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भारत सरकार
रेल मंत्रालय
GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS

Technical Specification
for
Inflatable Tent

SPECIFICATION No.-MP – 0.08.00.54 (Rev-01)
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Issued by
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Price: Rs. 300/-

Technical Specification for inflatable Tent

1. GENERAL

- 1.1 The specification covers the requirements of design, manufacture, testing, supply and commissioning of inflatable tent with all standard accessories during rescue operation at the site of the accident.
- 1.2 The tent shall be pneumatically inflated and it shall be possible to inflate with independent air supply kit or also with a compressor or by other means. The tenderer shall provide the details of same.
- 1.3 The tender shall indicate the provisions made for stability of inflated tent during torrential rain and thunderstorm. It shall be possible to install and erect the tent even on uneven surface.
- 1.4 The tenderer is required to provide all the items required for proper functioning of the inflatable tent in accordance with the latest and proven international practices.
- 1.5 The equipment shall be manufactured as per IS specifications or equivalent International standard. The tenderer shall indicate the specification to which each offered equipment conforms to.
- 1.6 A brief description of the installation of the inflatable tent with diagram as well as technical parameters shall be submitted along with the offer.
- 1.7 The drawings/documentation shall be in S.I. units and all the relevant details shall be in English.
- 1.8 The offer shall be made in accordance with this specification, by giving clause-by-clause comments. Deviation from the specification, if any, in order to improve the performance, availability and reliability of the inflatable tent can be considered. All such proposals shall, however, be accompanied with complete technical details and justification for the proposed deviation.

2. CONTRACTOR'S RESPONSIBILITY

The contractor shall be entirely responsible for execution of the contract strictly in accordance with the terms & condition of this specification/contract, notwithstanding any approval, which the purchaser or the nominated Inspecting Officer may have given:

- a) Of the detailed drawings prepared by the contractor.
- b) Of his sub-contractors for materials.
- c) Of other parts of the work involved by the contractor.
- d) Of the test carried out either by the contractor or by purchaser or the nominated Inspecting Officer.

3. QUALITY ASSURANCE PLAN

- 3.1 The tenderer shall provide satisfactory evidence, acceptable to the purchaser, to the effect that the manufacturer has adequate machinery & plant facilities and that the firm follows a "Quality Assurance Programme". He should provide a list of same/similar items being supplied by him in the last three years.

3.2 The manufacturer shall have necessary facilities at his Works or at the Works of his sub-vendors for carrying out various load/performance tests on the equipment. In case, he intends to use some imported equipment, the necessary WTC from OEMs shall accompany such equipment.

3.3 The tenderer shall supply test certificates of inflatable tent and its accessories from an approved Test House. He shall provide similar test certificates for air bottles also.

4. SCOPE OF SUPPLY

4.1 Supply of one inflatable tent of approximately 7.5 m x 5.5 m x 2 m size complete with all accessories, packing bag and air bottles required for its erection. The 2 Nos. foldable type door shall be provided having cross section 2 m x 2 m approximately.

4.2 Each tent shall be provided with 2(two) numbers of air bottles.

4.3 The tenderer shall supply essential spares with each inflatable tent along with quotation.

5. BASIC DESIGN FEATURES

5.1 Air inflated Tent :

i) It shall be made of proven light weight fabric. The tenderer shall indicate the fabric material used with corresponding specification and also its weight. Material of tent shall be such that it does not get punctured at site as the accident site is likely to have sharp edged articles. Lower weight of tent along with accessories will be preferred but it shall be approximately within 130-140kgs.

ii) The tenderer shall indicate the volume of air and time required to inflate and erect the tent. However, the erection time of tent should not exceed more than 4(four) minutes.

iii) It shall be of all airtight construction and it should hold air without any significant pressure drop for minimum of 72 hours. The tenderer shall indicate the time for which it will be able to hold air and maintain shape without re-filling.

iv) The pressure inside the frame of inflatable tent will be indicated.

v) Air filling arrangement shall have relief valve to prevent over filling.

vi) It shall have the provision of roll-up entrance door and window for proper ventilation.

vii) The tent shall not call for any special maintenance and it shall be washable with normal detergent powder. It shall be possible to repair the material of the tent if any damage takes place.

viii) The tenderer shall submit the details of accessories supplied with tent along with complete weight break-up.

5.2 The fasteners shall be of proven make and preferably of Velcro type. The tenderer shall clearly specify the type of fasteners offered.

5.3 The tenderer shall specify type of weight stabilizer that will be used for keeping the tent in stabilized condition against wind pressure and rain.

5.4 Air bottle:

5.4.1 Air bottle shall be of lightweight and the following capacity to inflate the tent frame at working pressure.

i) Capacity of Air bottles

i)	Capacity	6 ± 1litres
ii)	Pressure	Min. 300 bars

Note:- The pressure capability of the air bottles shall be certified to the relevant National/International standards.

ii) The two air bottles supplied with the tent should be capable of inflating the tent once and maintaining it in inflated condition for at least 48 hrs.

