

FOB / STRUCTURAL / PACKAGE-I

Provision of 12m wide FOB (Foot Over Bridges) and other miscellaneous works at **Simultala, Deoghar, Dumka** other stations identified for the development under Amrit Bharat Station scheme in the jurisdiction of Gati Shakti Unit - Asansol.

| Item SI No | Description of Item | Unit | Qty | Rate (Rs) | Amount (Rs) |
|-----------------------|--|-------------|------------|----------------------|------------------------|
| Schedule - A | | | | | |
| Item SI No | | | | | |
| 1 | <p>Fabrication and Erection in position of girders across the track above OHE for FOBs/ Elevated decks/ Skywalks etc by contractors road crane under OHE and traffic blocks including submerged arc welding and HSFG bolts of grade 8.8 conforming to IS 4000 and RDSO guidelines BS 111 revised (latest) including aluminium spray metallizing as directed by Engineer. All girders are to be preferably rolled section/shop manufactured by using Submerged Arc Welding. In case the girders are to be manufactured in Depot/Site identified and permitted Submerged Arc Welding to be used as per provisions of IRS B1 2001 and bolting using zinc flaked coated HSFG bolts of grade 8.8. In case of truss type girders, if submerged arc type welding is not feasible, other type of welding such as CO2 welding Electric Arc welding will be permitted with the approval of Engineer in charge.</p> <p>Note:-</p> <p>(1). Rate includes supply of bolts including zinc flaked coated HSFG bolts of grade 8.8 (as per ISO 10683 latest revision) (except foundation bolts), nuts, washers including plain washers, packing washers, hardened washers, tapered washers including Direct Tension Indicators (DTI) as per provisions of IS 4000 and RDSO specifications BS 111 latest revision welding tools & plants, loading & unloading, transport & fuel, labours all lead and lift, crossing of track if required etc. and item is payable as per weight assessment based on standard sectional weights of members (weight of weld bolts washers & nuts etc shall not be considered for weight assessment for payment). Nothing extra will be paid for Railway traffic block working.</p> <p>(2). Cost of metallizing i.e surface preparation sand blasting and 150- micron aluminium spray metallizing is included with this item.</p> <p>(3). Rate of painting after metallising is not included in this item. Cost of painting is to be paid in separate/relevant items. All fabrication work to be done in RDSO approved workshops only. (Raw steel will be supplied by BBJ as define in NIT)</p> | | | | |
| Total - | | MT | 704.63 | 38,135.00 | 2,68,70,909.43 |

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|-----------------------|--|-------------|------------|----------------------|------------------------|
| 2 | "Fabrication and Erection of Square Hollow Section/ Rectangular Hollow Section & Circular Hollow Section structural steel as indicated in drawing including required profile, shape and using structural sections including anchor bolts fabricated/ procured to the required profile and shape as called for, hoisted, installed in position including all cutting, welding, grinding & all operations, necessary templates and zigs, adequate temporary supports, scaffolding, staging, etc. including all tests on material required as per specifications (except raw steel). This item is primarily for roofing and its supporting frame work for FOBs, Skywalks and column and roofing of cover over platforms etc, as indicated in approved drawings. Every precaution to be taken against rusting of section. Necessary precaution to be taken during welding to avoid distortions and residual stresses. Note:1. Rate includes welding, bolts, washers, nuts, tools & plants, loading & unloading, transport & fuel, labours. all lead and lift, crossing of track if required etc. Nothing extra will be paid for Railway traffic block working. 2. Rate of painting is not included in this item. Cost of painting is to be paid in separate/relevant items. (Raw steel will be supplied by BBJ as define in NIT) Total - | MT | 58.72 | 48,133.00 | 28,26,313.28 |
| 3 | "Providing Aluminum Spray metalizing to various members of FOB/Skywalk across the track such as columns, cross girders, stiffeners, bracings, etc in two layers after preparing surface by sand/grit blasting as per provisions laid in Appendix VI off IRS B-1-2001 code (latest edition) and provisions of bridge manuals with contractor's own materials, tools, plants, labour, loading, unloading, transportation, handling, re-handling, if any including all lead, lifts, descents, crossing of track, etc, complete in all respect and as per direction of the engineer-in-charge. Note: Cost of painting after metalizing is not included with this. It will be paid separately in relevant items." | Sqm | 7046.26 | 850.00 | 59,89,320.31 |

