

ESTIMATE FOR STRUCTURAL REPAIRS OF ADMIN BUILDING, SHCIL, MHAPE

Client :	StockHolding Corporation of India Limited	Date :	22.10.2021
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I. ENABLING SYSTEM

Sr. No.	Work Description	Quantity	Unit	Rate	Amount
1	CHIPPING OF LOOSE CONCRETE : Chipping off and removing loose concrete from damaged concrete portion of columns, beams & slabs etc manually by using chisel and low impact hammer, breaker to expose the sound concrete. Use the portable air blowers to make the surface free from loose material, dirt etc. <i>(Rate includes disposal of chipped concrete/debris by mechanical means including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all loads including all lifts involved.)</i>	1320	Sqm		
2	JACK PROPS : Providing and fixing MS Props at regular interval to provide support to the existing damaged structure or at the time of extensive structure repairs.	100	No.		
3	DISMANTLING EXISTING FALSE CEILING (at required locations) : Dismantling aluminium/ Gypsum false ceiling including disposal of unserviceable surplus material and stacking of serviceable material within 50 meters lead as directed by Engineer-in-charge.	1584	Sqm		
TOTAL					

II. STRUCTURAL REPAIR:-

Sr. No.	Work Description.	Quantity	Unit	Rate	Amount
1	APPLICATION OF RUST CONVERTER : Application of Rust Converter: Providing & applying One coat of Alkaline Rust converting primer conforming to ASTM-B-117, to exposed existing rebars after removing & cleaning loose rust by wire brush and leave it for 6-8 hours.	1320	Sqm		
2	ANTI-CORROSIVE COATING TO EXPOSED REINFORCEMENT Providing & applying Two coats of Anti Corrosive protective coating (CBRI / CSIR technology) for reinforcement bars by brush. Sprinkle dry sand when second coat is tacky so as to get rough surface.	1320	Sqm		
3	BOND COAT : Providing & applying One coat of structural grade epoxy bond coat by brush conforming to ASTM-C-882-87 to the prepared concrete surface to be repaired / strengthened. This is applied prior to the application of polymer repair mortar / epoxy mortar / Microconcrete to have monolithic action between old concrete surface and new concrete surface.	1320	Sqm		
4	POLYMER MODIFIED CEMENT MORTAR : Repair with Polymer Modified Mortar (PMM): Repairs to the deteriorated/ damaged areas of RCC elements in the structure shall be carried out by using powder Polymer Modified repair mortar. The polymer modified mortar is applied when the epoxy bonding coat is still tacky. In one application 25 mm thickness shall be built. Subsequent layer shall be built with one bond coat of Polymer modified cement slurry. The polymer modified repair mortar shall be mixed, applied and cured as per technical specifications.	1188	Sqm		

5	MICRO CONCRETE: Providing Ready mix Micro Concrete jacketing to walls or beams of thickness upto 75 mm using Polymer modified cement premixed quartz sand aggregate packed in bags of standard manufacture, for high early strength of 40 N /mm sq.cm of approved brand. The dry product is to be mixed with 12.5% water by weight, along with washed and poured into rigid form work moulds & tamped properly, & cured for 3 days. [Payment is to be made by weight premixed of micro concrete product consumed as per site register records. No extra payment shall be made for shuttering or any other material.	11616	Kg		
6	ADDITIONAL REINFORCEMENT : Cutting, bending and fixing in position steel reinforcement of specified/required sizes and shapes in the form or main rebars, stirrups & rings, distribution rebars etc., and tying them to shear connectors using GI binding wire. The additional rebars should be coated with TWO coats of Anti Corrosive protective coating & dry sand to be sprinkled on second coat.	0.5	M.T		
7	EPOXY GROUT : Providing Epoxy based high molecular weight injection grouting into concrete at 150-300 mm centre to centre through nylon nipples of 12 mm dia fixed into drilled holes at a pressure specified by the manufacturer. The grout should have a minimum tensile strength of 10-15 N/mm2 (ASTM-D-638-95) & flexure of 20-25 N/mm2 (ASTM-D-790-96). Manufacturers like Sikadur®-52 Injection LP from Sika, EPCO-KP/HP-250 from Krishna Conchem, Conbextra EP10 LV from Fosroc can be used for Injection grouting	500	No		
8	ANCHORING OF REBARS : Providing and fixing the rebars of any dia from 8 to 12mm confirming to Hilti specifications at required locations and level including drilling the hole, cleaning and anchoring the rebars etc., complete as directed by Engineer In Charge.				
	Hilti/Dewalt/Kwik Fastning	750	Nos.		
TOTAL					

