GRP

SHAPING TOMORROW

PRODUCT CATALOGUE

Together We Develop A Better Future

PT Gunung Raja Paksi Tbk

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Who We Are

A to Z Under One Roof, our company was established in 1970 under the name PT Gunung Raja Paksi Tbk (GRP)

PT Gunung Raja Paksi Tbk has proven its capabilities by expanding into a wider range of steel products and this has PT Gunung Raja Paksi, as one of leading steel producers in Indonesia.

The Commissioning of our first Hot Rolled Steel Machine was in the last quarter of the year 2000. GRP always emphasite foremost on professional performances through the in-Depth experience & accompanied by comprehensive approach in our efforts to provide the best services and the best possible value-added products. This ensures that we are able to meet the needs of our customer no matter how complicate it may be. Among the products range consist of Flat, Coils, Welded Pipe, and Decking Products.

GRP has ability to process the basic materials further and expands its products line into a variety of light fabricated products to suit specific requirement.

The services we provide are:
Forming Services Center
Plate Services Center
Coil Services Center


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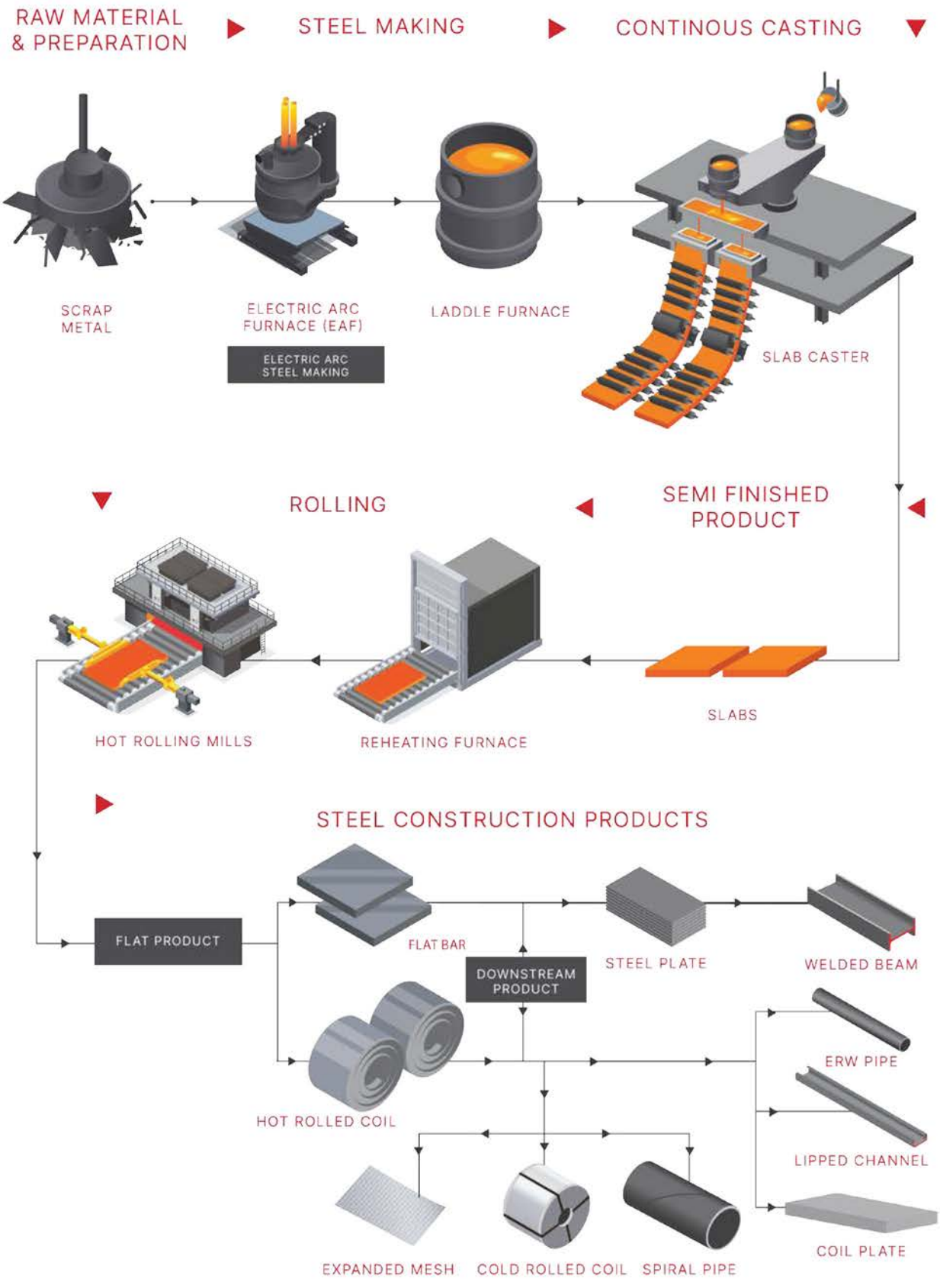
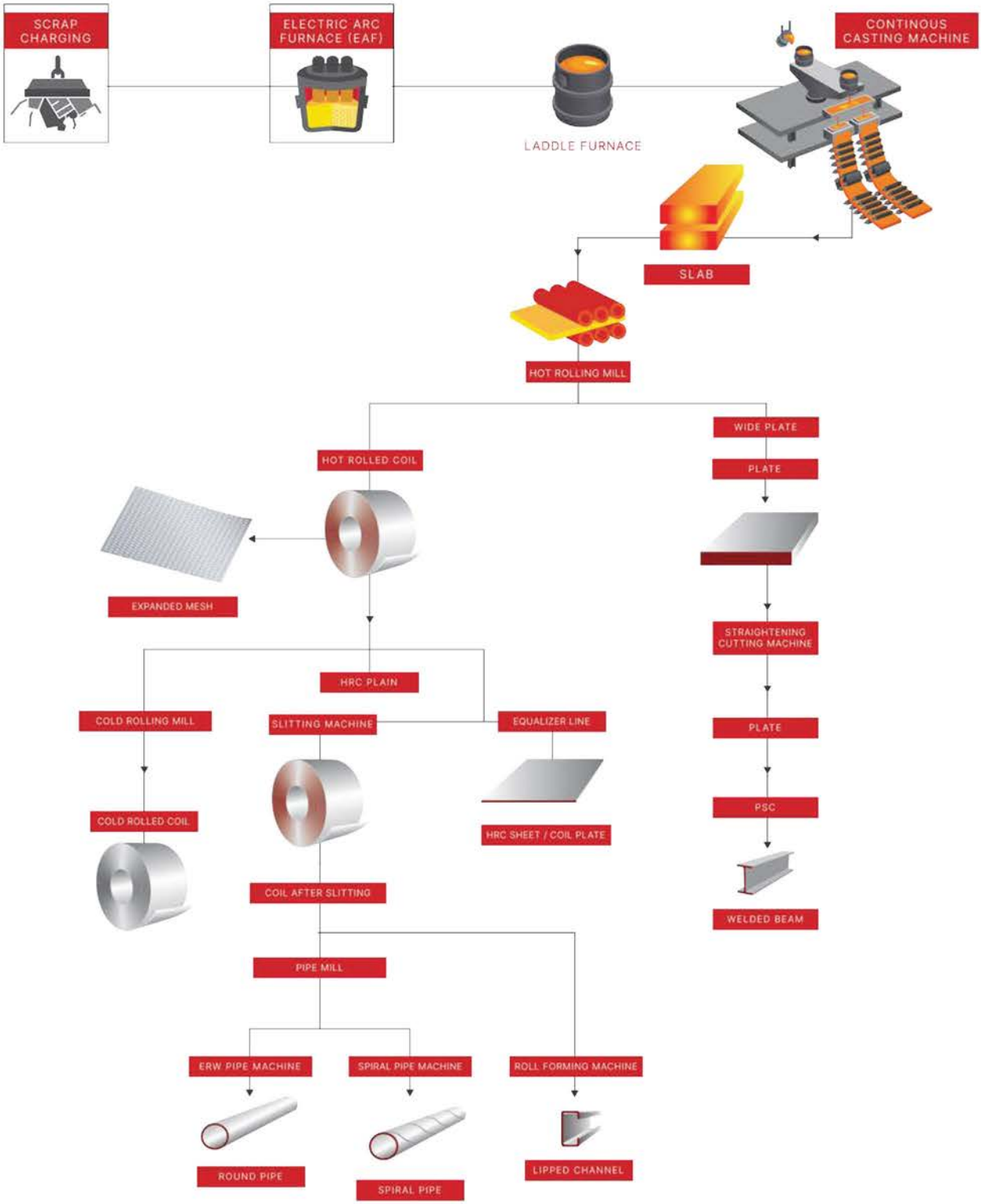
Production Workflow

