

405

**Water Bound Macadam with Stone Screening Type "B" Gr-III
WBM Grading 3**

Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with smooth wheel roller 80-100 kN in stages to proper grade and camber, applying and brooming, stone screening to fill-up the interstices of coarse aggregates and commensurate to the roadbed structure. (Refer Technical Specification Part A and By Mechanical Means)

(A)

Unit = cumm

Taking output = 360 currs

(3)

Labour

Mate

Mazdoor (Skilled)

E

Mazdoor (Unskilled)

(b)

Machinery

Tractor mounted grader arrangement for grading @ 100 cum per hour
three wheel 80-100 kN static roller @ 8 cum per hour
Water tanker 6 kl capacity

5

Material (Refer Tables 400.7.8, 9 and 10)

Aggregate

grading 3 53 mm to 22.4 mm @ 0.91 cum per 10 sqm for

compacted thickness of 75 mm

Stone Screening

Type B 11.2 mm for Grading 3 @ 0.18 cum per 10 sqm

alter

၂)

Overheads @ 6 % on (a+b+c)

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Contractor's profit @ 10% on $(a+b+c+d)$

$$\text{Cost for 360 cum} = a + b + c + d + e$$
$$\text{the per cum} = (a+b+c+d+e)/360$$

BRIDGE

one material Grading 3 53 mm to 22.4 mm)

Drug Screening

te per cunn with carriage

Total Cost	Cum
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269176

BIBLIOGRAPHIC ITEMS

502

Prime Coat (Low Porosity)

19/10/20

			Stone material Grading 5.5 mm to 21.2 mm	Cum	0.24	1149.58	275.90
			Stone screening	Cum			2601.44
			Rate per cum with carriage				2671.35
			TOTAL COST	Cum			
4.2	S.10 (11)	S.12	Primer Coat (Low Porosity)				
			Preceding and applying primer coat with bitumen emulsion (RS-1) on prepared surface of granular base including cleaning of road surface and spraying primer at the rate of 0.75-1.0 kg/sqm using mechanical means as per Technical Specification Clause 502				
			Unit = sqm				
			Taking output = 1750 sqm				
		a)	Labour				
			Male	day	0.04	305.00	12.20
			Mandover (Unskilled)	day	1.00	287.00	287.00
		b)	Machinery				
			Hydraulic broom @ 1250 sqm per hour	hour	1.40	572.00	600.00
			Air compressor 210 cfm	hour	1.40	463.70	677.18
			Emulsion pressure distributor @ 1750 sqm per hour	hour	1.00	1209.90	1209.90
			Water tanker 8 kl capacity 1 trip per hour	hour	0.50	184.00	92.00
		c)	Material				
			Bitumen emulsion (RS-1) @ 0.85 kg per sqm	t	1.00	30368.22	56784.93
			Water	M	1.00	48.00	120.00
		d)	Overhead @ 5% on (a+b+c)				3599.04
		e)	Contractor's profit @ 10% on (a+b+c+d)				6758.11
			Cost of 1750 sqm = a+b+c+d+e				69941.40
			Rate per sqm = (a+b+c+d+e)/1750				39.97
		f)	CARRIAGE CHRG.				
			Bitumen Emulsion	ton	0.003	1117.48	3.35
			Rate per sqm with carriage				41.08
			Total Cost	sqm			41.08

Analysis of Rates (FORMAT F8)

