

Corrugated Steel Pipe



**Selling
Quality**



PT. CHASANA GLOBAL MANDIRI
BUSINESS OF STEEL PRODUCT & SERVICES

PIPA BAJA BERGELOMBANG (Corrugated Steel Pipe)

Pipa Baja Bergelombang dimana suatu pipa yang terbuat dari baja lembaran yang telah mengalami proses pembentukan gelombang (Corrugating) dan pelengkungan (Curving), dan dilapisi dengan Zink (Galvanizing). yang antara lain dipergunakan untuk konstruksi gorong-gorong, saluran, jembatan, terowongan, penutup atas conveyor.

Corrugated Steel Pipe is a pipe made of sheet steel that has undergone the process of wave formation (Corrugating) and bending (Curving), and coated with zinc (Galvanizing). Among others, corrugated steel pipe is used for the construction of culverts, channels, bridges, tunnels and conveyor covers.

Spesifikasi Material (Material Specification)

Tipe	Komposisi Kimia Bahan Dasar Logam		Komposisi Kimia Bahan Pelapis		Sifat Mekanik		berat Lapisan Seng Minimum (g/ m2)			
	Simbol	Kadar Max (%)	Simbol	Kadar Max (%)	Batas ulur minimum Mpa	Renggang Minimum %				
Flens	C	0,15	Zn	99,88	230	16	900			
	P	0,05								
	S	0,05	Al	0,02						
	Mn	0,60								
	Si	0,35								

- Yield strength : 230 MPA Minimum
- Elongation Gauge Length : 16 percent Minimum on 200 MM
- Pelapisan anti karat dengan hot dip galvanized dengan ketebalan lapisan 610 gr/m2 sesuai dengan AS 1650,

ASTM A - 123

Komposisi Kimia :

Zn 99.88% Max

Al 0.02 % Max

- Standar Desain : AS/NZS 2041 : 1998
"buried corrugated metal structures"

- Yield strength : 230 MPA Minimum
- Elongation Gauge Length : 16 percent Minimum on 200 MM
- Anti-rust coating with hot dip galvanized with a thickness of 610 gr/m2 in accordance with AS 1650,

ASTM A - 123

Chemical Composition :

Zn 99.88% Max

Al 0.02 % Max

- Desain Standard : AS/NZS 2041 : 1998
"buried corrugated metal structures"

Keunggulan Produk

(The Superiority of Corrugated Steel Pipe)

Proses Produksi

(Production Process)

- Memenuhi standard test baik chemical analysis, physical properties dan ketebalan galvanis
- Proses pengerjaan cepat
- Biaya angkutan dan pemasangan rendah
- Tidak rusak/pecah pada saat pengangkutan
- Meet the test standards for chemical analysis, physical properties and thickness of the galvanizing
- Rapid process
- Low-cost transportation and installation
- Not broken / cracked during transportation

Proses Handling

(Handling Process)

- Dapat menyerap getaran dari beban diatasnya
- Tahan terhadap gempa
- Sesuai untuk kondisi tanah lembek



- Fondasi lebih ringan
- Mengurangi biaya pemeliharaan dan penggantian
- Pemasangannya mudah dan cepat
- Tidak memerlukan tenaga spesialis dan hanya menggunakan peralatan yang sederhana

- Able to absorb vibrations from loads above
- Resistant to earthquakes
- Suitable for soft soil conditions
- Lighter foundations
- Lower maintenance and replacement costs
- Easy and quick installation
- Does not require specialized personnel and needs only simple tools

Proses Pemasangan

(Installation Process)

- Dapat disesuaikan dengan kondisi lapangan
- Pemasangannya mudah dan cepat sehingga menghemat biaya perencanaan dan pemasangannya.