Production Workflow

Integrated Workflow of PT Gunung Raja Paksi Tbk




SCRAP CHARGING
ELECTRIC ARC FURNACE (EAF)
LADDLE FURNACE
CONTINOUS CASTING MACHINE
SLAB
HOT ROLLING MILL
HOT ROLLED COIL
EXPANDED MESH
WIDE PLATE
PLATE
STRAIGHTENING CUTTING MACHINE
PLATE
PSC
WELDED BEAM
HRC PLAIN
COLD ROLLING MILL
SLITTING MACHINE
EQUALIZER LINE
COLD ROLLED COIL
HRC SHEET / COIL PLATE
COIL AFTER SLITTING
PIPE MILL
ERW PIPE MACHINE
SPIRAL PIPE MACHINE
ROLL FORMING MACHINE
ROUND PIPE
SPIRAL PIPE
LIPPED CHANNEL


GeGa

Flat Products

Various end products covering all types of Hot and Cold Plates, Hot and Cold Rolled Coils, as well as various types of downstream plates and other coils.

Steel Plate

Hot Rolled Coil (HRC)

Coil Plate

Steel Plate

PT Gunung Raja Paksi (GRP) understands the diverse demand for this form of flat steel as we produce steel plates from Mild Steel, High-Strength Low Alloy, pressure Vessel, Ship Building Plates, and for general purpose uses.

We also understand the various uses and applications of steel plates, and as one of the leading steel mill, we can produce the majority of plate grades and standards as issued by the world's major third party certification entities such as ABS, BKI, DNV, LR, GL, TUV, NK & CE Marked and each with their different sub grades.

To further enhance the performance of out steel product, we have a heat treatment facility for normalizing. This process is to accommodate with a minimum thickness of 6 mm steel plate and will provide the additional performance enhancement to our high tensile plate range. Combining our broad experience in steel industry and extensive range of cutting machines, we are able to fulfill various dimensions and grades required by our customers.

Annual Capacity: 480,000 MT/year
Thickness: 6 - 150 mm, Width: 1200 - 3050 mm Max
Grade: ASTM, JIS, EN, DIN, AS/NZS, BS, API 5L PSL 1; PSL 2, API 2H, API 2W, BKI, ABS, LR,

World class steel plates are manufactured at Gunung Raja Paksi Plate Mill with state-of-the art of technology to ensure their quality. These plates come in various standards, grades, and sizes to meet your requirement for direct use, rolling, or fabricating. Ranging from mild steel to high strength steel, our products are subjected to stringent quality control protocols.

Application	Standard & Specification	Grade
General Structural and Weldable Structural Steel	ASTM	A36, A283, A131, A529, A572, A573, A633, A709,
	JIS	SS400, SS490, SS540, SM400, SM490, SM520, SM570
	EN	S235JR/J0/J2, S275JR/J0/J2/N/NL, S355JR/J0/J2/K2/N/NL/M/ML, S420M/ML, S460M/ML
	DIN	ST 37.2, ST 44.2, ST 52.3
	AS/NZS	200, 250, 300, 350, 400, 450
	BS	40, 43, 50, 55
Pressure Vessel Steel	ASTM	A285, A516
	EN	P235GH, P265GH, P275NH/NL1, P295GH, P355GH/N/NH/NL1/M/ML1
Line pipe Steel	API 5L PSL 1; PSL 2	A, B, X42, X46, X52, X56, X60, X65, X70
Offshore Structural Steel	API 2H	42, 50
	API 2W	50, 60
Weather Resistant Steel	ASTM	A588
	JIS	SMA 400, SMA 490,
	EN	S235 J0W/J2W, S355 J0W/J2W/K2W
	AS/NZS	WR 250
High Carbon Steel	ASTM	1042 - 1050
	JIS	S 45 - S 50
	AS/NZS	K1042
	EN	C 45
Ship Building Quality	BKI, ABS, LR, DNVGL, BV, NK	A, B, D, E, AH/DH/EH 32/36/40
Gas Cylinders Steel	JIS	SG 255, SG 295
Forming and Drawing Steel	ASTM	A1006, A1008, A1011CS/DS,
	JIS	SAPH 400/440, SPHC, SPHD, SPHT-1/2/3

Calculated Plate Weight (From Thickness & Size)

Width x Length (in mm)	1219 x 2438	1219 x 6096	1524 x 3048	1524 x 6096	1524 x 9144	1524 x 12192	1829 x 6096	1829 x 12192	2133 x 6096	2133 x 12192	2438 x 6096	2438 x 12192	2743 x 6096	2743 x 12192	3048 x 6096	3048 x 12192
Width x Length (in ft)	4' x 8'	4' x 20'	5' x 10'	5' x 20'	5' x 30'	5' x 40'	6' x 20'	6' x 40'	7' x 20'	7' x 40'	8' x 20'	8' x 40'	9' x 20'	9' x 40'	10' x 20'	10' x 40'
Width x Length (in inch)	48 x 96	48 x 240	60 x 120	60 x 240	60 x 360	60 x 480	72 x 240	72 x 480	84 x 240	84 x 480	96 x 240	96 x 480	108 x 240	108 x 480	120 x 240	120 x 480
Thickness (mm)																
8	187	467	292	583	875	1.167	700	1.400	817	1.633	933	1.867	1.050	2.100	1.167	2.334
9	210	525	328	656	985	1.313	788	1.575	919	1.837	1.050	2.100	1.181	2.363	1.313	2.625
10	233	583	365	729	1.094	1.459	875	1.750	1.021	2.041	1.167	2.333	1.313	2.625	1.459	2.917
12	280	700	438	875	1.313	1.750	1.050	2.101	1.225	2.450	1.400	2.800	1.575	3.150	1.750	3.501
12.7	296	741	463	926	1.389	1.852	1.112	2.223	1.296	2.593	1.482	2.963	1.667	3.334	1.852	3.705
14	327	817	511	1.021	1.532	2.042	1.225	2.451	1.429	2.858	1.633	3.267	1.838	3.675	2.042	4.084
15	350	875	547	1.094	1.641	2.188	1.313	2.626	1.531	3.062	1.750	3.500	1.969	3.938	2.188	4.376
16	373	933	583	1.167	1.750	2.334	1.400	2.801	1.633	3.266	1.867	3.733	2.100	4.200	2.334	4.667
18	420	1.050	656	1.313	1.969	2.625	1.575	3.151	1.837	3.675	2.100	4.200	2.363	4.725	2.625	5.251
19	443	1.108	693	1.386	2.078	2.771	1.663	3.326	1.939	3.879	2.217	4.433	2.494	4.988	2.771	5.543
20	467	1.167	729	1.459	2.188	2.917	1.750	3.501	2.041	4.083	2.333	4.667	2.625	5.250	2.917	5.834
22	513	1.283	802	1.604	2.407	3.209	1.926	3.851	2.246	4.491	2.567	5.133	2.888	5.776	3.209	6.418
24	560	1.400	875	1.750	2.625	3.501	2.101	4.201	2.450	4.899	2.800	5.600	3.150	6.301	3.501	7.001
25	583	1.458	912	1.823	2.735	3.646	2.188	4.376	2.552	5.104	2.917	5.833	3.282	6.563	3.646	7.293
25.4	593	1.482	926	1.852	2.779	3.705	2.223	4.446	2.593	5.185	2.963	5.927	3.334	6.668	3.705	7.410
26	607	1.517	948	1.896	2.844	3.792	2.276	4.551	2.654	5.308	3.033	6.067	3.413	6.826	3.792	7.585
28	653	1.633	1.021	2.042	3.063	4.084	2.451	4.901	2.858	5.716	3.267	6.533	3.675	7.351	4.084	8.168
30	700	1.750	1.094	2.188	3.282	4.376	2.626	4.251	3.062	6.124	3.500	7.000	3.938	7.876	4.376	8.751
32	747	1.867	1.167	2.334	3.501	4.667	2.801	5.602	3.266	6.533	3.733	7.467	4.200	8.401	4.667	9.335
36	840	2.100	1.313	2.625	3.938	5.251	3.151	6.302	3.675	7.349	4.200	8.400	4.725	9.451	5.251	10.502
38	887	2.217	1.386	2.771	4.157	5.543	3.326	6.652	3.879	7.757	4.433	8.867	4.988	4.976	5.543	11.085
40	933	2.333	1.459	2.917	4.376	5.834	3.501	7.002	4.083	8.166	4.667	9.333	5.250	10.501	5.834	11.669
45	1.050	2.625	1.641	3.282	4.923	6.564	3.939	7.877	4.593	9.186	5.250	10.500	5.907	11.814	6.564	13.127
50	1.166	2.917	1.823	3.646	5.470	7.293	4.376	8.752	5.104	10.207	5.833	11.667	6.563	13.126	7.293	14.586
55	1.283	3.208	2.006	4.011	6.017	8.022	4.814	9.628	5.614	11.228	6.417	12.833	7.219	14.439	8.022	16.044
60	1.400	3.500	2.188	4.376	6.564	8.751	5.251	10.503	6.124	12.249	7.000	14.000	7.876	15.751	8.751	17.503
65	1.516	3.792	2.370	4.740	7.111	9.481	5.689	11.378	6.635	13.269	7.583	15.167	8.532	17.064	9.481	18.962
70	1.633	4.083	2.553	5.105	7.658	10.210	6.127	12.253	7.145	14.290	8.167	16.333	9.188	18.377	10.210	20.420
75	1.750	4.375	2.735	5.470	8.204	10.939	6.564	13.129	7.655	15.311	8.750	17.500	9.845	19.689	10.939	21.879
80	1.866	4.667	2.917	5.834	8.751	11.669	7.002	14.004	8.166	16.331	9.333	18.667	10.501	21.002	11.669	23.337
85	1.983	4.958	3.099	6.199	9.298	12.398	7.440	14.879	8.676	17.352	9.917	19.833	11.157	22.315	12.398	24.796
90	2.100	5.250	3.282	6.564	9.845	13.127	7.877	15.754	9.186	18.373	10.500	21.500	11.814	23.627	13.127	26.254
95	2.216	5.542	3.464	6.928	10.392	13.856	8.315	16.630	9.697	19.394	11.083	22.167	12.470	24.940	13.856	27.713
100	2.333	5.833	3.646	7.293	10.939	14.586	8.752	17.505	10.207	20.414	11.667	23.333	13.126	26.252	14.586	29.172

