

Bill of Quantity

Name of work: Work of Acoustic treatment inside the mechanical workshop area to reduce noise at BITM, Kolkata

Sl. No.	Description of item	Qty.	Unit	Rate	Amount
1.0	Dismantling all types of masonry excepting cement concrete plain or reinforced, stacking serviceable materials at site and removing rubbish as directed within a lead of 150m. At any floor including roof.	1	Cu.M	447.00	447.0
2.0	Dismantling all types of plain cement concrete works, stacking serviceable materials at site and removing rubbish as directed with a lead of 150m at any level.	0.5	Cu.M	1,417.00	708.5
3.0	Stripping off worn out plaster and raking out joints of walls, ceilings etc upto any height and in any floor including removing rubbish within a lead of 150m as directed.	97.3	Sq.M	19.00	1,848.7
4.0	125mm thick brick work with 1st class bricks in cement mortar (1:4) at any floor.	1	Sq.M	592.00	592.0
5.0	Brick work with 1st class bricks (Class designation 75) in cement mortar (1:6) In superstructure, upto 2nd floor.	0.5	Cu.M	4,466.00	2,233.0
6.0	Plaster (to wall, floor, ceiling etc.) with sand and cement mortar including rounding off or chamfering corners as directed and raking out joints including throating, nosing and drip course, scaffolding/staging where necessary at any height. With 1:6 cement mortar, 20mm thick plaster.	50	Sq.M	153.00	7,650.0
7.0	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering at any floor/ level as per relevant IS code. 1:1½:3 (1 Cement: 1½ coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size).	0.2	Cu.M	6,757.22	1,351.4
8.0	Providing and fixing, over the false ceiling i.e. under deck application, of light weight 50 mm thick blanket with one side factory laminated aluminium foil facing of fiber insulation/ glasswool insulation complying all quality assurance parameters as per IS 8183 having density of 24 kg per Cu.m, 50 mm thickness with FSK facing (Twiga make - TI-1500/50 MM or equivalent approved make). Thermal resistance of the insulation (50 mm) should be nearly R-1.52 sq. m. K/W to meet prescriptive R-value of ECBC/2007 and thermal conductivity value should be less than 0.037 W/M.K, when tested as per IS 3346. Insulation materials shall be non- combustible in compliance with IS 8183 and BS 476 part - IV, limited surface spread of flame in compliance to class 1 as per BS 476 Part-7, Fire propagation indices I less than 12 and I less than 6 as per BS 476 part - 6, to comply class zero criteria (BS-476, part - 6&7 together). It should also be non toxic, low smoke emitting, chemically inert, free from impurities like Sulphur chloride and metal shots in compliance with IS 8183. Material made of steel plants' slag shall not be acceptable. The rate is inclusive of staging , scaffolding etc upto the height of 6.0 m. from the floor level. Mode of measurement: Actually executed area shall be measured over the False ceiling in Sq.m. Make of Materials: Saint Gobain / Twiga/ Approved equivalent make.	139	Sqm	372.60	51,791.4
9.0	Supplying, fabrication and installation of wall panelling, above 2.10 m. level from floor upto height of false ceiling, with 62.5mm(Min.) thick Wall lining with (GypSerra™ or equivalent) C-stud partition which includes single layer of tapered edge 12.5mm thick (Gyproc® or equivalent approved make) SoundBloc (conforming to EN 520: 2004, Type A,D) of size 1200x1830mm screw fixed to C-stud which is placed adjacent to brick/RCC wall. 48x0.5mm C-stud {Material- IS 513,Y/S-300Mpa, Finish - AZ150 (IS 15961)} placed at 600mm c/c in 50x0.5mm (GypSerra™ or equivalent) {Material-IS 513,Y/S-300Mpa, Finish - AZ150 (IS 15961)} floor and ceiling channel . Floor & Ceiling channel is anchored to the floor & True ceiling using (Gyproc® or equivalent approved make) Rawl plug Ø8x45mm {Material-IS 513 CR1 grade, Zinc coating, Pull Out Load-6.8kN for M30 concrete grade} /Hilti Nail anchor fasteners at 600mm c/c in centerline manner. 50x32x32x0.5mm (GypSerra™ or equivalent approved make) Floor channel to be cut & bend & bracing at every 1200mm c/c vertically. Floor channel is fixed to brick wall with Sleeve Anchor (Ø6x40mm) / Impact anchor or to RCC with (Gyproc® or equivalent) Rawl Plug. Floor channel to be wrapped with 70µ Self Adhesive LDPE moisture barrier film to further improve corrosion resistance performance The floor channel is not to be rested on the floor but it is rested at 2.10 m level from the floor on the supporting M.S. members (M.S. Channel/Angle etc.) . The supporting m.s. members are to be rigidly fixed to the adjacent brick wall with anchor fasteners. The payment of M.S. work shall be made separately.				

