

REVISED SCHEDULE OF RATES



YEAR : 2022-23

PART-1 WATER SUPPLY





Gujarat Water Supply & Sewerage Board,
(A Government of Gujarat Undertaking)
Jalseva Bhavan, Sector 10- A, Gandhinagar.

Web site:-www.gwssb.gujarat.gov.in,

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Chief Engineer
(Techcell)



No. Tech cell/ Rev. SOR/22-23/ 63

Date: 14/02/2023

To,
The Chief Engineer,
Zone-I/II/III/IV/V/Surat
Vadodara/Ahmedabad/Rajkot/
Bhuj/Junagadh/Surat.

Subject: - Revised Schedule of Rates- Civil – Year 2022-23

References:

1. Minutes of 299th Board Meeting held on 21/01/2023, issued vide letter no.04 date.25/01/2023.
2. Approval of Chairman received on file on date: 14/02/2023.
3. Chief Engineer, Techcell, Gandhinagar letter No.Techcell/ SOR/ 2022-23/309, Dt.17/03/2022.

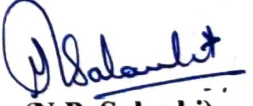
With reference to above subject, the Schedule of Rates- Civil- Year 2022-23 was circulated vide letter under reference- 3.

There were fluctuations in the index as well as in market rates either on higher side or lower side depending on the pipe raw material type. In order to accommodate this variation in market rates of materials, the revision in SOR rates for pipe material was required. So the received SOR rates were placed before Board of Director's vide reference-1 for approval.

The change in rates of only pipe items of M.S., D.I., P.V.C and HDPE is suggested. Rest of the items and provisions shall remain unchanged.

Copy of Revised Schedule of Rates- Civil- Year 2022-23, is available on board website.

This is for your information and implementation please.


(N.P. Solanki)
Chief Engineer

Gujarat Water Supply & Sewerage Board
Gandhinagar

Subject: Revised Schedules of Rates (Civil) 2022-2023 for Pipes, GWSSB- Gujarat.

Preamble:-

Schedule of Rates for Year 2022-23 was approved in 293rd Board Meeting held on Dt.05-03-2022.

There were fluctuations in the index as well as in market rates either on higher side or lower side depending on the pipe raw material type. In order to accommodate this variation in market rates of materials, the revision in SOR rates for pipe material was required.

Revised SOR 2022-23 was approved in 299th Board Meeting held on Dt.21-01-2023.

Comparison of Basic Rates with SOR 2022-23 is as below:

Sr. No	Details	2022-23	Revised 2022-23	Remark
1	WPI-HR coil	155.8 (Jan-22)	144.0 (As on Dec-22)	7.57% decrease
2	HR coil above 10 mm	RS.68000/MT- (Feb-22), Excluding GST	RS.59000/MT- (05/1/23) Excluding GST	13.24% decrease as per actual market price
3	HR coil less than 10 mm	Rs. 67500/MT- (Feb-22), Excluding GST	Rs. 58500/MT- (05/1/23) Excluding GST	13.33% decrease as per actual market price
4	WPI Pig Iron	149.2 (January-22)	157.60 (Dec-22)	5.63% increase
5	PVC Resin	Rs.134700/MT without GST (dt.10/02/22)	Rs. 91739/ MT without GST (dt. 05/01/23)	31.89% decrease
6	HDPE Resin	Rs.117919/MT without GST(dt.17/02/22)	Rs. 121185/ MT without GST (dt 12/01/23)	2.77% increase

Proposal of Revised SOR 2022-23

Part I: Drinking Water Supply

Section-A-Material

Mild Steel pipes:

Rates of MS pipes for SOR year 2022-23 were worked on the basis of actual price of coils of more than 10 mm thickness- Rs 68000/ MT and for less than 10mm thickness- Rs 67500/ MT. WPI index of January-22 is considered as 155.8.