Conculated considering specific gravity of steel as 7.85 Kg/mm2, and dimension in mm. Not Available Size

General & Weldable Structural Steel - Mild Steel

SPECIFICATION	GRADE	Prod. Thick (mm)	Thick. Range (mm)	MECHANICAL PROPERTIES															GENERAL PURPOSE
				TENSILE TEST							IMPACT TEST								
				TR							LG				TR				
				YS (N/mm²)	TS (N/mm²)		EL (%)				+20	0	-20	-40	+20	0	-20	-40	
				Min	Min	Max	200	80	50	5.65√So	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	
ASTM A-36 / ASME A-36	-	2-150	≤ 20	250[A]	400	550	20[B]	-	23[B]	-	-	-	-	-	-	-	-	-	SPECIFICATION FOR CARBON STRUCTURAL STEEL
			> 20 ≤ 40	250[A]	400	550	20[B]	-	23[B]	-	-	-	-	-	-	-	-	-	
			> 40 ≤ 65	250[A]	400	550	20[B]	-	23[B]	-	-	-	-	-	-	-	-	-	
			> 65 ≤ 100	250[A]	400	550	20[B]	-	23[B]	-	-	-	-	-	-	-	-	-	
			> 100	250[A]	400	550	20[B]	-	23[B]	-	-	-	-	-	-	-	-	-	
ASTM A-283 / ASME A-283	A	2-100	≤ 40	165	310	415	27[J]	-	30[J]	-	-	-	-	-	-	-	-	-	LOW AND INTERMEDIATE TENSILE STRENGTH CARBON STEEL PLATES
			> 40	165	310	415	27[J]	-	30[J]	-	-	-	-	-	-	-	-	-	
	B	6-50	≤ 40	185	345	450	25[J]	-	28[J]	-	-	-	-	-	-	-	-	-	
			> 40	185	345	450	25[J]	-	28[J]	-	-	-	-	-	-	-	-	-	
	C	6-50	≤ 40	205	380	515	22[J]	-	25[J]	-	-	-	-	-	-	-	-	-	
			> 40	205	380	515	22[J]	-	25[J]	-	-	-	-	-	-	-	-	-	
	D	6-50	≤ 40	230	415	550	20[J]	-	23[J]	-	-	-	-	-	-	-	-	-	
			> 40	230	415	550	20[J]	-	23[J]	-	-	-	-	-	-	-	-	-	
ASTM A-131	A	5 - 80	≤ 25	235	400	520	21	-	24	-	-	-	-	-	-	-	-	-	Structural Steel for Ships
			> 25 ≤ 35	235	400	520	21	-	24	-	-	-	-	-	-	-	-	-	
			> 35 ≤ 50	235	400	520	21	-	24	-	-	-	-	-	-	-	-	-	
			> 50 ≤ 70	235	400	520	21	-	24	-	34	-	-	-	-	24	-	-	
			> 70 ≤ 100	235	400	520	21	-	24	-	41	-	-	-	-	27	-	-	
	B	5 - 80	≤ 25	235	400	520	21	-	24	-	-	-	-	-	-	-	-	-	Structural Steel for Ships
			> 25 ≤ 35	235	400	520	21	-	24	-	-	27	-	-	-	-	20	-	
			> 35 ≤ 50	235	400	520	21	-	24	-	-	27	-	-	-	-	20	-	
			> 50 ≤ 70	235	400	520	21	-	24	-	-	34	-	-	-	-	24	-	
			> 70 ≤ 100	235	400	520	21	-	24	-	-	41	-	-	-	-	27	-	
	D	5 - 80	≤ 25	235	400	520	21	-	24	-	-	-	-	-	-	-	-	-	Structural Steel for Ships
			> 25 ≤ 35	235	400	520	21	-	24	-	-	-	27	-	-	-	-	20	
			> 35 ≤ 50	235	400	520	21	-	24	-	-	-	27	-	-	-	-	20	
			> 50 ≤ 70	235	400	520	21	-	24	-	-	-	34	-	-	-	-	24	
			> 70 ≤ 100	235	400	520	21	-	24	-	-	-	41	-	-	-	-	27	
	E	8 - 80	≤ 25	235	400	520	21	-	24	-	-	-	-	-	-	-	-	-	Structural Steel for Ships
			> 25 ≤ 35	235	400	520	21	-	24	-	-	-	-	27	-	-	-	-	
			> 35 ≤ 50	235	400	520	21	-	24	-	-	-	-	27	-	-	-	-	
			> 50 ≤ 70	235	400	520	21	-	24	-	-	-	-	34	-	-	-	-	
			> 70 ≤ 100	235	400	520	21	-	24	-	-	-	-	41	-	-	-	-	
ASTM A-573 / ASME SA-573	58	6 - 40	≤ 13	220	400	490	21[F]	-	24[F]	-	-	-	-	-	-	-	-	-	STRUCTURAL CARBON STEEL PLATES WITH IMPROVED TOUGHNESS
			> 13 ≤ 40	220	400	490	21[F]	-	24[F]	-	-	-	-	-	-	-	-	-	
ASTM A-709 / ASME SA 709	36	2 - 150	≤ 20	250[A]	400	550	20[B]	-	23[B]	-	-	-	-	-	-	-	-	-	STRUCTURAL STEELS FOR BRIDGES
			> 20 ≤ 40	250[A]	400	550	20[B]	-	23[B]	-	-	-	-	-	-	-	-	-	
			> 40 ≤ 65	250[A]	400	550	20[B]	-	23[B]	-	-	-	-	-	-	-	-	-	
			> 65 ≤ 100	250[A]	400	550	20[B]	-	23[B]	-	-	-	-	-	-	-	-	-	
