

The Executive Engineers may verify the following draft Observed Datas with the help of Liason officers of PRICE or other competent Engineers and report the remarks to this office via email to pricelsgd@gmail.com and on the meeting scheduled on 18.08.2016.

DRAFT OBSERVED DATAS AS PER CPWD SCHEDULE OF RATES 2014

1 Subgrade waterproofing

Providing and applying two coats of Terrasil and Zycobond solution prepared in water in the ratio of 1 : 0.5 : 300 (Terrasil : Zycobond: Water) on the prepared surface of subgrade for water proofing and preventing capillary rise. First spray is to be applied at the rate of 2.5 - 3.5 L/sqm and second spray at the same rate applied after 1 - 3 hours of applying first spray, using mechanical means and as per the directions of the departmental officers at the site.

Details of cost for 1750 sq m for one application

	MATERIAL				
LMR	Terrasil	kg	17.500	1036.20	18133.46
LMR	Zycobond	kg	8.750	241.78	2115.60
	LABOUR				
0128	Mate	day	0.040	363.00	14.52
0114	Beldar	day	1.000	329.00	329.00
	MACHINERY				
	Bitumen Emulsion pressure distributor @ 1750sqm per hour	hour	1.000	750.00	750.00
				TOTAL	21342.58
				Add water charges @ 1%	213.43
				TOTAL	21556.01
				Add CPOH @ 15%	3233.40
				TOTAL for one application	24789.41
				TOTAL for two application	49578.81
				Cost of 1750sqm	49578.81
				Cost of 1 sqm	28.33

2 WBM waterproofing

Providing and applying two coats of Terrasil and Zycobond solution prepared in water in the ratio of 1 : 0.5 : 300 (Terrasil : Zycobond: Water) on the WBM surface for water proofing and preventing capillary rise. Spray is to be applied at the rate of 2.5 - 3.5 L/sqm using mechanical means and as per the directions of the departmental officers at the site.

Details of cost for 1750 sq m for one application

	MATERIAL				
LMR	Terrasil	kg	17.500	1036.20	18133.46
LMR	Zycobond	kg	8.750	241.78	2115.60
	LABOUR				
0128	Mate	day	0.040	363.00	14.52
0114	Beldar	day	1.000	329.00	329.00
	MACHINERY				
	Bitumen Emulsion pressure distributor @ 1750sqm per hour	hour	1.000	750.00	750.00
				TOTAL	21342.58
				Add water charges @ 1%	213.43
				TOTAL	21556.01
				Add CPOH @ 15%	3233.40
				TOTAL	24789.41
				Cost of 1750sqm	24789.41
				Cost of 1 sqm	14.17

- 3 **2 cm premix carpet surfacing with 1.8cum and 0.90 cum of stone chipping of 13.2 mm size and 11.2mm size respectively per 100 sqm and 52 kg. and 56 kg. of hot bitumen per cum of stone shipping of 13.2 mm and 11.2 mm size respectively including a tack coat with hot straight run bitumen, including consolidation with road roller of 6 to 9 tonne capacity etc. complete (tack coat to be paid for separately)**

With paving Asphalt grade VG -10 heated and then mixed with ZYCOTHERM @ 0.1% by weight of Bitumen

Details of cost for 100 sq m

Asphalt 80/100

(i) Hot bitumen @ 52 kg. per.cum of stone chippings 1.8cum of 13.2mm nominal size chippings 1.8cum, of 13,2mm nominal size chippings.

