

Scope of Work

PR No: 200002786 || Bitumin Mastic Apply on RCC & Old Mastic

Service Code	Short Text	Qty.	UoM	Long Text
10004955	Bitumen Mastic Layer-25mm thk_Road Work	5,600.000	M2	<p>Construction Material Specification</p> <p>The following construction materials are used for the execution of mastic works (IRC 107:2013):</p> <p>Bitumen: Industrial Bitumen of grade 85/25 having Softening point-80-90°C and Penetration at 25°C in 1/100 cm is 20-40 and satisfying all other requirement of IRC 107:2013 like Ductility, Loss of Heating, Solubility in trichloro Ethylene.</p> <p>Coarse Aggregates: Coarse aggregates shall consist of clean, hard, durable crushed rock free from disintegrated pieces, organic and other deleterious & adherent coatings 0-5% passing 2.36mm sieve, 88-96% passing 13.2mm sieve and 100% passing 19mm sieve. It shall be hydrophobic, low porosity and meet the physical requirements as mentioned in IRC 107:2013.</p> <p>Fine Aggregates: Fine Aggregates shall consist of crushed hardrock or natural sand or mixture of both passing 2.36mm sieve and retained on 0.075mm sieve. The grading shall be in accordance to Table in IRC 107:2013.</p> <p>Filler: Filler will be limestone powder passing 0.075mm IS sieve and shall have a calcium carbonate content of not less than 80% by weight conforming to IS:1514 and satisfying the requirements.</p> <p>All construction material shall be in accordance to IS 1195(2002)- Bitumen Mastic Flooring</p> <p>Design Mix for Mastic Asphalt Road</p> <p>The Mastic Asphalt shall be done on RCC Road where there is movement of heavy multi-axle trucks (approx. 30MT) with short radius turns. The purpose of the mastic flooring is to prevent shoving, abrasion, etc due to heavy traffic loads and high temperatures. The thickness of the Bitumen Mastic Wearing Course shall be 25mm.</p> <p>The design mix shall be in accordance to the intended use and according to Grade III of IS:1196-1978.</p> <p>One design Mix is Bitumen Mastic shall be in proportion of 1:0.5:0.375:0.375 (1-Bitumen: 0.5-Coarse Aggregate of 6mm: 0.375-Crushed stone screening: 0.375-Lime stone dust)</p> <p>Bidder shall be so fixed to achieve the requirement for hardness number of Bitumen Mastic specified in IRC 107:2013. The binder material and gradation shall be in accordance to the IRC standard. The procedure of preparation, transportation, laying of asphalt mastic shall be to be done in accordance to relevant standards like IS:1196-1978, IRC: 107-2013</p> <p>Surface Finish:</p> <p>After spreading the Mastic Asphalt bitumen pre-coated aggregates of approved quality of 9.5 – 13.2 mm size is pressed or rolled into the surface when the temperature of mastic asphalt is between 80 – 100°C. The chips shall be pre-blended with VG 30 bitumen where lime powder may be added over it to avoid sticking with one another. Flakiness Index of stone aggregates used for anti-skid measures will be less than 25%</p>
10005810	25mm Bitumen Mastic Overlayer	3,500.000	M2	<p>Providing and laying 25mm thick bitumen mastic wearing course over an existing 25mm mastic surface in accordance to IRC 107:2013.</p> <p>This includes: Surface Preparation - Cleaning & sweeping the existing surface to</p>

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				<p>make it free from dust, debris. and oil. Applying a tack coat with RS-1 bituminous emulsion (@ 0.25 to 0.30 kg/sqm) using a mechanical pressure distributor to avoid pooling</p> <p>Supplying, heating, mixing mastic asphalt & laying to required level & slope.</p> <p>Construction Material Specification: The following construction materials are used for the execution of mastic works (IRC 107:2013): Bitumen: Industrial Bitumen of grade 85/25 having Softening point-80-90°C and Penetration at 25°C in 1/100 cm is 20-40 and satisfying all other requirement of IRC 107:2013 like Ductility, Loss of Heating, Solubility in trichloro Ethylene. Coarse Aggregates: Coarse aggregates shall consist of clean, hard, durable crushed rock free from disintegrated pieces, organic and other deleterious & adherent coatings 0-5% passing 2.36mm sieve, 88-96% passing 13.2mm sieve and 100% passing 19mm sieve. It shall be hydrophobic, low porosity and meet the physical requirements as mentioned in IRC 107:2013. Fine Aggregates: Fine Aggregates shall consist of crushed hardrock or natural sand or mixture of both passing 2.36mm sieve and retained on 0.075mm sieve. The grading shall be in accordance to Table in IRC 107:2013. Filler: Filler will be limestone powder passing 0.075mm IS sieve and shall have a calcium carbonate content of not less than 80% by weight conforming to IS:1514 and satisfying the requirements. All construction material shall be in accordance to IS 1195(2002)-Bitumen Mastic Flooring Design Mix for Mastic Asphalt Road The Mastic Asphalt shall be done on RCC Road where there is movement of heavy multi-axle trucks (approx. 30MT) with short radius turns. The purpose of the mastic flooring is to prevent shoving, abrasion, etc due to heavy traffic loads and high temperatures. The thickness of the Bitumen Mastic Wearing Course shall be 25mm. The design mix shall be in accordance to the intended use and according to Grade III of IS:1196-1978. One design Mix is Bitumen Mastic shall be in proportion of 1:0.5:0.375:0.375 (1-Bitumen: 0.5-Coarse Aggregate of 6mm: 0.375-Crushed stone screening: 0.375-Lime stone dust) Bidder shall be so fixed to achieve the requirement for hardness number of Bitumen Mastic specified in IRC 107:2013. The binder material and gradation shall be in accordance to the IRC standard. The procedure of preparation, transportation, laying of asphalt mastic shall be to be done in accordance to relevant standards like IS:1196-1978, IRC: 107-2013</p>
10000402	Road Marking Thermoplastic paint (Alkyl)	310,000	CM2	<p>Providing and applying 2.5 mm thick road marking strips (retroreflective) of specified shade/ colour using hot thermoplastic material by fully/ semiautomatic thermoplastic paint applicator machine fitted with profile shoe, glass beads @250 gms per sqm area, dispenser, propane tank heater and profile shoe heater, driven by experienced operator on road surface including cost of material, labour ,T&P, cleaning the road surface of all dirt, seals, oil, grease and foreign material etc. complete as per direction of Officer-in-charge and accordance with applicable specifications Lane, Centreline, Edge and other marking along strips in parking spaces, truck aisles, Road with directional arrows, loading deck etc. as used in public parking spaces.</p>