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|----------------------------|--|-------------|------------|----------------------|------------------------|
| 4 | Providing, fabricating and supplying Hot-Dip Galvanized (300 gm/sqm), Holding Down Bolts of grade 8.8 conforming to IS:1367 (part3) -2002 (including latest amendment) and as per the detailed shop drawing including all assemblies and accessories that are required to be embedded in concrete work. Bolts shall be of sufficient length to ensure that a minimum 40 mm length of threaded portion is embedded in concrete. Threaded portion to be left projecting outside the concrete surface shall be as per requirement of supplier's design and approved drawings and shall be protected from damage. Cost of fabricated, assembled and supplied bolts shall include all necessary expenses incurred, including costs of all washers, nuts, lock nuts and pins that may be required for securing the structural bar with the embedded bolts. | Kg | 1879.00 | 130.00 | 2,44,270.32 |
| 5 | Supplying, manufacturing, fabrication, testing and welding with stud guns etc. of normal headed/ round studs shear connections 25mm dia and 120 mm length conforming to IS 3935-66 as per specifications of RDSO Drg No. B11753, 52 51 & RDSO-B-117571 along with ferrules on top flange of girder for deck slabs, as per the direction/approval of Engineer in charge. In case shear connections/ studs of other sizes are required, than payment/ recovery on prorata basis of weight shall be made. The rate is inclusive of all taxes, service charges, transportation lead, lift, wastage etc. complete in all respect. Nothing extra shall be payable other than the rate quoted. Nothing extra shall be payable against any breakdown of machines. Site facilities shall be provided by contractor at site. The facility of required electricity of 400/440 V power source k/380 KVA DG set, cable 400A switch fuse, loading & unloading the machine from truck and to carry to site shall be done by the contractor. | Each | 7046.26 | 335.00 | 23,60,496.83 |
| 6 | Providing , erecting, laying and fixing in position in 3.5 to 4 mm thick bamboo mat corrugated sheet (BMCS) as per IS: 15476-2004 in roofing with self drilling screws along with EPDM washers complete or with galvanized iron J or L hooks 8mm dia G.I. plain and bitumen washers etc, all complete as per direction of Engineer - in-Charge. | Sqm | 117.44 | 5,188.65 | 6,09,342.88 |
| 7 | Providing and fixing in position ridges of 3.5 to 4 mm thick bamboo mat ridge cap (BMRC) as per IS:15476- 2004 in roofing with self drilling screws along with EPDM washers complete or with galvanized iron J or L hooks 8mm dia G.I. plain and bitumen washers etc, all complete as per direction of Engineer -in-Charge. | Metre | 23.49 | 4,152.45 | 97,530.80 |
| Total of Schedule A | | | | | 3,89,98,183.84 |

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|-----------------------|---|-------------|------------|----------------------|------------------------|
| Schedule B | | | | | |
| Item SI No | | | | | |
| 1 | Loading/Unloading G.I. sheets, rails, joists, built up sections, angles, C.I., Ductile pipes, A.C Pipes, or G.I. pipes RCC/PCC beams / slabs and other miscellaneous ironwork or wood work including lead upto 50m and stacking properly into/from trucks, trailers or wagons. | | | | |
| a. | Individual length upto 3.5 M | MT | 234.88 | 105.45 | 24,767.60 |
| 2 | Leading miscellaneous materials such as iron work, rails, fitting & fastenings, pipes, wooden logs, stones over pitching stone size, RCC/PCC beams / slabs etc. and all similar articles (each individual article or bundle being not more than 3.5 metres long in the longest direction) including picking up unloading and stacking, lead upto 50m. | MT | 140.93 | 99.70 | 14,050.24 |
| 3 | Additional lead for every subsequent 50m or part thereof, over 50m and upto 500m over item no. 2 | MT | 1268.33 | 27.79 | 35,246.80 |
| 4 | Leading miscellaneous materials such as iron work, rails, fittings & fastenings, pipes, wooden logs, stones over pitching stone size, RCC/PCC beams / slabs etc and all similar articles (each individual article or bundle being not more than 3.5 metres long in the longest direction) including all loading, unloading and stacking, lead over 500m and upto 10 km. Note : Lead under this item is payable when the same exceeds 500m. | MT | 140.93 | 191.68 | 27,012.54 |
| 5 | Fabricating, supplying & installing stainless steel railings for staircases, balconies, FOBs, Enquiry/ Reservation complex etc., made of SS 304 grade stainless steel, laser cut / water jet cut (no shearing), polished with Automatic round/flat polishing machine to get a uniform hairline finish. All parts shall be connected to each other with the help of prescribed size CNC made solid connectors, countersunk screws. Welding should be finished ensuring that no welding marks are visible and assembly is mounted on floor with the help of dash fasteners. Railings shall be fabricated as per approved drawings by engineer-in-charge. Manufacturer shall submit maintenance manual and basic material test report for grade certification. | Kg | 1879.00 | 689.78 | 12,96,098.31 |