(ii) Hot Bitumen @ 56 kg. per cum of stone chippings 0.90 cum. Of 11.2 mm nominal size chippings Bitumen : 52 x1.8 +56x0.9- 144 kg. or 0.144 tonne

2916	Paving Asphalt VG 10 of approved quality	tonne	0.144	50600	7286.40	
2211	Carriage of tar/bitumen	tonne	0.144	106.49	15.33	
LMR	ZYCOTHERM	kilogram	0.144	1692.46	243.71	49000/20kg
2910	Stone chipping/screenings 12.5/13.2 mm nominal size @1.80 cm per 100 sqm,	cum	1.800	1250	2250.00	
2911	Stone chipping/screenings 10/11.2 mm nominal size @0.90cm per 100 sqm,	cum	0.900	1250.00	1125.00	
2202	Carriage of stone aggregate below 40mm nominal size Steam coal for heating bitumen @ 2 quintals per tonne of bitumen = 2x0.144 =0.288q	cum	2.700	106.49	287.52	
0370	Coal (steam)	quintal	0.288	400.00	115.20	
2200	Carriage of steam coal	tonne	0.029	121.70	3.50	
	LABOUR for cleaning the road surface, heating and spraying bitumen and aggregate (a) for cleaning.					
0128	Mate	day	0.08	363	29.04	
0114	Beldar	day	1.400	329.00	460.60	
0115	Coolie (b) for heating bitumen	day	1.400	329.00	460.60	
0114	Beldar (c) for screening and spreading aggregate	day	0.570	329.00	187.53	
0130	Mistry	day	0.190	435.00	82.65	
0114	Beldar d) Consolidation charges	day	5.000	329.00	1645.00	
0113	Chowkidar (a) barrier for night watch and for road roller)	day	0.270	329.00	88.83	
0101	Bhisti	day	0.110	363.00	39.93	
0003	Hire charges of Diesel Road roller -8 to 10 tonne	day	0.110	1500.00	165.00	

1235	Diesel oil for road roller @ a8 litres per day	litre	2.000	55.49	110.98	
9999	Carriage of diesel	L>S	2.730	1.78	4.86	
0001	Hire charges of Coallar Boiler 900 to 1400 litres.	day	0.130	830.00	107.90	
0023	Hot bitumen Mixer of 0.5 cum i/c hand cart (e) misc. Brushes etc. for cleaning.	day	0.040	4000.00	160.00	
0364	Wire Brush (with thick wire)	each	0.110	20.00	2.20	
0365	Soft brush	each	0.320	18.00	5.76	
9999	Brooms and gunny bags	L.S	6.760	1.78	12.03	
9999	Sundries.	L.S	9.490	1.78	16.89	
				TOTAL	14906.46	
				Add water charges @ 1%	149.06	
				TOTAL	15055.52	
				Add CPOH @ 15%	2258.33	
				TOTAL	17313.85	
				Cost of 100 sqm	17313.85	
				Cost of 1 sqm	173.14	

- 4 **2 cm premix carpet surfacing with 1.8cum and 0.90 cum of stone chipping of 13,2 mm size and 11.2mm size respectively per 100 sqm and 52 kg. and 56 kg. of hot bitumen per cum of stone shipping of 13,2 mm and 11.2 mm size respectively including a tack coat with hot straight run bitumen, including consolidation with road roller of 6 to 9 tonne capacity etc. complete (tack coat to be paid for separately)**

With paving Asphalt grade VG-30 with ZYCOTHERM @ 0.1% by weight of bitumen

<i>Details of cost for 100 sq m</i>						
7309	Paving Asphalt VG 30 of approved quality	tonne	0.144	41000	5904.00	
2211	Carriage of tar/bitumen	tonne	0.144	106.49	15.33	
LMR	ZYCOTHERM	kilogram	0.144	1692.46	243.71	49000/20kg
2910	Stone chipping/screenings 12.5/13.2 mm nominal size @1.80 cm per 100 sqm,	cum	1.800	1250	2250.00	
2911	Stone chipping/screenings 10/11.2 mm nominal size @0.90cm per 100 sqm,	cum	0.900	1250.00	1125.00	
2202	Carriage of stone aggregate below 40mm nominal size Steam coal for heating bitumen @ 2 quintals per tonne of bitumen = 2x0.144 =0.288q	cum	2.700	106.49	287.52	
0370	Coal (steam)	quintal	0.288	400.00	115.20	
2200	Carriage of steam coal	tonne	0.029	121.70	3.50	
	LABOUR for cleaning the road surface, heating and spraying bitumen and aggregate (a) for cleaning.					
0128	Mate	day	0.08	363.00	29.04	
0114	Beldar	day	1.400	329.00	460.60	
0115	Coolie (b) for heating bitumen	day	1.400	329.00	460.60	