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	A (GypSerra™ or equivalent approved make) Noggin channel {Material-IS 513,Y/S-300Mpa, Finish - AZ150 (IS 15961)} of 48x0.5mm width has to be provided at the horizontal joints of outer boards. Single layer of (Gyproc® or equivalent approved make) boards to be screw fixed with (Gyproc® or equivalent approved make) Drywall screws of 25mm at minimum spacing of 300mm at centre and 150mm at periphery. Finally square and tapered edges of the boards are to be jointed and finished so as to have a flush look which includes filling and finishing with (Gyproc® or equivalent approved make) Pro-Fill Jointing compound Air Dry (Conforms to ASTM C475), (Gyproc® or equivalent approved make) Joint Paper tape. The junction of the partition with masonry & all penetration through the partition has to be treated with Acoustic sealant. All other detailing and specifications to be followed as per approved drawing of department/ manufacturer of materials/ Gyproc. Mode of measurement: Finished Surface area of the wall in Sq.m. Make of materials : Gyproc, GypSerra or approved equivalent make.	180	Sq.m.	2,064.50	3,71,610.0
10.0	Providing and fixing of false ceiling with powder coated exposed G.I. grid suspension system (E-Grid T 2430 or equivalent load carrying capacity with mid span deflection not exceeding 1/360 span with hanger spacing of 1200mm c/c) consisting of Main Runner 3600 mm long, Cross Tee 1200 mm / 600 mm long and Wall Angle. The Wall Angle shall be fixed on PVC Dash Fasteners on the perimeter of the wall by steel screws with distance 300mm c/c. The Main Runners to be placed @ 1200 mm. The Cross Tee 1200mm will be inserted in the pre-cut slots of Main Runner at a regular interval of 600 mm to form a modular grid of 1200mm X 600mm. Additional Cross Tees of 600 mm shall be placed perpendicular to the Cross Tee 1200 mm long to finally form a grid of 600 mm X 600 mm. Grid of module size 600 mm X 600 mm shall be supported by 6 mm dia G.I. wire from purlins / soffit. 6 mm thick High Pressure Steam Cured Non Asbestos Fibre Cement Standard Ceiling Board (Density > 1300 Kg/m ³) of size 595 mm X 595 mm, conforming IS 14862 & Type B Category III of ISO 8336, tested as per AS-1530 part 3 & BS-476 Part 4,5,6,7 & 8, should be placed in the Grid module to form a False Ceiling. All complete as per the drawing & directions of Engineer-in-charge. In ground floor. False Ceiling (with 6mm thick Fibre Cement Designer Board of approved make & design and E-Grid T-2430) at 5.4 m/ 6.0 m level from floor. The rate is inclusive of scaffolding/ staging, materials & labour.	132	Sq.m.	686.00	90,552.0
11.0	M.S. structural works in columns, beams etc. with simple rolled structural members (e.g. joists, angle, channel sections conforming to IS: 226, IS: 808 & SP (6)- 1964 connected to one another with bracket, gussets, cleats as per design, direction of Engineer-in-charge complete including cutting to requisite shape and length, fabrication with necessary bolting, metal arc welding conforming to IS: 816- 1969 & IS: 1995 using electrodes of approved make and brand conforming to IS:814- 2004, haulage, hoisting and erection all complete. The rate includes the cost of rolled steel section, consumables such as electrodes, gas, anchor fastener of approved make & size and hire charge of all tools and plants and labour required for the work including all incidental charges such as electricity charges, labour insurance charges etc. Payment to be made on the basis of calculated weight of structural members only in finished work as per IS specified weight. For structural members of specified sections weighing less than 22.5 Kg/m	100	Kg.	59.12	5,912.0
12.0	Applying Interior grade Acrylic Primer of approved quality and brand on plastered or concrete surface in old or new work to receive Distemper/ Acrylic emulsion paint including scraping and preparing the surface thoroughly, complete as per manufacturer's specification and as per direction of the EIC at any floor. Water based interior grade Acrylic Primer One coat.	550	Sq.M	30.80	16,940.0
13.0	Applying Acrylic Emulsion Paint of approved make and brand (Asian Paints Acolite/ ICI Dulux Super Clean / Berger Easy clean) on walls and ceiling including sand papering in intermediate coats including putty (to be done under specific instruction of Superintending Engineer) : Two coats or more with Luxury Quality.	550	Sq.M	70.00	38,500.0
14.0	Priming one coat on steel or other metal surface with synthetic oil bound primer of approved quality including smoothening surfaces by sand papering etc. (This item is applicable to new work or old work when the original surface has been exposed by removal of old paint)	60	Sq.M	29.00	1,740.0
15.0	Painting with best quality synthetic enamel paint of approved make and brand including smoothening surface by sand papering etc. including using of approved putty etc. on the surface, if necessary. On steel or other metal surface :Two coats or more (with any shade except white).	60	Sq.M	79.00	4,740.0
16.0	Priming one coat on timber or plastered surface with synthetic oil bound primer of approved quality including smoothening surfaces by sandpapering etc. (This item is applicable to new work or old work when the original surface has been exposed by removal of old paint)	10	Sq.M	38.00	380.0