			> 100	250[A]	400	550	20[B]	-	23[B]	-	-	-	-	-	-	-	-	-	
JISG 3101	SS - 400	2-150	≤ 5	245.00	400	510	-	-	21	-	-	-	-	-	-	-	-	-	HOT ROLLED STEEL FOR GENERAL STRUCTURE
			> 5 ≤ 16	245	400	510	17	-	-	-	-	-	-	-	-	-	-	-	
			>16 ≤ 40	235	400	510	21	-	-	-	-	-	-	-	-	-	-	-	
			>40 ≤100	215[A]	400	510	-	-	23[B]	-	-	-	-	-	-	-	-	-	
			>100	205	400	510	-	-	23[B]	-	-	-	-	-	-	-	-	-	
JIS G 3101	SM 400 A	2-150	≤ 5	245.00	400	510	-	-	23	-	-	-	-	-	-	-	-	-	HOT ROLLED STEEL FOR WELDED STRUCTURE
			> 5 ≤ 16	245.00	400	510	18	-	-	-	-	-	-	-	-	-	-	-	
			> 16 ≤ 40	235.00	400	510	22	-	-	-	-	-	-	-	-	-	-	-	
			> 40 ≤ 75	215.00	400	510	-	-	24	-	-	-	-	-	-	-	-	-	
			> 75 ≤ 100	215.00	400	510	-	-	24	-	-	-	-	-	-	-	-	-	
			> 100 ≤ 160	205.00	400	510	-	-	24[D]	-	-	-	-	-	-	-	-	-	
			> 160 ≤ 200	195.00	400	510	-	-	24[D]	-	-	-	-	-	-	-	-	-	
	SM 400 B	2-150	≤ 5	245	400	510	-	-	23	-	-	-	-	-	-	-	-	-	
			> 5 ≤ 16	245	400	510	18	-	-	-	-	27[F]	-	-	-	-	-	-	
			> 16 ≤ 40	235	400	510	22	-	-	-	-	27	-	-	-	-	-	-	
			> 40 ≤ 75	215	400	510	-	-	24	-	-	27	-	-	-	-	-	-	
			> 75 ≤ 100	215	400	510	-	-	24	-	-	27	-	-	-	-	-	-	
			> 100 ≤ 160	205	400	510	-	-	24[D]	-	-	27	-	-	-	-	-	-	
			> 160 ≤ 200	195	400	510	-	-	24[D]	-	-	27	-	-	-	-	-	-	
	SM 400 C	2-150	≤ 5	245	400	510	-	-	23	-	-	-	-	-	-	-	-	-	
			> 5 ≤ 16	245	400	510	18	-	-	-	-	47[F]	-	-	-	-	-	-	
			> 16 ≤ 40	235	400	510	22	-	-	-	-	47	-	-	-	-	-	-	
			> 40 ≤ 75	215	400	510	-	-	24	-	-	47	-	-	-	-	-	-	
			> 75 ≤ 100	215	400	510	-	-	24	-	-	47	-	-	-	-	-	-	
			> 100 ≤ 160	-	400	510	-	-	24[D]	-	-	47	-	-	-	-	-	-	
			> 160 ≤ 200	-	400	510	-	-	24[D]	-	-	47	-	-	-	-	-	-	
EN 10025-2:2004	S 235 JR + AR	2-150	< 3	235	360	510	-	19	-	-	27	-	-	-	-	-	-	-	STRUCTURAL STEEL
			≥ 3 ≤ 16	235	360	510	-	-	-	24	27	-	-	-	-	-	-	-	
			> 16 ≤ 40	225	360	510	-	-	-	24	27	-	-	-	-	-	-	-	
			> 40 ≤ 63	215	360	510	-	-	-	23	27	-	-	-	-	-	-	-	
			> 63 ≤ 80	215	360	510	-	-	-	22	27	-	-	-	-	-	-	-	
			> 80 ≤ 100	215	360	510	-	-	-	22	27	-	-	-	-	-	-	-	
			> 100 ≤ 150	195	350	500	-	-	-	22	27	-	-	-	-	-	-	-	
			> 150 ≤ 200	185	340	490	-	-	-	21	27	-	-	-	-	-	-	-	
			> 200 ≤ 250	175	340	490	-	-	-	21	27	-	-	-	-	-	-	-	
	S 235 JO + AR	2-150	< 3	235	360	510	-	19	-	-	-	27	-	-	-	-	-	-	
			≥ 3 ≤ 16	235	360	510	-	-	-	24	-	27	-	-	-	-	-	-	
			> 16 ≤ 40	225	360	510	-	-	-	24	-	27	-	-	-	-	-	-	
			> 40 ≤ 63	215	360	510	-	-	-	23	-	27	-	-	-	-	-	-	
			> 63 ≤ 80	215	360	510	-	-	-	22	-	27	-	-	-	-	-	-	
			> 80 ≤ 100	215	360	510	-	-	-	22	-	27	-	-	-	-	-	-	
			> 100 ≤ 150	195	350	500	-	-	-	22	-	27	-	-	-	-	-	-	
			> 150 ≤ 200	185	340	490	-	-	-	21	-	27	-	-	-	-	-	-	
			> 200 ≤ 250	175	340	490	-	-	-	21	-	27	-	-	-	-	-	-	
	S 235 J2 + N	2-150	< 3	235	360	510	-	19	-	-	-	-	-	27	-	-	-	-	
			≥ 3 ≤ 16	235	360	510	-	-	-	24	-	-	-	27	-	-	-	-	
			> 16 ≤ 40	225	360	510	-	-	-	24	-	-	-	27	-	-	-	-	
			> 40 ≤ 63	215	360	510	-	-	-	23	-	-	-	27	-	-	-	-	
			> 63 ≤ 80	215	360	510	-	-	-	22	-	-	-	27	-	-	-	-	
			> 80 ≤ 100	215	360	510	-	-	-	22	-	-	-	27	-	-	-	-	
			> 100 ≤ 150	195	350	500	-	-	-	22	-	-	-	27	-	-	-	-	
			> 150 ≤ 200	185	340	490	-	-	-	21	-	-	-	27	-	-	-	-	
			> 200 ≤ 250	175	340	490	-	-	-	21	-	-	-	27	-	-	-	-	