III. CIVIL REPAIR WORKS:-

Sr. No.	Work Description	Quantity	Unit	Rate	Amount
1	FALSE CEILING : Providing & Fixing False Ceiling comprising of following material including fixing in galvanized steel sections with white color coated cap comprised of Black Silhouette main tee 38 mm x 15 mm (heavy duty as per ASTM C - 635 standard tested) with pre-punched cross tee slots (at every 100 mm c/c) to be placed at 1200 mm c/c, suspended with 4 mm GI (TATA MAKE) straightened wire at every 1.2 mtr, other end of the wire provided with GI J hook & nut. All the false ceiling panels around the perimeter of the false ceiling & around the RCC columns shall rest on the perimeter G.I. molding of size 19 mm x 19 mm which is fixed to the walls with help of rawal plug & GI screw at the same level as false ceiling. The cross tee of 1200 mm length (28 mm x 15mm wide Heavy duty) shall be locked in main tee at every 600 mm c/c. to form grid of 600 x 1200 mm. Further 600 mm long tee need to be locked in to 1200 mm tee to make the final grid of 600 mm X 600 mm, <u>including making provision for cutouts and / or trap door for electrical and mechanical systems, etc complete as directed by Engineer In charge.</u> With Armstrong Acoustical Suspended Ceiling System with Dune Sand Texture Tiles having (Micro Look) edges. The tiles should have Humidity Resistance of 99% RH, Average NRC 0.55, dncw 34dB, Light Reflectance >80%, Thermal Conductivity k = 0.052 – 0.057 w/m °C, Colour White, Fire Performance Class 0/Class 1 (BS - 476) with life time warrantee against sag in module size 595 mm X 595 mm X 16 mm thick at required height above FFL <i>(Rate includes providing protective sheets such as Polypropylene sheets/Thermocols or any other type of sheets to avoid damage of floor tiles during repair works.)</i>	634.00	Sqm		

2	FALSE CEILING : P&F in position Gypsum board false ceiling with 12.5mm th. Gypsum boards, screwed/ fixed to the under struct of suspended G.I. Grid const & suspended from the main ceiling of ceiling sectn at max c to c distance of 450 mm perimeter channel and intermediate channels at max c to c distance 1200 mm galvanised grid should be fixed to RF CC slab.The gypsum board should be fixed to galvanised iron grid with necessary screws.The boards should be taped and filled from underside to give smooth, seamless ceiling.The rate should include necessary additional ceiling sections and intermediate channels to be provided at openings for light fixtures, asbestos cement ducts, vertical drops, offsets etc. Additional intermediate channels should be fixed to strap hangers for additional support to prevent strapping at every 1200 mm item to be comp in all respect. (G.I. perimeter channel size-27mmx0.5mm thk.,flange-20mm & 30mm,intermediate channel. size-45mm & 0.9mm thk., hanger size-25mmx0.5mm thk.)complete. <i>(Rate includes providing protective sheets such as Polypropylene sheets/Thermocols or any other type of sheets to avoid damage of floor tiles during repair works.)</i>	951.00	Sqm		
4	INTERNAL PAINT (For false Ceiling) : Thoroughly scraping and cleaning newly plastered surfaces and removing old loose flakes if any and apply over the same one coat of primer and two coat of water based distemper Paint of approved brand as directed complete to the compund wall with staircase area.complete as per the direction of Engineer In Charge	1585	Sqm		
TOTAL					

IV. ELECTRICAL WORKS:-

1	Electrical work will include removing and refixing of lights/ speakers/projectors Removing and providing new wire conduits/ wires including all fittings and complete as directed by engineer- in- charge (Where false ceiling has to be dismantled for structural repair purpose.) as following :				
	Removing and refixing of LED / speakers and Panel Lights including redoing connections	950	No		
	Removing and providing new PVC conduits for wiring purpose	2625	Rmt		
	Removing and providing new wire (Polycab) (Red/ Blue/ Green)	9365	Rmt		
	Connectors for Looping (20 Amp)	3512	No		
	Labour Charge for all above mentioned electrical works	9365	Rmt		
TOTAL					

BOQ SUMMARY	
ENABLING SYSTEM	
STRUCTURAL REPAIR	
CIVIL REPAIR WORK	
ELECTRICAL WORKS	
Total	

NOTES:	
1	Internal plaster has been only considered for areas where slab will be treated with PMM.
2	Removing and providing new false ceiling has been considered for replastering and structural repairs of RCC slab.
3	Internal painting has been only considered for new false ceiling.