WPI Index of HR Coil for Dec-22 is 144.00 and corresponding rate of HR Coil(without GST) of more than 10 mm thickness is Rs 59000/ MT and for less than 10 mm thickness is Rs 58500/ MT, hence there is decrease in cost of coil of Rs 9000/ MT

Sample calculation of MS bare pipe- 1067mm dia-8.8 mm thick was explained as mentioned here under

Rates as per SOR-2022-23 (Without GST) Rs. 18295 @ rate of HR coil- Rs. 67500/MT with WPI Index-155.8

Details	SOR 2022-23	decrease	Revised SOR 2022-23 without GST
Cost of coil at 229.63 Kg	15500	13.33%	13433.87
Other cost	2794.98	0%	2794.975
SOR Rate	18295		16228.85

Pipe with coating and lining

MS-1067-8.8 mm- outside 3 lpe- inside epoxy- Rate as per SOR 2022-2023 (without GST) Rs 22052/ mt

Details	SOR 2022-23	decrease	Revised SOR 2022-23 without GST
Cost of coil at 229.63 Kg	15500	13.33%	13433.87
Other cost	6551.97	0%	6551.975
SOR Rate	22052		19985.85

For price variation calculations rates of HRC coil without GST to be considered and 18% to be added for GST

M S Pipeline-bare pipe- per Kg rate:

For pipe above 914 mm with plate thickness less than 10 mm

Rate of Revised SOR arrived is Rs16228.85 and weight of pipe is 229.63 kg, hence rate per Kg is worked out as Rs 70.67/ kg

For pipe above 914 mm with plate thickness more than 10 mm

For this item Rs 0.5/ Kg to be added which is difference of rate of coil for two groups of thickness, Rs 71.17 as per calculated above

Ductile Iron Pipes

Whole sale price Index for Pig Iron- Jan-22 it is 149.2 as per SOR of Year 2022-23, now WPI index of Dec-2022 is 157.60, 5.63 %increase.

In this item price variation is based on 65% of cost variation of due to change in WPI index, hence in this item cost of pig iron is not mentioned , but only WPI index of correspondence month is mentioned.

Increment in cost suggested for Pig iron component is $5.63 \times 65\% = 3.66\%$

No increase in Manufacturing component and transportation –

Total increase= 3.66%

Details	% component	Increase	Weightage increase
Pig Iron	65%	5.63%	3.66%
Manufacturing and transportation	35%	0%	0%
			3.66%

For variation due to Pig iron on the basis of WPI, 18% GST to be added.

PVC Pipes:

Resin rate for PVC- Rs. 134700/ MT (without GST) as per SOR year 2022-23, whereas current Resin Rate dt. 05/1/2023 it is Rs. 91739/MT. (Without GST)

For purpose of variation, 900Kgs of PVC resin will be considered for one ton of PVC pipes.

Method of deriving Revised rates for SOR 2022-23

SOR 2022-23:- Rate of 140 mm -6 kg/sq.cm² - Rs 447/ mt

Weight of 140mm dia 6kg/sq.cm² is 3.12 kg/m.

Details	SOR rate 2022-23	decrease suggested	SOR Rate 2023-24 (Without GST)
Resin component @ 3.12 Kg	Rs 134.7/ Kg x 3.12 x 90%= 378.23	31.89%	257.61
Manufacturing and transportation	68.77	0%	68.77
140 mm- 6 Kg	Rs 447/ Rmt		326.38

Price variation to be worked out on the basis of Resin rates without GST and thereafter on variation amount 18% GST to be added.

HDPE Pipes:

Resin rate for HDPE- Rs. 117919/ MT (without GST) for SOR 2022-23, whereas current Resin Rate as on dt.12/1/2023 it is Rs. 121185/MT. (without GST) increase of 2.77%

SOR 2022-23:- Rate of 180 mm -6 kg/sq.cm- Rs 644/ mt, Weight of 180 mm- 6 kg/sq.cm- 4.495 Kg/ Mt.

Details	SOR rate 2022-23	Increase suggested	Revised SOR Rate 2022-23 (Without GST)
Resin component @ 4.495 Kg	Rs 117.919/ Kg x 4.495 = 530.04	2.77%	544.72
Manufacturing and transportation	113.93	0%	113.96
180 mm- 6 Kg	Rs 644/ Rmt		658.68

Price variation to be worked out on the basis of Resin rates without GST and thereafter on variation amount 18% GST to be added.

The change in rates of only in pipe items of M.S., D.I., P.V.C and HDPE is suggested. Rest of the items and provisions shall remain unchanged.

Instruction to the user of SOR:

1. All rates are inclusive of all taxes, insurance, royalties etc except excluding GST.
2. Material section includes items for Water Supply and Sewerage Projects
3. While preparation of estimates and tender description of the item shall be as per SOR only.
4. While drafting tenders as per this SOR, rates of pipes and index/ basic rate shall be taken as per SOR, index / basic rate shall not be changed as per the month in which DTP are approved.