[F]Nilai ini sama dengan 27 Joule pada -30°c

General & Weldable Structural Steel - Mild Steel

SPECIFICATION	GRADE	Prod. Thick (mm)	Thick. Range (mm)	MECHANICAL PROPERTIES															GENERAL PURPOSE
				TENSILE TEST							IMPACT TEST								
				TR							LG				TR				
				YS (N/mm²)	TS (N/mm²)		EL (%)				+20	0	-20	-40	+20	0	-20	-40	
				Min	Min	Max	200	80	50	5.65√So	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	
EN 10025-3:2004	S 275 N	6 - 100	≤3	275	370	510	-	-	-	24	55	47	40	-	31	27	20	-	WELDABLE FINE GRAIN STRUCTURAL STEEL
			≥3 ≤16	275	370	510	-	-	-	24	55	47	40	-	31	27	20	-	
			>16 ≤40	265	370	510	-	-	-	24	55	47	40	-	31	27	20	-	
			>40 ≤63	255	370	510	-	-	-	24	55	47	40	-	31	27	20	-	
			>63 ≤80	245	370	510	-	-	-	23	55	47	40	-	31	27	20	-	
			>80 ≤100	235	370	510	-	-	-	23	55	47	40	-	31	27	20	-	
	S 275 NL	6- 100	≤3	275	370	510			-	24	63	55	47	31	40	34	27	20	
			≥3 ≤16	275	370	510	-	-	-	24	63	55	47	31	40	34	27	20	
			>16 ≤40	265	370	510	-	-	-	24	63	55	47	31	40	34	27	20	
			>40 ≤63	255	370	510	-	-	-	24	63	55	47	31	40	34	27	20	
			>63 ≤80	245	370	510	-	-	-	23	63	55	47	31	40	34	27	20	
			>80 ≤100	235	370	510	-	-	-	23	63	55	47	31	40	34	27	20	
DIN 17100 (1980)	ST 37.2	6 - 80	≤16	235	340	470	24	-	-	-	27	-	-	-	-	-	-	-	STEEL FOR GENERAL STRUCTURAL PURPOSE
			>16 ≤25	225	340	470	24	-	-	-	-	-	-	-	-	-	-	-	
			>25 <40	225	340	470	24	-	-	-	-	-	-	-	-	-	-	-	
			>40 ≤63	215	340	470	23	-	-	-	-	-	-	-	-	-	-	-	
			>63 ≤80	205	340	470	22	-	-	-	-	-	-	-	-	-	-	-	
			>80 ≤100	195	340	470	22	-	-	-	-	-	-	-	-	-	-	-	
	ST 44.2	6 - 80	≤16	275	410	540	20	-	-	-	27	-	-	-	-	-	-	-	
			>16 <25	265	410	540	20	-	-	-	27	-	-	-	-	-	-	-	
			>25 <40	265	410	540	20	-	-	-	27	-	-	-	-	-	-	-	
			>40 <63	255	410	540	19	-	-	-	27	-	-	-	-	-	-	-	
			>63 <80	245	410	540	18	-	-	-	-	-	-	-	-	-	-	-	
			>80 <100	235	410	540	18	-	-	-	-	-	-	-	-	-	-	-	
AS/NZS 3678 ACRS Certificate No. 171202	200	5-100	≥5 ≤8	200	300	-	-	-	-	24[B]	-	-	-	-	-	-	-	-	STRUCTURAL STEEL HOT ROLLED PLATES, FLOORPLATES AND SLABS
			>8 ≤12	200	300	-	-	-	-	24[B]	-	-	-	-	-	-	-	-	
			>12 ≤20	-	300	-	-	-	-	24[B]	-	-	-	-	-	-	-	-	
			>20 ≤32	-	300	-	-	-	-	24[B]	-	-	-	-	-	-	-	-	
			>32 ≤50	-	300	-	-	-	-	24[B]	-	-	-	-	-	-	-	-	
			>50 ≤80	-	300	-	-	-	-	24[B]	-	-	-	-	-	-	-	-	
			>80 ≤100	-	300	-	-	-	-	24[B]	-	-	-	-	-	-	-	-	
	250	5-100	≥5 ≤8	280	410min	-	-	-	-	22(5.65√So)	-	-	-	-	-	-	-	-	
			>8 ≤12	260	410min	-	-	-	-	22(5.65√So)	-	-	-	-	-	-	-	-	
			>12 ≤20	250	410min	-	-	-	-	22(5.65√So)	-	-	-	-	-	-	-	-	
			>20 ≤32	250	410min	-	-	-	-	22(5.65√So)	-	-	-	-	-	-	-	-	
			>32 ≤50	250	410min	-	-	-	-	22(5.65√So)	-	-	-	-	-	-	-	-	
			>50 ≤80	240	410min	-	-	-	-	22(5.65√So)	-	-	-	-	-	-	-	-	
			>80 ≤100	230	410min	-	-	-	-	22(5.65√So)	-	-	-	-	-	-	-	-	
	300	8-100	8	320	430min	-	-	-	-	21(5.65√So)	-	-	-	-	-	-	-	-	
			>8 ≤12	310	430min	-	-	-	-	21(5.65√So)	-	-	-	-	-	-	-	-	
			>12 ≤20	300	430min	-	-	-	-	21(5.65√So)	-	-	-	-	-	-	-	-	
			>20 ≤32	280	430min	-	-	-	-	21(5.65√So)	-	-	-	-	-	-	-	-	
			>32 ≤50	280	430min	-	-	-	-	21(5.65√So)	-	-	-	-	-	-	-	-	
			>50 ≤80	270	430min	-	-	-	-	21(5.65√So)	-	-	-	-	-	-	-	-	
			>80 ≤100	260	430min	-	-	-	-	21(5.65√So)	-	-	-	-	-	-	-	-	
BS 4360	40 A	5 - 80	≤16	235	340	500	22[A]	25[B]	-	25	-	-	-	-	-	-	-	-	WELDABLE STRUCTURAL STEELS
			>16 ≤40	225	340	500	22	25	-	25	-	-	-	-	-	-	-	-	
			>40 ≤63	215	340	500	22	25	-	25	-	-	-	-	-	-	-	-	
			>63 ≤100	205	340	500	22	25	-	25	-	-	-	-	-	-	-	-	
			>100 ≤150	185	340	500	22	25	-	25	-	-	-	-	-	-	-	-	
	40 B	5 - 80	≤16	235	340	500	22[A]	25[B]	-	25	27	-	-	-	-	-	-	-	
			>16 ≤40	225	340	500	22	25	-	25	27	-	-	-	-	-	-	-	
			>40 ≤63	215	340	500	22	25	-	25	27	-	-	-	-	-	-	-	
			>63 ≤100	205	340	500	22	25	-	25	27	-	-	-	-	-	-	-	
			>100 ≤150	185	340	500	22	25	-	25	27	-	-	-	-	-	-	-	
	40 C	5 - 80	≤16	235	340	500	22[A]	25[B]	-	25	-	27	-	-	-	-	-	-	
			>16 ≤40	225[D]	340	500	22	25	-	25	-	27	-	-	-	-	-	-	
			>40 ≤63	215	340	500	22	25	-	25	-	27	-	-	-	-	-	-	
			>63 ≤100	210	340	500	22	25	-	25	-	27	-	-	-	-	-	-	
			>100 ≤150	185	340	500	22	25	-	25	-	27	-	-	-	-	-	-	
	40 D	8 - 80	≤16	235	340	500	22[A]	25[B]	-	25	-	-	27	-	-	-	-	-	
			>16 ≤40	225	340	500	22	25	-	25	-	-	27	-	-	-	-	-	
			>40 ≤63	215	340	500	22	25	-	25	-	-	27	-	-	-	-	-	
			>63 ≤100	215	340	500	22	25	-	25	-	-	27	-	-	-	-	-	
			>100 ≤150	205	340	500	22	25	-	25	-	-	27	-	-	-	-	-	
BS 4360	43 A	5 - 80	≤16	275	430	580	20[A]	23[B]	-	22	-	-	-	-	-	-	-	-	Weldable Structural Steels
			>16 ≤40	265	430	580	20	23	-	22	-	-	-	-	-	-	-	-	
			>40 ≤63	255	430	580	20	23	-	22	-	-	-	-	-	-	-	-	
			>63 ≤100	245	430	580	20	23	-	22	-	-	-	-	-	-	-	-	
			>100 ≤150	225	410	580	20	23	-	22	-	-	-	-	-	-	-	-	
	43 B	5 - 80	≤16	275	430	580	20[A]	23[B]	-	22	27	-	-	-	-	-	-	-	Weldable Structural Steels
			>16 ≤40	265	430	580	20	23	-	22	27	-	-	-	-	-	-	-	
			>40 ≤63	255	430	580	20	23	-	22	27	-	-	-	-	-	-	-	
			>63 ≤100	245	430	580	20	23	-	22	27	-	-	-	-	-	-	-	
			>100 ≤150	225	410	580	20	23	-	22	27	-	-	-	-	-	-	-	
	43 C	5 - 80	≤16	275	430	580	20[A]	23[B]	-	22	-	27	-	-	-	-	-	-	Weldable Structural Steels
			>16 ≤40	265	430	580	20	23	-	22	-	27	-	-	-	-	-	-	
			>40 ≤63	255	430	580	20	23	-	22	-	27	-	-	-	-	-	-	
			>63 ≤100	245	430	580	20	23	-	22	-	27	-	-	-	-	-	-	
			>100 ≤150	225	410	580	20	23	-	22	-	27	-	-	-	-	-	-	
	43 D	8 - 80	≤16	275	430	580	20[A]	23[B]	-	22	-	-	27	-	-	-	-	-	Weldable Structural Steels
			>16 ≤40	265	430	580	20	23	-	22	-	-	27	-	-	-	-	-	
			>40 ≤63	255	430	580	20	23	-	22	-	-	27	-	-	-	-	-	
			>63 ≤100	245	430	580	20	23	-	22	-	-	27	-	-	-	-	-	
			>100 ≤150	225	410	580	20	23	-	22	-	-	27	-	-	-	-	-	

General & Weldable Structural Steel - High Strength Steel (Yield Strength ± 320 - 400 Mpa)