Sl. No.	SNB SL No.	RECORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs.
4.3	S.20 (12)	S.23	Tack Coat				
			Preceding and applying tack coat with bitumen emulsion using emulsion pressure distributor at the rate of 0.25 to 0.30 kg per sqm on the prepared granular surface treated with Primer and cleaned with hydrolic broom as per technical specification clause 503				
			Unit = sqm				
			Taking output = 1750 sqm				
		a)	Labour				
			Male	day	0.04	305.00	12.20
			Mandover (Unskilled)	day	1.00	287.00	287.00
		b)	Machinery				
			Hydraulic broom @ 1250 sqm per hour	hour	1.40	572.00	600.00
			Air compressor 210 cfm	hour	1.40	463.70	677.18
			Emulsion pressure distributor @ 1750 sqm per hour	hour	1.00	1209.90	1209.90
		c)	Material				
			Bitumen emulsion (RS-1) @ 0.275 kg per sqm	t	0.48	36547.22	17542.67
			Overhead @ 5% on (a+b+c)				1233.78
		e)	Contractor's profit @ 10% on (a+b+c+d)				2176.15
			Cost of 1750 sqm = a+b+c+d+e				39037.60
			Rate per sqm = (a+b+c+d+e)/1750				22.31
			CARRIAGE CHRG.				
			Bitumen Emulsion	ton	0.0003	1117.48	0.34
			Rate per sqm with carriage				22.65
			Total Cost	sqm			22.65
4.4	S.11	S.16	Hot Seal Surfacing				
			Preceding, laying and rolling of close-graded porous surfacing material of 20 mm thickness composed of 11.2 mm to 4.75 mm (Type-A) or 13.2 mm to 0.9 mm (Type-B) aggregates using pneumatic grade bitumen to required limit, grade level to serve as wearing course on a previously prepared base, including mixing in a suitable plant, laying and rolling with a three wheel 8-10 kN static roller and finishing to required level and grades as per Technical Specification Clause 504				
			By Mechanical Means				
			(1) Bitumen (S-90)				
			Unit = sqm				
			Taking output = 4000 sqm (80 cum)				
		a)	Labour				
			Male	day	0.52	305.00	158.60
			Mandover (Unskilled)	day	10.00	287.00	2870.00
			Mandover (Unskilled) for Waste Plastic	day	2.00	297.00	594.00
			Mandover (Skilled)	day	3.00	504.00	1512.00
		b)	Machinery				
			Roller of appropriate capacity	hour	6.00	23724.00	142344.00
			Electric generator set 125 KVA	hour	6.00	2724.00	16344.00
			Front end loader 1 cum bucket capacity	hour	6.00	1403.00	8418.00
			Tipper 3.5 to 1 capacity	hour	1.00	1043.00	3754.00
			Add 10 per cent of cost of carriage to cover cost of loading and unloading				375.40
			Prime finisher	hour	6.00	1417.00	8502.00
			Three wheel 80-100 kN static roller	hour	6.00	903.00	5418.00
		c)	Material				
			Bitumen (S-90) @ 19 kg per 10 sqm	t	3.99	52073.22	220453.15
			Processed Waste Plastic @ 8% of 19 kg bitumen = 1.52 kg per 10 sqm	t	2.51	5773.00	32350.41
			Stone crushed aggregates 13.2 mm to 0.09 mm @ 0.27 cum per 10 sqm	cum	100.00	56323.00	5632300.00
		d)	Overhead @ 5% on (a+b+c)				30406.86
		e)	Contractor's profit @ 10% on (a+b+c+d)				53722.33
			Cost of 4000 sqm = a+b+c+d+e				590945.58
			Rate per sqm = (a+b+c+d+e)/4000				147.74
			CARRIAGE CHRG.				
			Bitumen (S-90)	ton	0.0017	573.00	1.00
			Stone chips	cum	0.0270	1443.00	38.97
			Rate per sqm with carriage				187.71
			Total Cost	sqm			187.71

Done
19/10/20
7/12

A.E

E.E

		Rate per cum = (a+b+c+d)/360				75.57
			Total Cost	CUM		75.57
3.40	302	Construction of Embankment with Material Obtained from Borrow Pits				
	(A)	Construction of embankment with approved material obtained from borrow pits with a lift upto 1.5 m, transporting to site, spreading, grading to required slope and compacting to meet requirement of Tables 300.1 and 300.2 with a lift upto 1000 m as per Technical Specification Clause 301.5				
		Unit = cum				
		Taking output = 100 cum				
	a)	Labour				
		Mate	day	0.04	305.00	12.20
		Mazdoor (Unskilled)	day	1.00	287.00	287.00
	b)	Machinery				
		Hydraulic Excavator 0.9 cum bucket capacity @ 60 cum per hour	hour	1.67	1969.20	3288.56
		Tipper 5.5 cum with 10 t capacity	hour	4.50	1043.00	4693.50
		Add 10 % of the cost of carriage by tipper				469.35
	c)	Material				
		Water	kl	12.00	40.00	480.00
		Compensation for earth taken from private land				
	d)	Overheads @ 6 % on (a+b+c)	cum	100.00	34.81	3481.00
		Contractor's profit @ 10% on (a+b+c+d)				979.53
	e)	Cost for 100 cum = a+b+c+d+e				1730.50
		Rate per cum = (a+b+c+d+e)/100 =				19035.55
						190.36
3.40	302	Construction of Embankment with Material Obtained from Borrow Pits	Total Cost	CUM		190.36
		Construction of embankment with approved material obtained from borrow pits with a lift upto 1.5 m, transporting to site, spreading, grading to required slope and compacting to meet requirement of Tables 300.1 and 300.2 with a lift upto 1000 m as per Technical Specification Clause 301.5				

19/10/20

19/10/20

Inspection Report for Flood Damage Work

Date:

1. Name of PIUs - Executive Engineer, RWD(W.) Division, Begusarai
2. Name of Block/Road - matihani, LO26 to Lavarchak Babhangawan.

A. For Road

1. Damage Location/Chainage : 0-700 0-350
2. Damage Length : 350 m.
3. Nature of Damage : Road crush, erosion of embankment & shoulder
4. Details of Restoration Works :
 - i. Material being used in Restoration works : Bamboo, sand bag, earth, WPMID etc.
 - ii. Equipments/Tools being used in Restoration works : JCB, Tractor, etc.
 - iii. Procedure taken up in Restoration works :
 - iv. Restored Length - 350 m.

B. For Bridge

1. Damage Location/Chainage :
2. Damage Length :
3. Nature of Damage :
4. Details of Restoration Works :
 - i. Material being used in Restoration works :
 - ii. Equipments/Tools being used in Restoration works :
 - iii. Procedure taken up in Restoration works :
 - iv. Restored Length :

C. Requirement of new CD/Bridge

- i. Name of Road : LO26 to Lavarchak Babham Ptg.
- ii. Location/Chainage : 350 m.
- iii. Type of CD work/Length required : RCC slab bridge - 2x6.0m x 3.0m Size.
2ND

- Upload one Photograph of damaged portion if available
- Attach minimum two photograph (during restoration & after restoration) photographs should be Geotags and at least one photo be captured in selfie mode.

Signature of JE/AE/EE

Signature