0114	Beldar (c) for screening and spreading aggregate	day	0.570	329.00	187.53	
0130	Mistry	day	0.190	435.00	82.65	
0114	Beldar d) Consolidation charges	day	5.000	329.00	1645.00	
0113	Chowkidar (a) barrier for night watch and for road roller)	day	0.270	329.00	88.83	
0101	Bhisti	day	0.110	363.00	39.93	
0003	Hire charges of Diesel Road roller -8 to 10 tonne	day	0.110	1500.00	165.00	
1235	Diesel oil for road roller @ a8 litres per day	litre	2.000	55.49	110.98	
9999	Carriage of diesel	L>S	2.730	1.78	4.86	
0001	Hire charges of Coallar Boiler 900 to 1400 litres.	day	0.130	830.00	107.90	
0023	Hot bitumen Mixer of 0.5 cum i/c hand cart (e) misc. Brushes etc. for cleaning.	day	0.040	4000.00	160.00	
0364	Wire Brush (with thick wire)	each	0.110	20.00	2.20	
0365	Soft brush	each	0.320	18.00	5.76	
9999	Brooms and gunny bags	L.S	6.760	1.78	12.03	
9999	Sundries.	L.S	9.490	1.78	16.89	
				TOTAL	13524.06	
				Add water charges @ 1%	135.24	
				TOTAL	13659.30	
				Add CPOH @ 15%	2048.90	
				TOTAL	15708.20	
				Cost of 100 sqm	15708.20	
				Cost of 1 sqm	157.08	

- 5 Providing and laying seal coat over prepared surface of road with bitumen heated in bitumen boiler with the spray set spraying using 98 kg of bitumen of grade **VG - 10** and blinding surface with 0.90 cum of stone aggregate of 6.7 mm size (Passing 11.2 mm sieve and retained on 2.36 mm sieve) per 100 sqm of road surface, including rolling and finishing with power road roller all complete

With ZYCOTHERM at 0.1% by weight of Bitumen

Details of cost for 100 sq m						
2916	Paving Asphalt VG 10 of approved quality	tonne	0.098	50600	4958.80	
2211	Carriage of tar/bitumen	tonne	0.098	106.49	10.44	
LMR	ZYCOTHERM	kilogram	0.098	1692.46	165.86	49000/20kg
0298	Stone Aggregate (single size): 06mm nominal size	cum	0.900	1140.00	1026.00	
2202	Carriage of stone aggregate below 40mm nominal size	cum	0.900	106.49	95.84	
0370	Steam coal for heating bitumen @ 2 quintals per tonne of bitumen = 2x0.098=1.96 qtl. Coal (steam)	quintal	1.960	400.00	784.00	
	LABOUR					

	for cleaning road surface, heating bitumen mixing and spreading aggregate (a) for heating and spraying bitumen					
2200	Carriage of steam coal	tonne	0.196	121.70	23.85	
0130	Mistry	day	0.040	435.00	17.40	
0138	Sprayer (for bitumen, tar etc.)	day	0.06	363	21.78	
0114	Beldar (b) for cleaning	day	0.690	329.00	227.01	
0128	Mate	day	0.110	363.00	39.93	
0114	Beldar	day	1.400	329.00	460.60	
0115	Coolie © for screening and spreading aggregate	day	1.400	329.00	460.60	
0128	Mate	day	0.050	363.00	18.15	
0114	Beldar (d) consolidation charges	day	0.510	329.00	167.79	
0113	Chowkidar (at barrier for night watch and for road roller)	day	0.150	329.00	49.35	
0101	Bhisti	day	0.060	363.00	21.78	
0003	Hire charges of Diesel Road roller - 8 to 10 tonne	day	0.060	1500.00	90.00	
0007	Hire charges of Coal tar Sprayer	day	0.060	300.00	18.00	
1235	Diesel oil for road roller @ 18 litres per day	litre	1.080	55.49	59.93	
0001	Hire charges of coal tar Boiler 900 to 1400 litres (e) misc:	day	0.060	830.00	49.80	
0364	Wire Brush (with thick wire)	each	0.050	20.00	1.00	
0365	Soft brush	each	0.120	18.00	2.16	
9999	Sundries	L.S.	18.200	1.78	32.40	
9999	Brooms and gunny bags.	L.S.	2.730	1.78	4.86	
				TOTAL	8807.33	
				Add water charges @ 1%	88.07	
				TOTAL	8895.40	
				Add CPOH @ 15%	1334.31	
				TOTAL	10229.71	
				Cost of 100 sqm	10229.71	
				Cost of 1 sqm	102.30	