SPECIFICATION	GRADE	Prod. Thick (mm)	Thick. Range (mm)	MECHANICAL PROPERTIES															GENERAL PURPOSE
				TENSILE TEST							IMPACT TEST								
				TR							LG				TR				
				YS (N/mm^2)	TS (N/mm^2)		EL (%)				+20	0	-20	-40	+20	0	-20	-40	
				Min	Min	Max	200	80	50	5.65√So	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	
ASTM A 131	AH32	6 -80	> 6.4 ≤ 12.5	315	440	590	19	-	22	-	-	31	-	-	-	22	-	-	Structural Steel for Ships
			> 12.5 ≤ 20	315	440	590	19	-	22	-	-	31	-	-	-	22	-	-	
			> 20 ≤ 25	315	440	590	19	-	22	-	-	31	-	-	-	22	-	-	
			> 25 ≤ 35	315	440	590	19	-	22	-	-	31	-	-	-	22	-	-	
			> 35 ≤ 50	315	440	590	19	-	22	-	-	31	-	-	-	22	-	-	
			> 50 ≤ 70	315	440	590	19	-	22	-	-	28	-	-	-	26	-	-	
			> 70 ≤ 100	315	440	590	19	-	22	-	-	46	-	-	-	31	-	-	
	DH32	6 -80	> 6.4 ≤ 12.5	315	440	590	19	-	22	-	-	-	31	-	-	-	22	-	
			> 12.5 ≤ 20	315	440	590	19	-	22	-	-	-	31	-	-	-	22	-	
			> 20 ≤ 25	315	440	590	19	-	22	-	-	-	31	-	-	-	22	-	
			> 25 ≤ 35	315	440	590	19	-	22	-	-	-	31	-	-	-	22	-	
			> 35 ≤ 50	315	440	590	19	-	22	-	-	-	31	-	-	-	22	-	
			> 50 ≤ 70	315	440	590	19	-	22	-	-	-	28	-	-	-	26	-	
			> 70 ≤ 100	315	440	590	19	-	22	-	-	-	46	-	-	-	31	-	
	EH32	8 -60	> 6.4 ≤ 12.5	315	440	590	19	-	22	-	-	-	-	31	-	-	-	22	
			> 12.5 ≤ 20	315	440	590	19	-	22	-	-	-	-	31	-	-	-	22	
			> 20 ≤ 25	315	440	590	19	-	22	-	-	-	-	31	-	-	-	22	
			> 25 ≤ 35	315	440	590	19	-	22	-	-	-	-	31	-	-	-	22	
			> 35 ≤ 50	315	440	590	19	-	22	-	-	-	-	31	-	-	-	22	
			> 50 ≤ 70	315	440	590	19	-	22	-	-	-	-	28	-	-	-	26	
			> 70 ≤ 100	315	440	590	19	-	22	-	-	-	-	46	-	-	-	31	
	AH36	6 -80	> 6.4 ≤ 12.5	355	490	620	19	-	22	-	-	34	-	-	-	24	-	-	
			> 12.5 ≤ 20	355	490	620	19	-	22	-	-	34	-	-	-	24	-	-	
			> 20 ≤ 25	355	490	620	19	-	22	-	-	34	-	-	-	24	-	-	
			> 25 ≤ 35	355	490	620	19	-	22	-	-	34	-	-	-	24	-	-	
			> 35 ≤ 50	355	490	620	19	-	22	-	-	34	-	-	-	24	-	-	
			> 50 ≤ 70	355	490	620	19	-	22	-	-	41	-	-	-	27	-	-	
			> 70 ≤ 100	355	490	620	19	-	22		-	50	-	-	-	34	-	-	
	DH36	6 -80	> 6.4 ≤ 12.5	355	490	620	19	-	22	-	-	-	34	-	-	-	24	-	
			> 12.5 ≤ 20	355	490	620	19	-	22	-	-	-	34	-	-	-	24	-	
			> 20 ≤ 25	355	490	620	19	-	22	-	-	-	34	-	-	-	24	-	
			> 25 ≤ 35	355	490	620	19	-	22	-	-	-	34	-	-	-	24	-	
			> 35 ≤ 50	355	490	620	19	-	22	-	-	-	34	-	-	-	24	-	
			> 50 ≤ 70	355	490	620	19	-	22	-	-	-	41	-	-	-	24	-	
			> 70 ≤ 100	355	490	620	19	-	22	-	-	-	50	-	-	-	24	-	
	EH36	8 -60	> 6.4 ≤ 12.5	355	490	620	19	-	22	-	-	-	-	34	-	-	-	24	
			> 12.5 ≤ 20	355	490	620	19	-	22	-	-	-	-	34	-	-	-	24	
			> 20 ≤ 25	355	490	620	19	-	22	-	-	-	-	34	-	-	-	24	
			> 25 ≤ 35	355	490	620	19	-	22	-	-	-	-	34	-	-	-	24	
			> 35 ≤ 50	355	490	620	19	-	22	-	-	-	-	34	-	-	-	24	
			> 50 ≤ 70	355	490	620	19	-	22	-	-	-	-	41	-	-	-	24	
			> 70 ≤ 100	355	490	620	19	-	22	-	-	-	-	50	-	-	-	24	
ASTM A529	50	8 - 25	≤25	345	450	690	18	-	21	-	-	-	-	-	-	-	-	-	High-Strength Carbon-Manganese Steel of Structural Quality
	55	8 - 25	≤25	380	485	690	17	-	20	-	-	-	-	-	-	-	-	-	
ASTM A 572 / ASME SA 572	42	6 - 120	≤ 40	290	415	-	20^L	-	24^L	-	-	-	-	-	-	-	-	-	High Strength Low Alloy Columbium-Vanadium Structural Steel
			> 40	290	415	-	20^L	-	24^L	-	-	-	-	-	-	-	-	-	
	50	8 - 120	≤ 40	345	450	-	18^L	-	21^L	-	-	-	-	-	-	-	-	-	
			> 40	345	450	-	18^L	-	21^L	-	-	-	-	-	-	-	-	-	
	55	8 - 120	≤ 40	380	485	-	17^L	-	20^L	-	-	-	-	-	-	-	-	-	
			> 40	380	485	-	17^L	-	20^L	-	-	-	-	-	-	-	-	-	
ASTM A 573	65	6 - 40	≤ 13	240	450	530	20^P	-	23^P	-	-	-	-	-	-	-	-	-	STRUCTURAL CARBON STEEL PLATES WITH IMPROVED TOUGHNESS
			> 13 ≤ 40	240	450	530	20^P	-	23^P	-	-	-	-	-	-	-	-	-	
	70	6 - 40	≤ 13	290	485	620	18^P	-	21^P	-	-	-	-	-	-	-	-	-	
			> 13 ≤ 40	290	485	620	18^P	-	21^P	-	-	-	-	-	-	-	-	-	
ASTM A 709	50	8 - 50	≤ 40	345	450	-	18^S	-	21^S	-	-	-	-	-	-	-	-	-	STRUCTURAL STEEL FOR BRIDGES
			> 40	345	450	-	18^S	-	21^S	-	-	-	-	-	-	-	-	-	
JIS G 3101	SS - 490	6-120	≤5	285	490	610	-	-	19	-	-	-	-	-	-	-	-	-	HOT ROLLED STEEL FOR GENERAL STRUCTURE
			> 5 < 16	285	490	610	15	-	-	-	-	-	-	-	-	-	-	-	
			>16 < 40	275	490	610	19	-	-	-	-	-	-	-	-	-	-	-	
			>40 ≤100	255	490	610	-	-	21^B	-	-	-	-	-	-	-	-	-	
			>100	245	490	610	-	-	21^B	-	-	-	-	-	-	-	-	-	
JIS G 3106	SM 490 YA	5-120	≤ 5	365	490	610	-	-	19	-	-	-	-	-	-	-	-	-	
			> 5 ≤ 16	365	490	610	15	-	-	-	-	-	-	-	-	-	-	-	
			> 16 ≤ 40	355	490	610	19	-	-	-	-	-	-	-	-	-	-	-	
			> 40 ≤ 75	335	490	610	-	-	21	-	-	-	-	-	-	-	-	-	
			> 75 ≤ 100	325	490	610	-	-	21	-	-	-	-	-	-	-	-	-	
	SM 490 YB	5-120	≤ 5	365	490	610	-	-	19	-	-	-	-	-	-	-	-	-	
			> 5 ≤ 16	365	490	610	15	-	-	-	-	27^F	-	-	-	-	-	-	
			> 16 ≤ 40	355	490	610	19	-	-	-	-	27	-	-	-	-	-	-	
			> 40 ≤ 75	335	490	610	-	-	21	-	-	27	-	-	-	-	-	-	
			> 75 ≤ 100	325	490	610	-	-	21	-	-	27	-	-	-	-	-	-	
	SM 520 B	8-120	≤ 5	365	520	640	-	-	19	-	-	-	-	-	-	-	-	-	HOT ROLLED STEEL FOR WELDED STRUCTURE
			> 5 ≤ 12	365	520	640	15	-	-	-	-	-	-	-	-	-	-	-	
			> 12 ≤ 16	365	520	640	15	-	-	-	-	27	-	-	-	-	-	-	
			> 16 ≤ 40	355	520	640	19	-	-	-	-	27	-	-	-	-	-	-	
			> 40 ≤ 75	335	520	640	-	-	21	-	-	27	-	-	-	-	-	-	
			> 75 ≤ 100	325	520	640	-	-	21	-	-	27	-	-	-	-	-	-	
	SM 520 C	8-120	≤ 5	365	520	640	-	-	19	-	-	-	-	-	-	-	-	-	
			> 5 ≤ 12	365	520	640	15	-	-	-	-	-	-	-	-	-	-	-	
			> 12 ≤ 16	365	520	640	15	-	-	-	-	47	-	-	-	-	-	-	
			> 16 ≤ 40	355	520	640	19	-	-	-	-	47	-	-	-	-	-	-	
			> 40 ≤ 75	335	520	640	-	-	21	-	-	47	-	-	-	-	-	-	
			> 75 ≤ 100	325	520	640	-	-	21	-	-	47	-	-	-	-	-	-	