Chief Engineer

GWSSB

MATERIAL

SECTION – A



MATERIAL SECTION :- 1A				
Item no.	Size		Unit	Revised rate for 2022-23
1	2	3	4	5
Item No. 1.1	MS Pipe			
1.1.A	Bare pipe			
Manufacture, Supply & Delivery of Electric Resistance Welded (Up to 400mm)/Submerged Arc Welded(Above 400mm) M.S.Pipe having beveled ends plate or coil conforming to IS-3589-2001 or its latest revision/ ammendment for following thickness outside diameter at GWSSB store or site anywhere in Gujarat State including all taxes, insurance, transportation, freight charges, octroi, inspection charges, loading, unloading conveyance to Departmental stores, stacking etc. all complete. (Rate for MS Pipe based on the ex. works price of HR Coil as Rs.58500 per MT - withouth GST (Above 3.15 mm to 10 mm) & Rs. 59000.00 per MT without GST (Above 10 mm) as onJan-23.(WPI Index of H. R Coil of Dec-22 is 144)				
	Pipe dia in OD (mm)	Thickness (mm)		
1	168.3	4.0	R. Mt	1,145
2	168.3	4.5	"	1,285
3	219.1	4.5	"	1,684
4	219.1	6.3	"	2,337
5	273	4.0	"	1,875
6	273	5.0	"	2,336
7	323.9	4.0	"	2,231
8	323.9	4.5	"	2,505
9	323.9	5.6	"	3,106
10	355.6	4.0	"	2,451
11	355.6	5.0	"	3,055
12	355.6	5.6	"	3,416
13	406.4	4.0	"	2,805
14	406.4	5.0	"	3,498
15	406.4	6.3	"	4,393
16	457	4.0	"	3,158
17	457	5.0	"	3,939
18	457	6.3	"	4,948
19	508	5.0	"	4,383
20	508	5.6	"	4,904
21	508	6.3	"	5,509
22	610	5.8	"	6,106
23	610	6.3	"	6,628
24	711	6.3	"	7,737
25	711	7.1	"	8,710
26	813	7.1	"	9,972
27	914	8.0	"	12,632
28	1016	8.8	"	15,446
29	1067	8.8	"	16,229
30	1219	10.0	"	21,239
31	1422	12.5	"	30,990
32	1626	14.2	"	40,257
33	1829	16.0	"	46,460
34	2032	16.0		56,736
35	2235	17.5	"	68,259
36	2540	20.0	"	88,652

Item no.	Size		Unit	Revised rate for 2022-23
1	2	3	4	5
1.1.B	I/S epoxy Painting (100 Micron) & O/S Gunning (25 mm Thick)			
	Pipe dia in OD (mm)	Thickness (mm)		
1	168.3	4.0	R. Mt	1,411
2	168.3	4.5	"	1,550
3	219.1	4.5	"	2,023
4	219.1	6.3	"	2,675
5	273	4.0	"	2,293
6	273	5.0	"	2,754
7	323.9	4.0	"	2,722
8	323.9	4.5	"	2,997
9	323.9	5.6	"	3,597
10	355.6	4.0	"	2,989
11	355.6	5.0	"	3,594
12	355.6	5.6	"	3,953
13	406.4	4.0	"	3,419
14	406.4	5.0	"	4,111
15	406.4	6.3	"	5,003
16	457	4.0	"	3,842
17	457	5.0	"	4,621
18	457	6.3	"	5,631
19	508	5.0	"	5,139
20	508	5.6	"	5,660
21	508	6.3	"	6,265
22	610	5.8	"	7,011
23	610	6.3	"	7,533
24	711	6.3	"	8,788
25	711	7.1	"	9,761
26	813	7.1	"	11,170
27	914	8.0	"	13,978
28	1016	8.8	"	16,940
29	1067	8.8	"	17,796
30	1219	10.0	"	23,028
31	1422	12.5	"	33,073
32	1626	14.2	"	42,634
33	1829	14.2	"	47,997
34	2032	16.0	"	59,699
35	2235	17.5	"	71,517
36	2540	20.0	"	92,351
1.1.C	I/S CML (9 mm thick up to 700 mm dia & 12 mm thick above 700 mm dia) & O/S Gunning (25 mm thick)			
	Pipe dia in OD (mm)	Thickness (mm)		
1	406.4	4.0	"	3,500
2	406.4	5.0	"	4,192
3	406.4	6.3	"	5,085
4	457	4.0	"	3,933
5	457	5.0	"	4,713
6	457	6.3	"	5,722
7	508	5.0	"	5,241

