

**SCOPE OF WORK FOR REFILLING OF CO<sub>2</sub> EXTINGUISHERS****General:-**

This scope of work for refilling of CO<sub>2</sub> Extinguishers covers all the work to be execute by the vendor during the process of refilling of CO<sub>2</sub> Extinguishers, which are as under :-

1. Cylinder/Extinguisher loading and unloading work at both the site will be vendor's scope.
2. Transportation of the material from BHEL Site to Vendor site and Return of material form Vendor site to BHEL Site will be Vendor's scope. Hence vendor is to quote their prices accordingly.
3. The work may be witnessed by CISF- Fire/ safety representative, the vendor will arrange for witness all the work mentioned in the scope on his cost.
4. All the CO<sub>2</sub> Extinguisher should be checked/ Tested as per IS-2878-2004 before hydraulic testing of extinguisher and main valve will be tested to ensure no leakage of gas.
5. All extinguishers should be hydraulically tested after removing paint and stickers from the body. Paint of all the extinguisher shall be removed with Methylene chloride/ and acetone or other chemical.
6. The extinguisher should be hydraulically tested at 250kg/Cm<sup>2</sup> according to IS 2190 & as per guidelines of IS 5844 and the supplier will submit hydraulic test certificate of extinguisher along with delivery of refilled extinguishers.
7. After hydraulic testing, extinguisher surface will be cleaned and prepared for painting, therefore fusion-bond epoxy powder coating will be done with PO red colour of reputed manufacturer confirming to shade No. 536 of IS:5-1978.
8. Valve should be painted with aluminum colour and dragging wheel, clamp and carrying handle with black colour respectively.
9. After painting, durable and laminated stickers of 02 types (suitability & inspection chart) must be pasted on extinguisher body and the labeling should have letter 'B' and 'C' of 2.5cm size printed in white color contained in a square of 4cm size and circle of 2 cm radius respectively. Date of hydraulic testing and date of re-filling will be clearly endorsed on the sticker.
10. The extinguishers passed in hydraulic testing should be filled with CO<sub>2</sub> gas and the CO<sub>2</sub> gas should be as per IS: 307-1966.
11. Replacement of following parts will be done by vendor, if required:-
  - Main Valve
  - Wheel valve
  - Safety pin
  - Safety pin supporter
  - Discharge tube/ discharge Horn
  - Dragging wheel
  - Wheel Clamp
  - Carrying handle
12. Before changing of spare parts the vendor will take consent from CISF Fire/safety and damaged spare parts will be returned along with the refilled material.
13. The Hydro-testing of the extinguishers should be conducted by Hydrostatic test Machine preferably power operated, it should be capable to produce at least 150 percent of the test pressure.
14. The rejected/ Hydro Test failed fire extinguishers should be separated, the reason of failure should be mentioned in the report & the extinguisher should be marked unusable.

15. The tare weight & gross weight should be visible on the extinguisher if not visible then it should be embossed and will be aluminum painted.
16. The extinguishers may be given in one lot for refilling and vendor may raise the bill for one lot after delivery of material. The validity of refilling work will be 12 months.
17. The vendor should quote separately the cost of hydro testing, painting and refilling as only hydraulic test cost will be paid in respect of hydraulic test failed extinguishers.
18. Lowest price will not be considered separately for each work or extinguisher wise. It will be calculated against overall total cost for hydraulic testing, painting and refilling etc. for all the extinguishers. After calculating Total cost for hydraulic testing, painting and refilling lowest price will be considered. The vendor with lowest price for a particular extinguisher will not be considered as L-1.
19. The vendor will also agree to return the extinguisher after all the refilling work within two month reckoned from the date of Po received by the vendor.
20. After receiving the material at BHEL Bhopal site, acceptance Test (for weight of gases, leakage& discharge) will be carried out as per relevant standard by CISF Fire wing. After obtaining acceptance test report bill may be raised.