General & Weldable Structural Steel - High Strength Steel (Yield Strength ± 320 - 400 Mpa)

SPECIFICATION	GRADE	Prod. Thick (mm)	Thick. Range (mm)	MECHANICAL PROPERTIES														GENERAL PURPOSE
				TENSILE TEST							IMPACT TEST							
				TR							LG				TR			
				YS (N/mm^2)	YS (N/mm^2)		EL (%)				+20	0	-20	-40	+20	0	-20	-40
				Min	Min	Max	200	80	5D	5.65√So	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG
EN 10025-2:2004(PERUBAHAN DARI TAHUN 1993)	S 355 JR + AR	6 - 120	< 3	355	510	680	-	16	-	-	27	-	-	-	-	-	-	-
			≥ 3 ≤ 16	355	470	630	-	-	-	20	27	-	-	-	-	-	-	-
			> 16 ≤ 40	345	470	630	-	-	-	20	27	-	-	-	-	-	-	-
			> 40 ≤ 63	335	470	630	-	-	-	15	27	-	-	-	-	-	-	-
			> 63 ≤ 80	325	470	630	-	-	-	18	27	-	-	-	-	-	-	-
			> 80 ≤ 100	315	470	630	-	-	-	18	27	-	-	-	-	-	-	-
			> 100 ≤ 150	295	450	600	-	-	-	18	27	-	-	-	-	-	-	-
			> 150 ≤ 200	285	450	600	-	-	-	17	27	-	-	-	-	-	-	-
			> 200 ≤ 250	275	450	600	-	-	-	17	27	-	-	-	-	-	-	-
	S 355 JO + AR	6 - 120	< 3	355	510	680	-	16	-	-	-	27	-	-	-	-	-	-
			≥ 3 ≤ 16	355	470	630	-	-	-	20	-	27	-	-	-	-	-	-
			> 16 ≤ 40	345	470	630	-	-	-	20	-	27	-	-	-	-	-	-
			> 40 ≤ 63	335	470	630	-	-	-	19	-	27	-	-	-	-	-	-
			> 63 ≤ 80	325	470	630	-	-	-	18	-	27	-	-	-	-	-	-
			> 80 ≤ 100	315	470	630	-	-	-	18	-	27	-	-	-	-	-	-
			> 100 ≤ 150	295	450	600	-	-	-	18	-	27	-	-	-	-	-	-
			> 150 ≤ 200	285	450	600	-	-	-	17	-	27	-	-	-	-	-	-
			> 200 ≤ 250	275	450	600	-	-	-	17	-	27	-	-	-	-	-	-
	S 355 J2 + N	6 - 120	< 3	355	510	680	-	16	-	-	-	-	-	27	-	-	-	-
			≥ 3 ≤ 16	355	470	630	-	-	-	20	-	-	-	27	-	-	-	-
			> 16 ≤ 40	345	470	630	-	-	-	20	-	-	-	27	-	-	-	-
			> 40 ≤ 63	335	470	630	-	-	-	19	-	-	-	27	-	-	-	-
			> 63 ≤ 80	325	470	630	-	-	-	18	-	-	-	27	-	-	-	-
			> 80 ≤ 100	315	470	630	-	-	-	18	-	-	-	27	-	-	-	-
			> 100 ≤ 150	295	450	600	-	-	-	18	-	-	-	27	-	-	-	-
			> 150 ≤ 200	285	450	600	-	-	-	17	-	-	-	27	-	-	-	-
			> 200 ≤ 250	275	450	600	-	-	-	17	-	-	-	27	-	-	-	-
	S 355 K2 + N	6 - 120	< 3	355	510	680	-	16	-	-	-	-	-	40[B]	-	-	-	-
			≥ 3 ≤ 16	355	470	630	-	-	-	20	-	-	-	40[B]	-	-	-	-
			> 16 ≤ 40	345	470	630	-	-	-	20	-	-	-	40[B]	-	-	-	-
			> 40 ≤ 63	335	470	630	-	-	-	19	-	-	-	40[B]	-	-	-	-
			> 63 ≤ 80	325	470	630	-	-	-	18	-	-	-	40[B]	-	-	-	-
			> 80 ≤ 100	315	470	630	-	-	-	18	-	-	-	40[B]	-	-	-	-
			> 100 ≤ 150	295	450	600	-	-	-	18	-	-	-	40[B]	-	-	-	-
			> 150 ≤ 200	285	450	600	-	-	-	17	-	-	-	33	-	-	-	-
			> 200 ≤ 250	275	450	600	-	-	-	17	-	-	-	33	-	-	-	-
EN 10025-3:2004	S 355 N	8 - 120	< 3	355	470	630	-		-	24	56	47	43	40	31	27	20	-
			≥ 3 ≤ 16	355	470	630	-	-	-	24	56	47	43	40	31	27	20	-
			> 16 ≤ 40	345	470	630	-	-	-	24	56	47	43	40	31	27	20	-
			> 40 ≤ 63	335	470	630	-	-	-	24	56	47	43	40	31	27	20	-
			> 63 ≤ 80	325	470	630	-	-	-	23	56	47	43	40	31	27	20	-
			> 80 ≤ 100	315	470	630	-	-	-	23	56	47	43	40	31	27	20	-
	S 355 NL	8 - 120	< 3	355	470	630	-		-	24	63	55	51	47	40	31	27	40
			≥ 3 ≤ 16	355	470	630	-	-	-	24	63	55	51	47	40	31	27	40
			> 16 ≤ 40	345	470	630	-	-	-	24	63	55	51	47	40	31	27	40
			> 40 ≤ 63	335	470	630	-	-	-	24	63	55	51	47	40	31	27	40
			> 63 ≤ 80	325	470	630	-	-	-	23	63	55	51	47	40	31	27	40
			> 80 ≤ 100	315	470	630	-	-	-	23	63	55	51	47	40	31	27	40
EN 10025-4:2004	S 355 M	Aug-60	≤ 16	355	470	630	-	-	-	22	56	47	43	40	31	27	20	-
			> 16 ≤ 40	345	470	630	-	-	-	22	56	47	43	40	31	27	20	-
			> 40 ≤ 63	335	450	610	-	-	-	22	56	47	43	40	31	27	20	-
			> 63 ≤ 80	325	440	600	-	-	-	22	56	47	43	40	31	27	20	-
			> 80 ≤ 100	325	440	600	-	-	-	22	56	47	43	40	31	27	20	-
			> 100 ≤ 150	320	430	590	-	-	-	22	56	47	43	40	31	27	20	-
	S 355 ML	8 - 60	≤ 16	355	470	630	-	-	-	22	63	55	51	47	40	31	27	40
			> 16 ≤ 40	345	470	630	-	-	-	22	63	55	51	47	40	31	27	40
			> 40 ≤ 63	335	450	610	-	-	-	22	63	55	51	47	40	31	27	40
			> 63 ≤ 80	325	440	600	-	-	-	22	63	55	51	47	40	31	27	40
			> 80 ≤ 100	325	440	600	-	-	-	22	63	55	51	47	40	31	27	40
			> 100 ≤ 150	320	430	590	-	-	-	22	63	55	51	47	40	31	27	40
DIN 17100 (1980)	ST 52.3	6 - 80	≤ 16	355	490	630	20	-	-	-	-	-	27	-	-	-	-	-
			> 16 ≤ 25	345	490	630	20	-	-	-	-	-	27	-	-	-	-	-
			> 25 ≤ 40	345	490	630	20	-	-	-	-	-	27	-	-	-	-	-
			> 40 ≤ 63	335	490	630	19	-	-	-	-	-	27	-	-	-	-	-
			> 63 ≤ 80	325	490	630	18	-	-	-	-	-	23	-	-	-	-	-
			> 80 ≤ 100	315	490	630	18	-	-	-	-	-	23	-	-	-	-	-
BS 4360 (1986)	50 A	6 - 120	≤ 16	355	490	640	18[C]	20[A]	-	20	-	-	-	-	-	-	-	-
			> 16 ≤ 40	345	490	640	18	20	-	20	-	-	-	-	-	-	-	-
			> 40 ≤ 63	340	490	640	18	20	-	20	-	-	-	-	-	-	-	-
			> 63 ≤ 100	325	480	640	18	20	-	20	-	-	-	-	-	-	-	-
			> 100 ≤ 150	305	460	640	18	20	-	20	-	-	-	-	-	-	-	-
	50 B	6 - 120	≤ 16	355	490	640	18[C]	20[A]	-	20	27	-	-	-	-	-	-	-
			> 16 ≤ 40	345	490	640	18	20	-	20	27	-	-	-	-	-	-	-
			> 40 ≤ 63	340	490	640	18	20	-	20	27	-	-	-	-	-	-	-
			> 63 ≤ 100	325	480	640	18	20	-	20	27	-	-	-	-	-	-	-
			> 100 ≤ 150	305	460		18	20	-	20	27	-	-	-	-	-	-	-
	50 C	6 - 120	≤ 16	355	490	640	18[C]	20[A]	-	20	-	27	-	-	-	-	-	-
			> 16 ≤ 40	345	490	640	18	20	-	20	-	27	-	-	-	-	-	-
			> 40 ≤ 63	340	490	640	18	20	-	20	-	27	-	-	-	-	-	-
			> 63 ≤ 100	325	480	640	18	20	-	20	-	27	-	-	-	-	-	-
			> 100 ≤ 150	305	460	640	18	20	-	20	-	27	-	-	-	-	-	-
	50 D	6 - 120	≤ 16	355	490	640	18[C]	20[A]	-	20	-	-	27	-	-	-	-	-
			> 16 ≤ 40	345	490	640	18	20	-	20	-	-	27	-	-	-	-	-
			> 40 ≤ 63	340	490	640	18	20	-	20	-	-	27	-	-	-	-	-
			> 63 ≤ 100	325	480	640	18	20	-	20	-	-	27	-	-	-	-	-
			> 100 ≤ 150	305	460	640	18	20	-	20	-	-	27	-	-	-	-	-
	50 DD	6 - 120	≤ 16	355	490	640	18[C]	20[A]	-	20	-	-	-	-	-	-	-	-
			> 16 ≤ 40	345	490	640	18	20	-	20	-	-	-	-	-	-	-	-
			> 40 ≤ 63	340	490	640	18	20	-	20	-	-	-	-	-	-	-	-
			> 63 ≤ 100	325	480	640	18	20	-	20	-	-	-	-	-	-	-	-
			> 100 ≤ 150	305	460	640	18	20	-	20	-	-	-	-	-	-	-	-