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Application of 25mm thick Mastic on Old Mastic on RCC in Loading Area & other areas and New Mastic on RCC Road.

The Old Mastic in Loading Area has deteriorated in certain sections, and in some places, fragments of the underlying concrete have become exposed. To ensure proper levelling, the bitumen mastic layer must have a minimum thickness of 25mm. Also Repair of old mastic to be done in other mastic area within the plant.

The New Mastic is to be applied on RCC Road.

All work is to be done in an operating plant and thus work front will be available in parts. However extended works may be done on off-days, holidays depending on availability of work permits.

Bidder Qualification:

Bidder shall have executed work order for laying of bitumen Mastic Flooring in last 5Years.

Definition of Similar Jobs used in Technical and Financial Qualification Criteria is works related to Bitumen Mastic Flooring. Bidder shall furnish work-order along with completion certificates clearly mentioning the details/quantity of Bitumen Mastic Works done.

Contractor Scope of Work:

1. The contractor shall mobilise experienced manpower for the execution of works.
2. All manpower shall have to use always recommended Personal Protective Equipment. Safety- Helmet, Goggles, Hand Gloves, Shoes, Gumboots, Dust Mask are mandatory.
3. The Contractor shall mobilise minimum 1 Nos Safety Officer and/or 1 Nos Job Supervisor (Engr) for the entire work period at site. They/He shall be responsible for over-all safety compliance including Permit to work.
4. Daily or Shift wise Tool Box Talk is mandatory and Records to be maintained.
5. All electrical equipment shall be verified by ISRPL for healthiness. If any shortfall is indicated, then the same needs to be rectified by Contractor before use.
6. All Diesel operated equipment shall have Spark Arrestor fitted at the exhaust. All lights, horns, buzzers etc shall be in operational condition.
7. All vehicle shall be complete with all statutory papers like RC, Insurance, Pollution Certificate, Driver License etc.
8. All Tools and Tackles used shall be tested and certified as per applicable Rules and Regulation.
9. All instruments/ equipment used for testing, survey shall have to be tested and certified as per applicable Rules and Regulation.
10. All certificates and documents shall be available at site and submitted when-ever required.
11. ISRPL shall provide utility like electricity, portable water up to the nearest point available. Laying of temporary cable/pipe and distribution board shall be in contractor's scope. ISRPL shall not provide compressed air.
12. Any additional illumination apart from plant illumination is within Contractor's Scope.
13. Any non-compliance to the laid down safety procedure, contractor shall be penalised as per GCC.
14. Contractor shall ensure proper housekeeping during work and also after completion of job.
15. The distance between work location & hot mix machine shall vary upto 600m. Contractor to ensure proper & safe arrangement for transporting the material.

Payment Terms:

Payment shall be done on completion of different locations. There shall be no provision for part payment.

Warranty:

Contractor to provide 1 year warranty of the executed work in the form of 10% BG of the executed value. The constructed road shall be warrantied against performance which shall include (not limited to)

- a) Abrasion
- b) Scrapping

Financial Qualification Criteria for Bidders: -

1. Bidders must have an Average Turnover of at least Rs 1.30 Cr during last 3 financial years.
2. Bidders must have experience of having successfully carried out and completed similar work during last 3 financial years ending last day of the month previous to the month in which bids are invited, of which experience should be any one of the following
 - a. Three similar completed works, each costing not less than the amount equal to Rs 22.81 Lacs.or
 - b. Two similar completed works, each costing not less than the amount equal to Rs 29.32 Lacs.or
 - c. One similar completed work costing not less than the amount equal to Rs 48.87 Lacs.
3. The Bidder must have a positive Net Worth for the last three financial years (Audited Annual accounts statements are required to be submitted)
4. The Bidder's business should not be into continuous cash losses for last three financial years.

Contract Period:



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Contract Validity will be Eight Months, in case services are found satisfactory at the end of contract period, contract can be extended for another eight months or part thereof at the same rates, terms and Conditions on mutual consent.

Earnest Money Deposit:

The amount of EMD is Rs 2 Lakh which to be submitted along with Techno-Commercial Un-priced bid (on and before the last date of submission of offer). EMD shall be accepted in the form of pay order or Demand Draft or BG (format enclosed). Demand Draft or Pay Order shall be made in favour of "Indian Synthetic Rubber Private Limited" payable at Panipat.

EMD of unsuccessful bidders will be returned upon award of Contract. However, EMD of the successful Bidder will be returned upon the Bidder executing the Contract, and furnishing the Security Deposit as specified in the General Conditions of Contract.