Item no.	Size		Unit	Revised rate for 2022-23
1	2	3	4	5
8	508	5.6	"	5,762
9	508	6.3	"	6,368
10	610	5.8	"	7,134
11	610	6.3	"	7,656
12	711	6.3	"	8,931
13	711	7.1	"	9,903
14	813	7.1	"	11,404
15	914	8.0	"	14,239
16	1016	8.8	"	17,232
17	1067	8.8	"	18,103
18	1219	10.0	"	23,378
19	1422	12.5	"	33,480
20	1626	14.2	"	43,101
21	1829	14.2	"	48,524
22	2032	16.0	"	60,283
23	2235	17.5	"	72,158
24	2540	20.0	"	93,080
1.1.D	I/S Bare & O/S Gunning (25 mm thick)			
	Pipe dia in OD (mm)	Thickness (mm)		
1	168.3	4.0	R. Mt	1,334
2	168.3	4.5	"	1,474
3	219.1	4.5	"	1,922
4	219.1	6.3	"	2,575
5	273	4.0	"	2,166
6	273	5.0	"	2,627
7	323.9	4.0	"	2,571
8	323.9	4.5	"	2,846
9	323.9	5.6	"	3,447
10	355.6	4.0	"	2,822
11	355.6	5.0	"	3,426
12	355.6	5.6	"	3,788
13	406.4	4.0	"	3,227
14	406.4	5.0	"	3,920
15	406.4	6.3	"	4,814
16	457	4.0	"	3,626
17	457	5.0	"	4,407
18	457	6.3	"	5,416
19	508	5.0	"	4,900
20	508	5.6	"	5,421
21	508	6.3	"	6,026
22	610	5.8	"	6,724
23	610	6.3	"	7,244
24	711	6.3	"	8,453
25	711	7.1	"	9,425
26	813	7.1	"	10,786
27	914	8.0	"	13,545
28	1016	8.8	"	16,459
29	1067	8.8	"	17,291

Item no.	Size		Unit	Revised rate for 2022-23
1	2	3	4	5
30	1219	10.0	"	22,451
31	1422	12.5	"	32,401
32	1626	14.2	"	41,865
33	1829	14.2	"	47,131
34	2032	16	"	58,738
35	2235	17.5	"	70,458
36	2540	20	"	91,147
1.1.E	I/S Solvent free Liquid Epoxy Lining (406 micron) + O/S 3 LPE Coated M. S. Pipe			
	Pipe dia in OD (mm)	Thickness (mm)		
1	168.3	4.0	R. Mt	1,739
2	168.3	4.5	"	1,879
3	219.1	4.5	"	2,450
4	219	6.3	"	3,099
5	273	4.0	"	2,833
6	273	5.0	"	3,293
7	323.9	4.0	"	3,367
8	323.9	4.5	"	3,642
9	323.9	5.6	"	4,239
10	355.6	4.0	"	3,700
11	355.6	5.0	"	4,304
12	355.6	5.6	"	4,662
13	406.4	4.0	"	4,234
14	406.4	5.0	"	4,927
15	406.4	6.3	"	5,818
16	457	4.0	"	4,768
17	457	5.0	"	5,545
18	457	6.3	"	6,554
19	508	5.0	"	6,169
20	508	5.6	"	6,689
21	508	6.3	"	7,293
22	610	5.8	"	8,251
23	610	6.3	"	8,774
24	711	6.3	"	10,239
25	711	7.1	"	11,211
26	813	7.1	"	12,833
27	914	8.0	"	15,850
28	1016	8.8	"	19,024
29	1067	8.8	"	19,986
30	1219	10.0	"	25,532
31	1422	12.5	"	35,989
32	1626	14.2	"	45,972
33	1829	14.2	"	51,762
34	2032	16.0	"	63,883
35	2235	17.5	"	76,122
36	2540	20.0	"	97,587

Item no.	Size		Unit	Revised rate for 2022-23
1	2	3	4	5
1.1.F	Group wise rates of Bare pipe per kg are as under. Rates of sizes other than above may be derived from following rates :			
1	Up to 914 mm OD & Up to 10 mm thickness of Plate/Pipe		kg	70.67
2	Above 914 mm OD & Above 10 mm thickness of Plate/Pipe		kg	71.17