- Can be adapted to field conditions
- Easy and quick installation, thereby saving on costs of planning and installation

1 TIPE BAJA BERGELOMBANG Corrugated Steel Pipe Type



1.1 Tipe Dua Tangkup

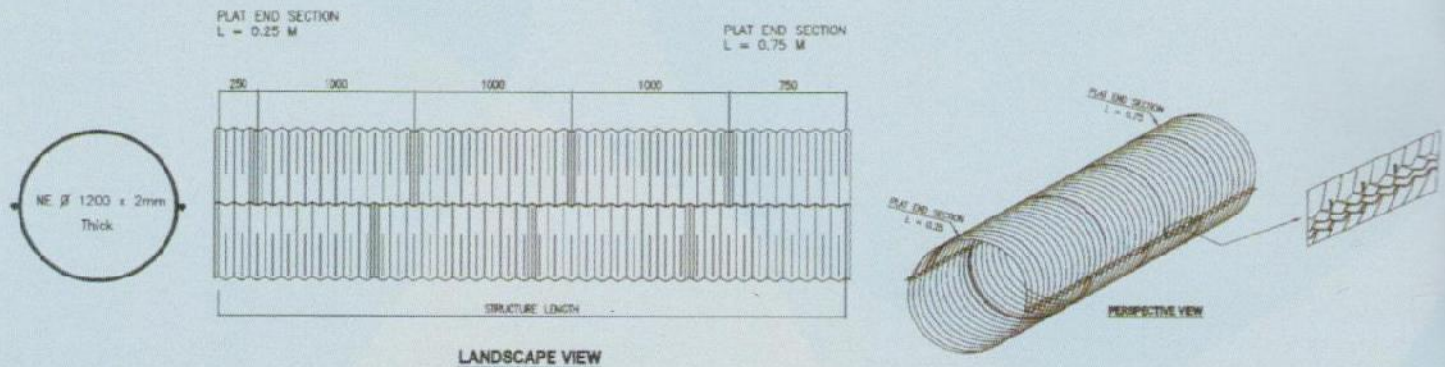
Digunakan Untuk :

- Saluran Air Lingkungan
- Irigasi Sekunder Hingga Tersier
- Tutup Conveyor

Nestable Flange / NF

Applied for :

- Drainage Environment
- Secondary Irrigation Up To Tertier
- Conveyor Belt Cover



1.2 Spesifikasi (Specification)

Design : ASTM A-798, SNI 07-0950-1990

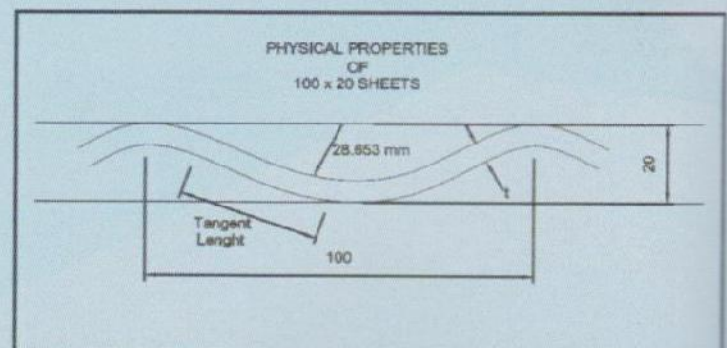
Material : - Steel : JIS 3101 SS400 or equivalent with min. 230 Mpa Yield Point
- Bolt and Nut : AS-1253-1973, AS-1112 grade 4.6

Galvanize : - AS 1650
- ASTM A-123

1.3 Ukuran dan Berat (Dimension and Weight)

Diameter Nominal	Berat Struktur Per Meter Structure Weight Per Meter			
(mm)	Wall Thickness (mm)			
	2.0	2.5	3.0	3.5
450	30	38	45	54
500	35	44	53	61
600	40	48	60	68
750	47	59	71	84
800	49	61	74	89
900	55	69	83	96
1000	60	75	90	101
1200	75	96	112	126
1400	83	104	125	146
1500	92	115	137	159
1600	94	120	141	166
1800		136	164	191

1.4 Dimensi Gelombang (Corrugated Dimension)



2 Multi Plate

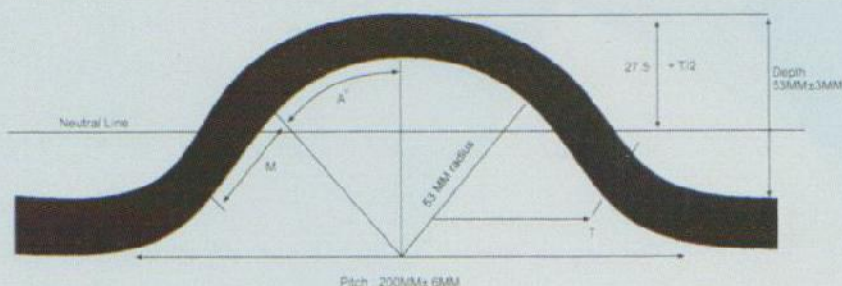
2.1 Spesifikasi (Specification)

