

**WORK PACKAGE FOR PREPARATION & FIXING OF 20 MM THICK RUBBER
TILES BY FASTENING ON SONAR CAPSULE OF INS SINDHUKIRTI**

A) Technical Specification

I. Scope of work of sub contractor for fixing of 20 mm rubber on Sonar capsule by fastening:

1. Capsule surface is to be marked for locations of rubber tiles and identification marking is to be given to the each tile.
2. Prepare the template for marking the position of M10 Bosses & M10 studs on sonar capsule outer surface.
3. As per template, weld the M10 Bosses & M10 Studs on sonar capsule.
4. Carry out the D.P test at M10 Bosses (Nuts)/M10 Studs welded area on sonar capsule.
5. Cut the 20mm rubber as per the template.
6. After welding, M10 Bosses position is to be transferred on to the rubber tile using template and holes are to be drilled to the rubber tile (Identification number wise)
7. The cutting edges of 20 mm rubber tile made free of dust with Bristle brush or dry cloth, degrease with cloth, wetted in benzene and kept for 10 to 15 minutes.
8. The cutting edges of 20mm rubber tile and holes surfaces shall be dressed up (coated) with thixotropic composition of YГ-2д sealant (or) RDL-840, using putty knives or Pneumatic syringe with flat end piece. Thickness of applied layer on tile edges & Holes edges shall be between 2 - 5 mm.

Preparation of thixotropic sealant YГ-2д as per Drg: 877ЭP2-3230-032:

Poly urethane prepolymer-----100 grams

Hardner----- 28 grams/32 grams

Aerosil----- 6 grams

9. Fasten the 20mm rubber tile at places.
10. Put the washers on the studs and screw the nuts. Tighten the nuts with screw wrench to press the rubber to a depth of 3-4mm.
11. The free end of stud and nut with washer shall be applied with priming compound эП-0010.

Preparation of Putty эП-0010 (Prime composition) as per Drg: 877ЭP2-3230-032:

Putty paste -----100 grams

Hardner----- 8.5 grams

(OR)

Preparation of Putty (Araldite) as per ND(V)

MY-750 Resin ----- 100 grams

HY 951 Hardener---- 10 grams and Iron oxide powder-----10 grams

12. Minimum allowable gap between rubber tiles after fixing is only 5mm
13. AK-25 Qualified welders should be deployed by Sub-contractor.
14. Tools for cutting & drilling the rubber, templating material, 70 mm Ø magnets for fixing the templates on capsule, putty knives ,Bristle brush,degreasing agent, waste cloth, Welding plant, grinding/buffing machine, Paper wheels, Emery papers, plastic caps/plugs for preservation of fasteners on board & misc. consumables are in the contractor scope.
15. Work is to be carried out by sub contractor as per RTDs to the satisfaction of QC and WOT.
16. Utmost care is to be taken for maintaining accuracy/RTD standards.
17. Sub contractor shall provide labour assistance for carrying out DP tests by EKM-QC .
18. Sub contractor shall rig the required staging onboard.
19. Sub contractor shall make arrangements for temporary lighting etc
20. Sub contractor shall make arrangements (Trolleys, Bins, slings etc) for collection of rubber tiles etc., from stores in HSL and handling.
21. Sub contractor shall offer stage wise inspections to QC and WOT as per QAP issued by EKM-QC
22. Remarks if any during inspections are to be rectified and reoffered for inspection by Sub contractor.
23. Minor modifications if any as suggested by WOT and Russian specialists are to be carried out by Sub contractor without additional cost.
24. All inspection reports and log book are to be maintained by Sub contractor and submitted to HSL immediately after completion of works.

II. Scope of HSL supply:

1. 20mm Rubber tiles, M10 Bosses,M10 Studs,M10 Hexagonal nuts,50 mmØ washers (steel 20),50mmØ Rubber washers, Sealant RDL-840(or) sealant YГ-2д & Putty эП-0010(or araldite) will be supplied by H.S.L.
2. Ak-25 welding electrodes, D.P sets will also be supplied by H.S.L

3. Staging materials supplied by HSL
4. Crane will be provided by HSL for handling materials.
5. One set of Drgs. Xerox copy will be provided by HSL and same are to be returned immediately after completion of works.

III. Prices are to be quoted per Sq. Mtr. Area of New Rubber tiles.

B - COMMERCIAL TERMS & CONDITIONS

1. **TIME SCHEDULE:** The completion time schedule is for **15 days** from the date of issue of rubber tiles.
2. **PAYMENT TERMS:**
 - 2.1 **Stage –I :-** 90% Payment will be made for completed work against the submission of work completion certificate issued by the controlling department.
 - 2.2 **Stage- II :-** Balance 10% payment shall be made on completion of guarantee Period.
 - 2.3 The Bills shall be submitted along with PF & ESI clearance certificates for the personnel engaged for the period of work.
3. **PERFORMANCE BANK GUARANTEE** : 10% Performance Bank Guarantee to be submitted upto the period of satisfactory completion of the work within 15 days of issuing LOI / Confirmatory Work Order.
4. **GUARANTEE PERIOD** : The preparation and fixing of rubber tiles must be guaranteed for 12 Months from the date of completion of total job. Any defects arising are to be attended to promptly and rectified at free of cost.
5. **DELAY IN COMPLETION OF WORK** : 0.5% per week subject to a maximum of 10% of the Work Order Value.
6. **GENERAL TERMS & CONDITIONS** : As per Enclosure – 2
7. **VALIDITY:-** 90 days from the date of opening of Price bid.

Chief Manager (SBO)