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| 6 | Supplying, fabricating and erecting valley gutter having 1.00 meter width, made out of 0.91mm thick aluminum sheets, the joints shall be made by aluminum welding to make water tight including supplying manufacturing and fixing brackets made out of MS flats 50mm x 6mm at the spacing of 75 cm center to center. The rate will be including supply of all materials, labours, tools, plants, equipments, scaffolding and staging etc. Complete work shall be carried out as directed by engineer in charge | Metre | 939.50 | 1,073.36 | 10,08,423.04 |
| 7 | Providing and fixing permanently colour coated trapezoidal profiled sheet of depth 28-30mm at 195- 205mm pitch distance with precisely engineered 'Rib & Flute" design. Profiled sheets shall be min. 0.5mm TCT/0.45mm BMT high tensile zinc aluminium alloy coated zinalume / galvalume steel sheet (550 mpa yield strength) having a coating of mass of 150 gsm zinc-aluminium coating AZ-150 total on both sides as per, AS 1397:1993 finished with 20 microns approved colour coating of Silicon Modified Polyester (SMP) / Super Polyester paint coat on exposed surface over a primer coat of 5 microns and a back coat of 5 microns on reverse side over a 5 microns primer coat. There shall be 2 small ribs/square flutes between profiles for providing additional strength. The sheet to be fixed over the purlins with hexagonal head self drilling suitable fasteners with neoprene / EPDM washer on crests of the sheet | Sqm | 822.06 | 734.20 | 6,03,559.07 |
| 8 | Providing & fixing of coloured galvalume plain sheet flashings at ridges / apex junctions of roofing cladding, cover / corner / barge pieces etc. in required shape, colour duly fixed with stitching screws (with EPDM washers etc. as per site requirement) | | | | - |
| a. | 601mm to 1200 mm width (girth) | RM | 704.63 | 634.85 | 4,47,331.76 |
| 9 | Extra for metalising incl. preparation of surface and applying one coat etch primer to 1S-5666 | Sqm | 23487.53 | 14.63 | 3,43,622.57 |
| 10 | Providing road crane of different capacity with diff. jib length revolving type for material handling, assembly & erection of girders/slab/RCC Box etc. | | | | - |
| a. | 150 MT capacity with 75 feet jib | Day | 1.17 | 35,790.66 | 42,031.71 |
| 11 | Painting cleaned bridge girders exceeding 30.50 m clear span including all scaffolding, shuttering and strutting along with provision of Jhoola / hanging scaffolding where required | | | | - |
| a. | With one coat ready mix Zinc Chromate conforming to IS : 104 followed by one coat of Zinc Chromate red oxide conforming to IS : 2074 | Sqm | 23487.53 | 42.04 | 9,87,415.79 |

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| b. | With two coats Aluminium paints in dual containers conforming to IS : 2339 | Sqm | 23487.53 | 48.32 | 11,34,917.48 |
| | Total of Schedule B | | | | 59,64,476.92 |
| Schedule - B 4 | | | | | |
| Item SI No | | | | | |
| 1 | Structural steel work in single section including cutting, bending, straightening, drilling, riveting, bolting, hoisting, fixing in position, including applying a priming coat of approved steel primer, complete - up to 6m height above GL. (Raw steel will be supplied by BBJ as define in NIT) | | | | |
| a. | In RSJ, tees, angles and channels | Kg | 23487.53 | 10.00 | 2,34,875.31 |
| b. | In flats, plates, round or square bars | Kg | 11743.77 | 10.00 | 1,17,437.65 |
| 2 | Structural steel work welded in built up sections, trusses and framed work, girders, stagings, racks, etc including cutting, bending, straightening, hoisting, fixing in position, including applying a priming coat of approved steel primer, complete - upto 6m height above GL (Raw steel will be supplied by BBJ as define in NIT) | | | | - |
| a. | In RSJ, tees, angles & channels | Kg | 35231.30 | 27.00 | 9,51,244.99 |
| 3 | Steel work welded in built up sections/ framed work including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required (Raw steel will be supplied by BBJ as define in NIT) | | | | - |
| a. | In gratings, frames, guard bar, ladders, railings, brackets, gates and similar works | Kg | 7046.26 | 27.50 | 1,93,772.13 |
| | Total of Schedule B 4 | | | | 14,97,330.08 |
| | Total Value | | | | 4,64,59,990.84 |
| | SAY | | | | 4,64,59,991.00 |