Design : ASTM A-796, SNI 07-0950-1990

Material : - Steel : JIS 3101 SS400 or equivalent with min. 230 Mpa Yield Point
- Bolt and Nut : AS-1253-1973, AS-1112 grade 4.6

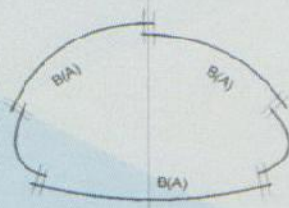
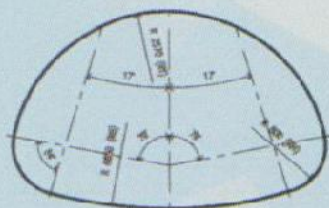
Galvanize : - AS 1650
- ASTM A-123

2.2 Dimensi Gelombang (Corrugated Dimension)



2.3.1 Multi Plate Pipe Arch (MPPA)

Digunakan untuk applied for :
- Bridge and other structure



Structure Number	Nominal Dimensions		Periphery (Kelling) (m)	Area (Luas Penampang) (m ²)	Layout Dimensions (mm)						Plates Per Ring Jumlah Plat Per Ring				pprox Mass (Kg) Per Metre Of Structure Galvanised Finish (Beral Struktur Kg/M)					
	Span (Bentang) (mm)	Rise (Tinggi) (mm)			RH	RT	RB	AH	AT	AB	424	524	624	Total	Wall Thickness Tebal Plat (mm)					
11 MA4-4	1850	1550	5.4	2.1	633	932	1724	85	79	16	3	1	1	5	195	224	254	315	374	434
12 MA4-7	2280	1730	6.3	2.9	633	1181	1768	85	68	27				5	223	258	292	362	430	500
18 MA4-7	2540	1880	7	3.6	633	1280	2912	85	79	16			3	2	251	290	328	407	483	561
18 MA4-8	2890	2070	8	4.5	633	1448	4756	85	84	11	4			3	285	329	372	461	548	637
18 MA4-11	3280	2200	8.7	5.3	633	1692	3158	85	72	23	2	1	4	7	307	354	401	497	591	686
20 MA4-11	3430	2300	9.2	5.9	633	1740	4195	85	77	18	2	5	1	8	328	378	428	530	630	732
22 MA4-12	3700	2440	9.9	6.8	633	1873	5057	85	79	16	2	2	4	8	349	402	456	565	672	780
22 MA4-15	4100	2570	10.6	7.8	633	2157	3827	85	69	26	2	5	2	9	377	435	492	610	725	841
26 MA4-15	4390	2770	11.5	9.1	633	2224	6174	85	79	16	2	7	1	10	412	474	537	666	792	919
27 MA5-15	4580	3050	12.2	10.9	800	2323	5705	84	78	18				8	433	500	566	702	834	969
32 MA5-15	4890	3300	13.4	13	800	2446	12623	84	88	8				9	475	548	620	770	915	1062
30 MA5-17	5070	3280	13.4	13	800	2570	6650	84	79	17	3	7	10		470	540	612	760	905	1050
32 MA5-18	5340	3430	14.1	14.3	800	2697	7600	84	80	16	6	5	11		496	572	648	804	957	1111
32 MA5-20	5620	3510	14.6	15.2	800	2883	6380	84	75	21				10	596	675	838	996	1156	
37 MA5-20	5930	3770	15.7	17.7	800	2980	11000	84	84	12	11	2	13		644	730	905	1076	1250	
39 MA5-22	6350	3950	16.7	19.7	800	3195	10840	84	82	14	7	6	13		767	951	1131	1314		