The mass (weight) per metre run of pipes can be worked out as under (ref : IS3589 : 2001)

$$M = (OD - T) \times T \times 0.0246615$$

M = mass of the pipe kg/meter, OD = outside of tube diameter in mm, T = thickness of tube in mm

Item No. 2.1 | DI Pipe

Providing and supplying D. I. K-9 grade pipes for following nominal bore diameter with internal cement mortar lining including all taxes, insurance, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to departmental stores, stacking etc. complete. (IS 8329-2000). Rate for DI pipe based on Wholesale Price index of Pig Iron as 157.60 for the month of Dec-2022. **For sewerage project cement mortar lining shall be with sulphate resistance cement**

2.1.A	DI Pipe K-9			
1	80	mm	RMT	966
2	100	mm	"	1,127
3	150	mm	"	1,655
4	200	mm	"	2,239
5	250	mm	"	2,998
6	300	mm	"	3,788
7	350	mm	"	4,690
8	400	mm	"	5,586
9	450	mm	"	6,673
10	500	mm	"	7,909
11	600	mm	"	10,309
12	700	mm	"	13,329
13	750	mm	"	14,873
14	800	mm	"	16,455
15	900	mm	"	20,107
16	1000	mm	"	23,976
17	1100	mm	"	29,623
18	1200	mm	"	32,499

2.1.B	DI Pipe K-7			
1	80	mm	RMT	823
2	100	mm	"	1,003
3	150	mm	"	1,477
4	200	mm	"	1,880
5	250	mm	"	2,466
6	300	mm	"	3,110

Item no.	Size		Unit	Revised rate for 2022-23
1	2	3	4	5
7	350	mm	"	3,858
8	400	mm	"	4,583
9	450	mm	"	5,418
10	500	mm	"	6,505
11	600	mm	"	8,483
12	700	mm	"	11,645
13	750	mm	"	13,177
14	800	mm	"	15,194
15	900	mm	"	18,581
16	1000	mm	"	22,164
17	1100	mm	"	29,623
18	1200	mm	"	32,499
2.1.C	DI Pipe K-9 D/F			
1	100	mm	RMT	2,120
2	150	mm	"	2,986
3	200	mm	"	3,898
4	250	mm	"	5,279
5	300	mm	"	6,546
6	350	mm	"	8,629
7	400	mm	"	10,668
8	450	mm	"	12,515
9	500	mm	"	14,892
10	600	mm	"	19,853
11	700	mm	"	26,734
12	750	mm	"	29,663
13	800	mm	"	32,590
14	900	mm	"	43,423
15	1000	mm	"	50,904
Item No. 3.1	P. V. C. Pipes			
Providing and supplying in standard length ISI mark rigid unplasticised PVC pipes suitable for potable water with ring fit joint including cost of rings, as per IS specification no. 4985/1988 including all local and central taxes, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to the departmental stores and including cost of jointing material etc. complete.				
Note :				
1.One coupler / ring shall be provided with each full length pipe cost of which is included in rates below.				
2. 3% (Three) Discounted rate to be consider for Coupler jointed pipe				
3. Rate for PVC Resin as Rs. 91739/MT (Price Without GST)				
3.1.A	Test Pressure 4 Kg/cm ² .			
1	63	mm	RMT	49
2	75	mm	"	69
3	90	mm	"	96
4	110	mm	"	139
5	125	mm	"	180
6	140	mm	"	225
7	160	mm	"	294
8	180	mm	"	374
9	200	mm	"	454

Item no.	Size		Unit	Revised rate for 2022-23
1	2	3	4	5
10	225	mm	"	578
11	250	mm	"	699
12	280	mm	"	886
13	315	mm	"	1,119
3.1.B	Test Pressure 6 Kg/cm².			
1	63	mm	RMT	69
2	75	mm	"	96
3	90	mm	"	139
4	110	mm	"	199
5	125	mm	"	263
6	140	mm	"	326
7	160	mm	"	420
8	180	mm	"	537
9	200	mm	"	665
10	225	mm	"	835
11	250	mm	"	1,035
12	280	mm	"	1,299
13	315	mm	"	1,647
3.1.C	Test Pressure 8 Kg/cm².			
1	63	mm	RMT	86
2	75	mm	"	123
3	90	mm	"	173
4	110	mm	"	258
5	125	mm	"	336
6	140	mm	"	426
7	160	mm	"	554
8	180	mm	"	693
9	200	mm	"	858
10	225	mm	"	1,082
11	250	mm	"	1,347
12	280	mm	"	1,684
13	315	mm	"	2,121
3.1.D	Test Pressure 10 Kg/cm².			
1	63	mm	RMT	106
2	75	mm	"	150
3	90	mm	"	213
4	110	mm	"	320
5	125	mm	"	412
6	140	mm	"	513
7	160	mm	"	672
8	180	mm	"	848
9	200	mm	"	1,048
10	225	mm	"	1,328
11	250	mm	"	1,641
12	280	mm	"	2,054
13	315	mm	"	2,590

