



MAZAGON DOCK SHIPBUILDERS LTD.,

(A Govt. Of India Undertaking)

Dockyard Road, Mumbai -400010.

INDIGENISATION
DEPARTMENT

FIRE RETARDANT
PANEL

T.S.P. NO.

REV. NO.

DATE

PAGE NO.

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25 Aug 2020

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TECHNICAL SPECIFICATION

For

FIRE RETARDANT PANEL

1. **Preface.** The ships under constructions are having modular construction for messes, lobbies & alleyways. The bulkhead (Wall) & ceiling are fitted with fire retardant sandwiched modular panel.
2. **Scope of Supply** :- Scope covers Design, Manufacture, Inspection, Trial, Certification of Sandwiched Modular Panel & Satisfactory operation for use on Naval Vessels

The supplier has to indigenously design, develop & manufacture 04 Nos no of modular panels Screen arrangement as per details given below: -

<u>SNo</u>	<u>Dimension (W x H x thk) mm</u>	<u>Qty</u>	<u>Fire Class qualified</u>	<u>Regulations</u>
(a)	600 x 2000 x 25 thk	01	B0	IRS rules for Naval ships (Non-combatant)/SOLAS 1979 (FTP(code) MSC 61(67)
(b)	600 x 2000 x 25 thk	01	B15	
(c)	600 x 2000 x 50 thk	01	B15	
(d)	600 x 2000 x 50 thk	01	B15	
Note:- SNo a-c is with CRCA(powder Coated Cover) & SNo: d is with SS 316 plate with powder coated				

3. **Testing requirements:** Following Testing has to carried out on developed panel. The test has to be carried out on any Govt lab/NABL/IACS approved lab & the test is to be duly witness & certify by IRS/ any IACS member for marine. In addition, any other test required by testing agency: -
 - (a) Material Testing Report
 - (b) Physical properties of Panel
 - (c) Smoke Density
 - (d) Toxicity
 - (e) Low flame Spread
 - (f) Fire Retardant
 - (g) HFC free
4. **Scope of Offer.** The supplier shall supply a minimum of the following information along with his technical offer: -
 - (a) Technical Specification of Panel
 - (b) Basic GA drawing of panel.
 - (c) Flow Chart for manufacturing process
 - (d) Draft QAP
 - (e) Technical parameters of panels & lab details.
 - (f) Previous experience of designing & manufacturing of similar items
 - (g) List of tests & trials to be conducted on prototype.
 - (h) Indigenisation Content in his offered item.
 - (i) Details item sourced from Indian manufacturer & foreign manufacture.



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5. The Fire Retardant panels are pre insulated panel with insulating material such as Rock wool/Mineral wool sandwiched between two metallic sheets

6. **Construction:** - The Construction of sandwich panels are as follows: -

- (a) **Insulating Core:** -The insulating core material is made up of Compressed Rockwool slab/Mineral Wool having density of minimum 150Kg/Cu.M.
- (b) The Insulating core is covered by metallic sheets made up of CRCA/Stainless Steel of thickness 0.6mm or higher conforming to IS 513-D/IS 227 or equivalent.
- (c) The panel should be powder coated as per ISO 101 to achieve thickness of 50 μ minimum.
- (d) Dimensions of panels: - 600 mm Width, Thickness 25 or 50 mm & Length: varying from 2000 -2500 mm
- (e) Joining of Panels: The panels are joined together with spline of steel.
- (f) Time taking for joining/removing from the fixtures should be minimum.
- (g) A typical drawing of panel is attached for ready reference & for purpose of understanding of items only.

7. **Material.** The material used for panels shall have the following properties: -

- (a) Light weight
- (b) Non corrosive and should be able to withstand prolonged exposure to marine environment without corrosion/ material deterioration.
- (c) Fire Retardant
- (d) High toughness
- (e) Flexibility for sustaining load due to ship cruise

8. **Technical Properties:** - The panel developed shall have minimum of following technical requirements not limited :-

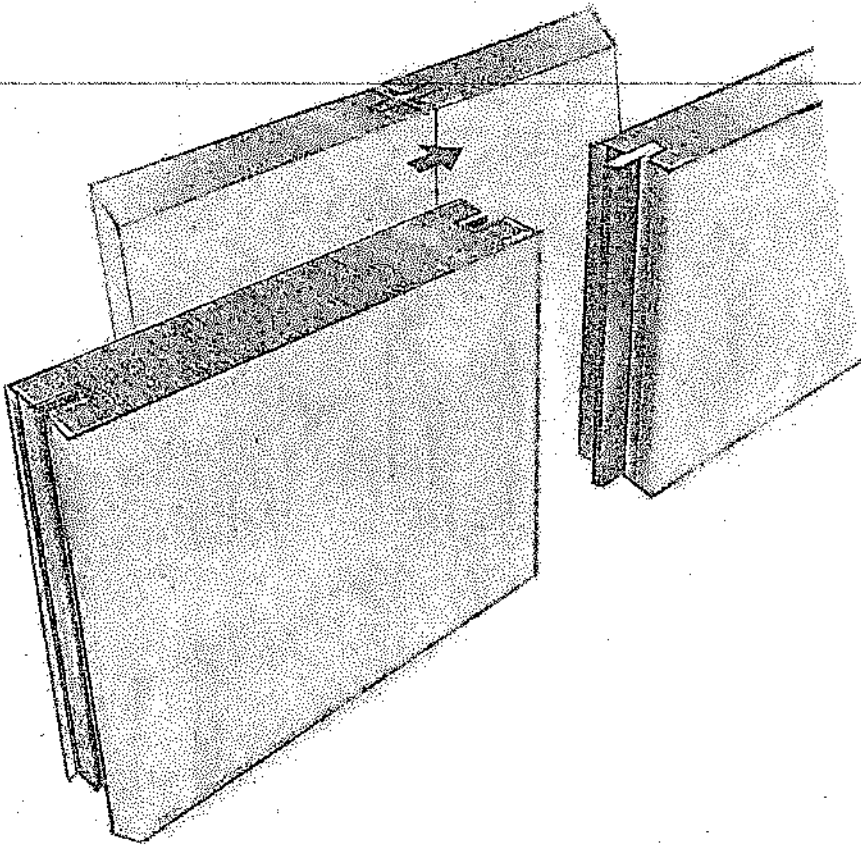
- (a) Thermal transmission : ≤ 1.4 Kcal/M²H°C
- (b) Sound Attenuation : ≥ 30 db at Room Temperature
- (c) Fire Qualification : For 25 mm thick Slab Bo & B15 (One sample each)
For 50 mm thick slab B15

9. **Testing & Certification:** - The panel shall be fire retardant to Bo / B15 class as specified in

- (a) SOLAS 1979 (FTP Code)
- (b) IRS rules for Naval ships (Non-combatant)
- (c) IMO resolution MSC 61(69)

10. **Documentation.** The supplier has to submit following drawing & documents during stages of development for reference & comments prior to start of manufacturing.

- (a) Detail General Arrangement & assembly drawing of panel.
- (b) Assembling, Installation, Operation manual & Maintenance
- (c) Quality Assurance plan.
- (d) Test & Trial plan



FIRE RETADENT PANEL