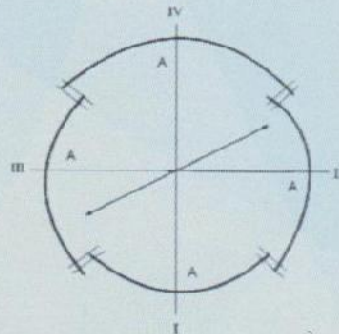
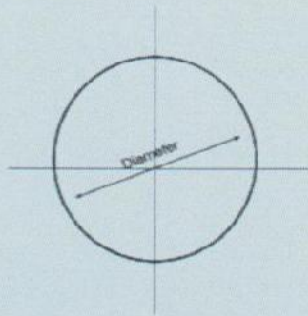
2.3.2 Multi Plate Pipe (MPP)

Digunakan untuk :

- Saluran Air Lingkungan Utama
- Irigasi Primer dan sekunder
- Jembatan, dll

Applied for :

- Primary Drainage Environment
- Primary and Secondary Irrigation
- Bridge, etc

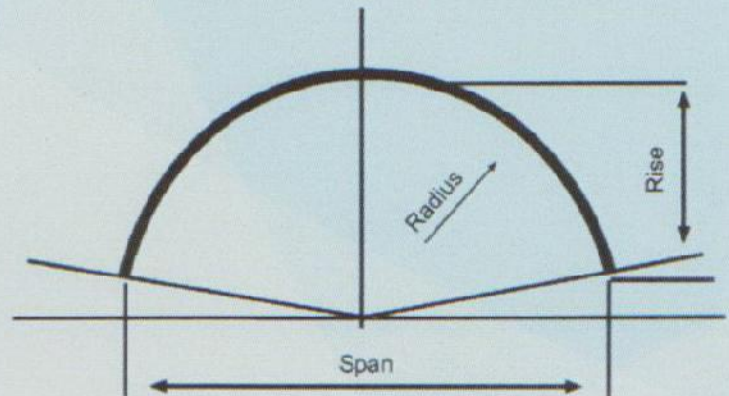
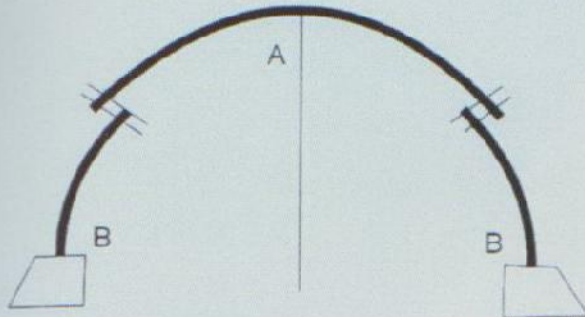


Structure Number	Nominal Diameter (mm)	Periphery (Keliling) (m)	End Area Luas (Penampang) (m ²)	Plates Per Ring (Jumlah Plat/ Ring)			Approx Mass (Kg) Per Meter Of Structure Galvanised Finish (Berat Stuktur Per Meter)					
				524	624	Total	Wall Thickness Tebal Plat (mm)					
							3.0	3.5	4.0	5.0	6.0	7.0
20 M	1500	4.7	1.8	4		4	168	194	219	272	323	375
24 M	1800	5.6	2.5		4	4	196	226	257	318	378	439
28 M	2100	6.6	3.4	2	3	5	231	267	302	374	445	517
30 M	2250	7.1	4		5	5	245	283	321	398	471	549
32 M	2400	7.5	4.5	4	2	6	266	307	347	431	512	594
36 M	2700	8.5	5.7		6	6	294	339	385	477	567	659
40 M	3000	9.4	7	2	5	7	329	380	430	533	634	736
42 M	3150	9.9	7.8		7	7	343	396	449	557	662	769
44 M	3300	10.3	8.5	4	4	8	364	420	475	590	701	814
48 M	3600	11.3	10.1		8	8	392	452	513	636	757	878
52 M	3900	12.2	11.9	2	7	9	427	493	558	692	823	956
54 M	4050	12.7	12.8		9	9	441	509	577	716	851	988
56 M	4200	13.2	13.8	4	6	10	462	533	604	749	890	1034
60 M	4500	14.1	15.8		10	10	490	565	641	795	946	1093
64 M	4800	15	18	2	9	11	525	606	686	851	1008	1176
66 M	4950	15.5	19.1		11	11	539	622	705	874	1040	1208
68 M	5100	16	20.3	4	8	12	560	646	732	908	1079	1253
72 M	5400	16.9	22.8		12	12	588	678	769	954	1135	1318
76 M	5700	17.9	25.4	2	11	13		719	814	1010	1201	1395
78 M	5850	18.3	26.7		13	13		735	833	1033	1229	1427
80 M	6000	18.8	28.1	4	10	14		759	860	1066	1268	1473
84 M	6300	19.7	31		14	14			897	1113	1324	1537
88 M	6600	20.7	34	2	13	15				1169	1390	1615
90 M	6750	21.2	35.6		15	15				1192	1418	1647
92 M	6900	21.6	37.2	4	12	16				1225	1457	1692
96 M	7200	22.6	40.5		16	16				1272	1513	1757
100 M	7500	23.5	43.9	2	15	17					1579	1834
102 M	7650	24	45.7		17	17					1607	1866
104 M	7800	24.4	47.5	4	14	18					1646	1911
108 M	8100	25.4	51.3		18	18						1976
112 M	8400	26.3	55.1	2	17	19						2054
114 M	8550	26.8	57.1		19	19						2086