5.4.2 The tenderer shall indicate quantity of air bottles that will be required to inflate the tent for one time operation.

5.4.3 The tenderer shall submit the capacity of air bottle with approx. weight and working pressure.

5.4.4 The tenderer shall indicate the method and accessories required for filling the bottle by air compressor at site.

5.5 The tenderer shall submit the details of hand pump offered with the tent as a standard accessory. The method and accessory required for connecting the pump and frame shall be indicated. The time shall also be indicated for filling air with the hand pump.

5.6 The tender shall supply the packing bag for keeping the complete tent in secured condition while not in use.

5.7 Tenderer shall provide hanger for lighting inside the tent.

5.8 **Repair kit:** The tenderer shall offer and quote for repair kit required for maintenance of inflatable tent. The tender shall submit the details of repair work that can be carried out with such offered kit. He shall also indicate the measures to be taken in case frame is damaged.

6. SERVICE CONDITIONS

6.1 The equipment shall operate satisfactorily under the following climatic conditions.

- a) Variation of ambient temperature from 0° C to 55° C with 100% relative humidity.
- b) Heavy rainfall with thunderstorms.
- c) Dusty and corrosive atmosphere with dust content in air up to 1.6 gm/m³.
- d) Altitude – Upto 1200 m above Mean Sea level.

7. INSPECTION & ACCEPTANCE TEST OF PROTOTYPE INFLATABLE TENT

7.1 Physical dimensions & weight check of each equipment/tool shall be done as agreed and approved by the purchaser.

7.2 Performance/capacity tests will be carried out in the presence of inspector nominated by purchaser.

8. COMMISSIONING:

- 8.1 A joint check at the consignee's premises, shall be carried out by the supplier or his agent during unpacking of the equipment in order to ascertain short shipment or transit damages, if any.
- 8.2 The contractor or his agent shall commission the equipment within 30 days from the date of intimation by the consignee regarding receipt of equipment.
- 8.3 The contractor or his agent shall demonstrate performance of the equipment after receipt at the consignee's works. The consignee shall watch the equipment performance for a period of three months before issuing final proving test certificate.
- 8.4 Training shall be imparted by the supplier in operation & maintenance including repair of the equipment at the time of commissioning.

9. SPARE PARTS

- 9.1 The supplier, along with the offer, shall furnish list of initial spares, maintenance spares as well as consumables spares for two years.
- 9.2 The manufacturer shall be responsible for the subsequent availability of spares to ensure continued trouble free service for entire life of the equipment.

10. TECHNICAL LITERATURE, SERVICE MANUALS AND SPARE PARTS CATALOGUE

- 10.1 Detailed operating, maintenance and service manuals for the equipment along with technical literature and spare parts catalogue shall be specially prepared and at least two copies each shall be supplied free of cost per set of equipment ordered by the consignee. In addition, one copy of the above manuals & catalogue shall be dispatched to "The Director General (MP), RDSO, Lucknow – 226011".

11. SERVICE ENGINEERING AND AFTER-SALES SERVICE

- 11.1 The contractor shall provide, at his own expense, the services of competent engineers, during commissioning as well as warranty period of the equipment.
- 11.2 The tenderer shall clearly bring out the facilities available with him or his sub-contractor for providing adequate after-sales service during warranty as well as post warranty period. The tenderer shall indicate the service organization at various places in India and the availability of trained staff, maintenance spares etc. at these places.

12. PACKING

- 12.1 All the equipment shall be suitably packed to avoid damage during transit.
- 12.2 **Marking:** Marking shall be done on the tent & accessories with details like manufacturer's name, year of manufacturing, capacity etc.

13. WARRANTY

- 13.1 The Inflatable tent shall be guaranteed for its material quality. The offered accessories shall be guaranteed for satisfactory and trouble free operation for a

period of 24 months from the date of commissioning. The contractor at his own expense at users premises shall replace any part of the equipment failing or proving unsatisfactory in service due to defective design, material or workmanship within 24 months from the date of commissioning. The contractor shall repair free of cost the damaged material of tent if the same takes place within this period. The replaced part shall again be subjected to guarantee of 24 months. The period 24 months would commence from the date the modified part is commissioned in service.

14. REFERENCE

- 14.1 The tenderer should provide satisfactory evidence acceptable to the purchaser to show that he is licensed manufacturer with adequate plant and manufacturing capacity and follows a Quality Assurance Programme to ensure in house control of consistent quality standards.
- 14.2 The equipment "Inflatable tent" quoted should be proven and bidder should furnish a list of how many similar equipment are working in various railways or other sectors in various countries or India. The list should include information on details of order, date of supply and commissioning in last three years.
- 14.3 A minimum number of 20 inflatable tents must have been supplied by the supplier and should be working satisfactorily for two years.

In the absence of the above information, the tender is liable to be rejected.