollows.
- (h) Shot size: Heat treated steel shots conforming to SAE standard- shot number S-390 or equivalent IS shot number: S-S 1000

6. General functional properties:

- (a) High durability
- (b) Uniform hardness
- (c) Uniform particle size
- (d) Low breakage

7. **Packing:** The steel shots while delivery shall be packing in polyethylene lined bags (to avoid rusting due to moisture) with weight not more than 25 kgs and the packing shall withstand normal handling during transport and storage – In multiple layers, without bag breakage.

8. **Inspection:** The lot shall be offered for inspection by BHEL authorized representatives prior to dispatch, and the certificate of conformance as per the above clause No 06 and 07 shall be produced from a reputed/recognized laboratory.

9. **Material Acceptance:** In case of any deviation, for the random samples taken from the lot after receipt at BHEL Stores, from the above listed specifications – it is the responsibility of the supplier to replace the lot as per the technical specifications – at the cost of the supplier with in a period of two weeks (or it might lead to disqualification from the vendor list).

10. **Technical Offer:** The bidder shall give the offer with point to point response to the above clauses with supporting details/ documents for evaluation.

11. **Reference List:** It is preferred to provide details on earlier supplies to BHEL/Trichy and/or the contact details of other reputed customers, using the offered product for a cross reference by BHEL.