2.3.3 Multi Plate Arch (MPA)

Digunakan untuk *applied for* :

- Pedestrian Bridge
- Road Crossing and other structure

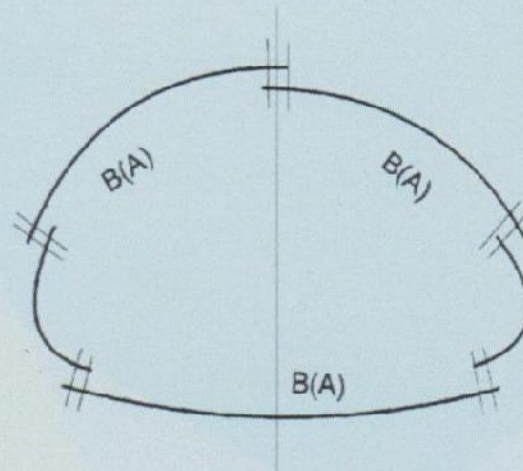
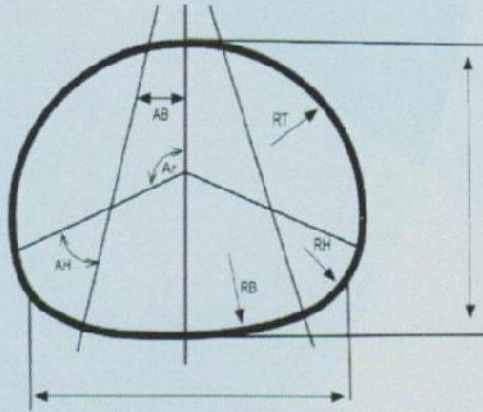


Structure Number	Momial Dimensions		Periphery (Keliling)	Area (Luas Penampang)	Radius (mm)	Plates Per Ring (Jumlah Plat/ Ring)			Approx Mass Per Meter Of Structure (Kg) Galvanised Finish (Berat Struktur Per Meter)						
	Span (Bentang) (mm)	Rise (Tinggi) (mm)							Wall Thickness Tebal Plat (mm)						
						524	624	Total	3.0	3.5	4.0	5.0	6.0	7.0	
12 MA	2000	890	2.9	1.30	1006	2 2			108	123	139	169	199	229	
15 MA	2500	1100	3.6	2.01	1259	3 3			136	156	175	214	252	291	
18 MA	3000	1310	4.4	2.88	1513	3 2			157	180	203	249	294	339	
22 MA	3500	1640	5.3	4.31	1753	2	2	4	192	220	248	305	361	417	
23 MA	4000	1590	5.5	4.61	2051	1	3	4	199	228	257	316	374	433	
26 MA	4000	1970	6.2	6.02	2000	4	1	5	227	260	293	361	427	494	
26 MA	4500	1800	6.2	5.88	2305	4	1	5	227	260	293	361	427	494	
29 MB	4500	2180	6.9	7.48	2251	1	4	5	248	285	321	396	469	543	
29 MA	5000	2010	6.9	7.32	2559	1	4	5	248	285	321	396	469	543	
33 MB	5000	2510	7.9	9.68	2500	3	3	6	283	325	367	452	536	620	
32 MA	5500	2220	7.6	8.91	2813	4	2	6	276	317	357	441	522	604	
36 MB	5500	2720	8.6	11.5	2750	6 6			304	349	395	487	577	669	
35 MA	6000	2430	8.3	10.66	3067	1	5	6	341			385	475	563	652
39 MB	6000	2930	9.3	13.48	3000	3	4	7	381			431	532	630	730
37 MA	6500	2500	8.8	11.77	3363	5	2	7				412	508	603	698
42 MB	6500	3140	10.0	15.63	3251	7 7			459			566	672	778	
40 MA	7000	2700	9.5	13.76	3616	2	5	7				543	644	746	
46 MB	7000	3470	10.9	18.74	3500	2	6	8				623	739	856	
43 MA	7500	2910	10.2	15.93	3870	5	3	8					697	807	
49 MB	7500	3670	11.6	21.25	3750	5	4	9					792	917	
46 MA	8000	3120	10.9	18.23	4123	2	6	8					739	856	
52 MB	8000	3880	12.3	23.91	4001	2	7	9					833	966	
49 MA	8500	3330	11.6	20.69	4377	5	4	9						917	
56 MB	8500	4210	13.3	27.74	4250	4	6	10						1043	