Item no.	Size		Unit	Revised rate for 2022-23
1	2	3	4	5
Item No. 4.1	H.D.P.E. Pipes			
Providing and supplying in standard length ISI mark high density Polyethylene H.D.P.E. Pipes suitable for potable water as per IS specification no. 4984/1995 including all local and central taxes, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to the dept. stores etc. comp.				
Note:-				
(1) Rate for HDPE (PE-100) Pipe based on the rate of HDPE Resin as Rs. 121185/MT (Price Without GST)				
4.1.A	6.0 Kg/cm2			
1	50	mm	RMT	53
2	63	mm	"	83
3	75	mm	"	119
4	90	mm	"	167
5	110	mm	"	245
6	125	mm	"	319
7	140	mm	"	401
8	160	mm	"	522
9	180	mm	"	659
10	200	mm	"	811
11	225	mm	"	1,029
12	250	mm	"	1,265
13	280	mm	"	1,586
14	315	mm	"	2,008
15	355	mm	"	2,545
16	400	mm	"	3,290
17	450	mm	"	4,162
18	500	mm	"	5,146
19	560	mm	"	6,442
20	630	mm	"	8,155
21	710	mm	"	10,333
4.1.B	10.0 Kg/cm2			
1	50	mm	RMT	81
2	63	mm	"	129
3	75	mm	"	182
4	90	mm	"	261
5	110	mm	"	386
6	125	mm	"	496
7	140	mm	"	621
8	160	mm	"	810
9	180	mm	"	1,027
10	200	mm	"	1,267
11	225	mm	"	1,600
12	250	mm	"	1,970
13	280	mm	"	2,468
14	315	mm	"	3,127
15	355	mm	"	3,976
16	400	mm	"	5,151
17	450	mm	"	6,498
18	500	mm	"	8,027
19	560	mm	"	10,055

Item no.	Size		Unit	Revised rate for 2022-23
1	2	3	4	5
20	630	mm	"	12,736
21	710	mm	"	16,180
Item No. 4.2	HDPE (PE-100) Pipes in standard length suitable for Sewage, Industrial Effluents & Rising main			
Providing & Supplying of ISI Marked High Density Poly Ethylene (HDPE - PE-100) Pipes in standard length suitable for Sewage & Industrial Effluents as per IS Specification no. 14333-1996 or its latest revision / amendments including all local & central taxes & duties, freight charges, loading, unloading & conveyance to departmental stores etc. complete.				
4.2.A	HDPE- 6kg/cm2			
1	63	mm	Rmt	86
2	75	mm	Rmt	123
3	90	mm	Rmt	172
4	110	mm	Rmt	252
5	125	mm	Rmt	329
6	140	mm	Rmt	413
7	160	mm	Rmt	538
8	180	mm	Rmt	678
9	200	mm	Rmt	834
10	225	mm	Rmt	1,060
11	250	mm	Rmt	1,302
12	280	mm	Rmt	1,632
13	315	mm	Rmt	2,067
14	355	mm	Rmt	2,620
15	400	mm	Rmt	3,388
16	450	mm	Rmt	4,375
17	500	mm	Rmt	5,409
18	560	mm	Rmt	6,772
19	630	mm	Rmt	8,572
4.2.B	HDPE- 10kg/cm2			
1	63	mm	Rmt	132
2	75	mm	Rmt	187
3	90	mm	Rmt	268
4	110	mm	Rmt	396
5	125	mm	Rmt	511
6	140	mm	Rmt	640
7	160	mm	Rmt	834
8	180	mm	Rmt	1,058
9	200	mm	Rmt	1,304
10	225	mm	Rmt	1,647
11	250	mm	Rmt	2,028
12	280	mm	Rmt	2,541
13	315	mm	Rmt	3,219
14	355	mm	Rmt	4,094
15	400	mm	Rmt	5,303
16	450	mm	Rmt	6,859
17	500	mm	Rmt	8,437
18	560	mm	Rmt	10,840
19	630	mm	Rmt	13,734