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17.0	Painting with best quality synthetic enamel paint of approved make and brand including smoothening surface by sand papering etc. including using of approved putty etc. on the surface, if necessary , On timber or plastered surface :Two coats or more (with any shade except white).	10	Sq.M	81.00	810.0
18.0	Filling the gap in between aluminium frame & adjacent RCC / Brick/ Stone work by providing weather silicon sealant over 6mm dia backer rod of approved quality as per direction of Engineer-in-Charge complete. The work is to be executed on the inside or out side wall upto any height from ground level. The rate is inclusive of materials, labour, scaffolding etc. complete. Make: Dr. Fixit, Wacker, Sika, M.Seal.	10	Per Cartridge	240.00	2,400.0
19.0	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / panelling, C.P. brass / stainless steel screws all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing & panelling to be paid for separately). Rate includes, Filling the gap in between aluminium frame & adjacent RCC/ Brick/Stone work by providing weather proof silicon/ epoxy sealant over backer rod of approved quality. (for payment purpose only weight of Aluminium sections shall be considered excluding the fixing accessories such as screws, nuts, bolts, fasteners, EPDM rubber/ neoprene gasket etc.). Approved Make of Aluminium section: Hindalco, Zindal.				
19.1	A) For fixed portion: Powder coated aluminium (minimum thickness of powder coating 50 micron)	50	Kg	405.00	20,250.0
19.2	B) Supplying & fixing 5mm thick bubble free float glass (coloured / tinted / smoke) of approved make and brand conforming to IS: 2835-1987.	12	Sqm	908.00	10,896.0
20.0	Removal of rubbish, earth, scrap material etc. from the working site and dispose off the same beyond the compound in truck loads in conformity with Municipal/ Corporation rules and as per instruction of Engineer – in – Charge.	1	L.S.	3,000.00	3,000.0

Cost of Civil works = 6,34,352.04
 GST, as applicable over cost of Civil work @ 18% = 1,14,183.37
 Cost of Civil works excluding labour welfare cess = 7,48,535.41
 Labour welfare cess @ 1% = 7,485.35
Estimated value of work = 7,56,020.77
Say Rs. 7,56,021.00