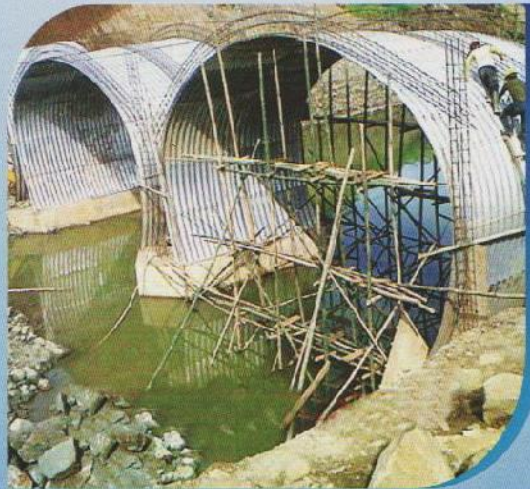
2.3.4 Multi Plate Underpass (MPU)

Digunakan untuk *applied for* :

- Highway and
- Railway Crossing
- Etc



Structure Number	Nominal Dimensions		Periphery (Keliling) (m)	Area (Luas Penampang) (m ²)	Layout Dimensions (mm)						Plates Per Ring (Jumlah Plat Per Ring)				Approx Mass (Kg) Per Meter Of Structure Galvanised Finish (Berat Struktur Per Meter)					
	Span (Bentang) (mm)	Rise (Tinggi) (mm)			RH	RT	RB	AH	AT	AB	424	524	624	Total	Wall Thickness (mm) Tebal Plat (mm)					
25 M4-8	3220	2780	9.6	7.0	897	1609	3481	60	105	15	4	5		9	350	403	456	562	671	780
27 M4-11	3690	3060	10.8	8.7	897	1843	3458	60	99	21	2	4	3	9	384	443	502	623	740	860
29 M4-11	3630	3160	11.3	9.5	897	1913	4116	60	102	18	2	2	5	9	400	460	520	646	776	891
31 M4-12	4080	3350	12.0	10.7	897	2039	4571	60	102	18	2	5	3	10	427	493	560	691	821	953
33 M4-12	4220	3480	12.4	11.6	897	2108	5520	60	105	15	2	3	5	10	441	508	575	714	848	985
34 M4-15	4630	3690	13.4	13.3	897	2314	4786	60	99	21	2	5	4	11	476	548	621	770	915	1062
37 M4-15	4630	3880	14.1	14.8	897	2414	5997	60	103	17	3	6	3	12	504	581	659	815	968	1124
39 M4-15	4960	4000	14.6	15.8	897	2481	7105	60	106	14	2	6	4	12	518	597	676	834	996	1156
39 M4-18	5320	4150	15.3	17.3	897	2659	5699	60	99	21	2	3	7	12	539	621	703	868	1032	1204
41 M4-19	5570	4320	16.0	18.9	897	2784	6123	60	99	21	3	4	6	13	565	653	740	917	1089	1266
43 M4-20	5820	4500	16.7	20.6	897	2910	6558	60	99	21	2	9	3	14	686	776	963	1144	1328	
46 M4-20	6010	4680	17.4	22.4	897	3005	7935	60	103	17	2	6	6	14	710	804	997	1185	1376	





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