6 Providing and laying seal coat over prepared surface of road with bitumen heated in bitumen boiler with the spray set spraying using 98 kg of bitumen of grade **VG - 30** and blinding surface with 0.90 cum of stone aggregate of 6.7 mm size (Passing 11.2 mm sieve and retained on 2.36 mm sieve) per 100 sqm of road surface, including rolling and finishing with power road roller all complete

With ZYCOTHERM AT 0.1% BY WEIGHT OF BITUMEN

Details of cost for 100 sq m

7309	Paving Asphalt VG 30 of approved quality	tonne	0.098	41000.00	4018.00	
2211	Carriage of tar/bitumen	tonne	0.098	106.49	10.44	
LMR	ZYCOTHERM	kilogram	0.098	1692.46	165.86	49000/20kg

0298	Stone Aggregate (single size): 06mm nominal size	cum	0.900	1140.00	1026.00	
2202	Carriage of stone aggregate below 40mm nominal size	cum	0.900	106.49	95.84	
0370	Steam coal for heating bitumen @ 2 quintals per tonne of bitumen = $2 \times 0.98 = 1.96$ qtl. Coal (steam)	quintal	1.960	400.00	784.00	
	LABOUR					
	for cleaning road surface, heating bitumen mixing and spreading aggregate (a) for heating and spraying bitumen					
2200	Carriage of steam coal	tonne	0.196	121.70	23.85	
0130	Mistry	day	0.040	435.00	17.40	
0138	Sprayer (for bitumen, tar etc.)	day	0.06	363	21.78	
0114	Beldar (b) for cleaning	day	0.690	329.00	227.01	
0128	Mate	day	0.110	363.00	39.93	
0114	Beldar	day	1.400	329.00	460.60	
0115	Coolie © for screening and spreading aggregate	day	1.400	329.00	460.60	
0128	Mate	day	0.050	363.00	18.15	
0114	Beldar (d) consolidation charges	day	0.510	329.00	167.79	
0113	Chowkidar (at barrier for night watch and for road roller)	day	0.150	329.00	49.35	
0101	Bhisti	day	0.060	363.00	21.78	
0003	Hire charges of Diesel Road roller - 8 to 10 tonne	day	0.060	1500.00	90.00	
0007	Hire charges of Coaltar Sprayer	day	0.060	300.00	18.00	
1235	Diesel oil for road roller @ 18 litres per day	litre	1.080	55.49	59.93	
0001	Hire charges of coaltar Boiler 900 to 1400 litres (e) misc:	day	0.060	830.00	49.80	
0364	Wire Brush (with thick wire)	each	0.050	20.00	1.00	
0365	Soft brush	each	0.120	18.00	2.16	
9999	Sundries	L.S.	18.200	1.78	32.40	
9999	Brooms and gunny bags.	L.S.	2.730	1.78	4.86	
				TOTAL	7866.53	
				Add water charges @ 1%	78.67	
				TOTAL	7945.20	
				Add CPOH @ 15%	1191.78	
				TOTAL	9136.97	
				Cost of 100 sqm	9136.97	
				Cost of 1 sqm	91.37	