STRUCTURAL STEEL

WELDABLE FINE GRAIN STRUCTURAL STEEL

WELDABLE FINE GRAIN STRUCTURAL STEEL

GENERAL STRUCTURAL PURPOSE

Weldable Structural Steel

General & Weldable Structural Steel - High Strength Steel (Yield Strength ± 400 - 500 Mpa)

SPECIFICATION	GRADE	Prod. Thick (mm)	Thick. Range (mm)	MECHANICAL PROPERTIES															GENERAL PURPOSE
				TENSILE TEST							IMPACT TEST								
				TR							LO				TR				
				YS (N/mm^2)	TS (N/mm^2)		EL (%)				+20	0	-20	-40	+20	0	-20	-40	
				Min	Min	Max	200	80	50	5.65√So	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	
AS 3678 (2016)	350	8-100	≤ 8	360	450	-	-	-	-	20	-	-	-	-	-	-	-	-	Hot Rolled Steel Plates
			> 8 ≤ 12	360	450	-	-	-	-	20	-	-	-	-	-	-	-	-	
			> 12 ≤ 20	350	450	-	-	-	-	20	-	-	-	-	-	-	-	-	
			> 20 ≤ 32	340	450	-	-	-	-	20	-	-	-	-	-	-	-	-	
			> 32 ≤ 50	340	450	-	-	-	-	20	-	-	-	-	-	-	-	-	
			> 50 ≤ 80	340	450	-	-	-	-	20	-	-	-	-	-	-	-	-	
			> 80 ≤ 150	330	450	-	-	-	-	20	-	-	-	-	-	-	-	-	
ASTM A 131	AH40	8 - 70	> 6.4 ≤ 12.5	390	510	650	19	-	22	-	-	39	-	-	-	26	-	-	Structural Steel for Ships
			> 12.5 ≤ 20	390	510	650	19	-	22	-	-	39	-	-	-	26	-	-	
			> 20 ≤ 25	390	510	650	19	-	22	-	-	39	-	-	-	26	-	-	
			> 25 ≤ 35	390	510	650	19	-	22	-	-	39	-	-	-	26	-	-	
			> 35 ≤ 50	390	510	650	19	-	22	-	-	39	-	-	-	26	-	-	
			> 50 ≤ 70	390	510	650	19	-	22	-	-	46	-	-	-	31	-	-	
			> 70 ≤ 100	390	510	650	19	-	22	-	-	55	-	-	-	37	-	-	
	DH40	8 - 70	> 6.4 ≤ 12.5	390	510	650	19	-	22	-	-	-	39	-	-	-	26	-	Structural Steel for Ships
			> 12.5 ≤ 20	390	510	650	19	-	22	-	-	-	39	-	-	-	26	-	
			> 20 ≤ 25	390	510	650	19	-	22	-	-	-	39	-	-	-	26	-	
			> 25 ≤ 35	390	510	650	19	-	22	-	-	-	39	-	-	-	26	-	
			> 35 ≤ 50	390	510	650	19	-	22	-	-	-	39	-	-	-	26	-	
			> 50 ≤ 70	390	510	650	19	-	22	-	-	-	46	-	-	-	31	-	
			> 70 ≤ 100	390	510	650	19	-	22	-	-	-	55	-	-	-	37	-	
	EH40	8 - 70	> 6.4 ≤ 12.5	390	510	650	19	-	22	-	-	-	-	39	-	-	-	26	Structural Steel for Ships
			> 12.5 ≤ 20	390	510	650	19	-	22	-	-	-	-	39	-	-	-	26	
			> 20 ≤ 25	390	510	650	19	-	22	-	-	-	-	39	-	-	-	26	
			> 25 ≤ 35	390	510	650	19	-	22	-	-	-	-	39	-	-	-	26	
			> 35 ≤ 50	390	510	650	19	-	22	-	-	-	-	39	-	-	-	26	
			> 50 ≤ 70	390	510	650	19	-	22	-	-	-	-	46	-	-	-	31	
			> 70 ≤ 100	390	510	650	19	-	22	-	-	-	-	55	-	-	-	37	
ASTM A 572	60	6-40	≤ 40	415	520	-	16[M]	-	18[M]	-	-	-	-	-		-	-	-	High Strength Low Alloy Columbium-Vanadium Structural Steel
			> 40	415	520	-	16[M]	-	18[M]	-	-	-	-	-		-	-	-	
	65	6-40	≤ 40	450	550	-	15[a]	-	17[a]	-	-	-	-	-	-	-	-	-	
			> 40	450	550	-	15[a]	-	17[a]	-	-	-	-	-	-	-	-	-	
JIS G 3101	SS - 540	8-40	≤ 5	400	540	-	-	-	16	-	-	-	-	-	-	-	-	-	Hot Rolled Steel for General Structure
			> 5 < 16	400	540	-	13	-	-	-	-	-	-	-	-	-	-	-	
			> 16 < 40	390	540	-	17	-	-	-	-	-	-	-	-	-	-	-	
JIS G 3106	SM 570	8-40	≤ 5	460	570	720	-	-	19	-	-	-	-	-	-	-	-	-	Hot Rolled Steel for Weldable Structure
			> 5 ≤ 16	460	570	720	-	-	19	-	-	47[F]	-	-	-	-	-	-	
			> 16 ≤ 50	450	570	720	-	-	200 up to 20	-	-	47	-	-	-	-	-	-	
			> 50 ≤ 75	430	570	720	-	-	20	-	-	47	-	-	-	-	-	-	
			> 75 ≤ 100	420	570	720	-	-	20	-	-	47	-	-	-	-	-	-	
EN 10025-4:2004	S 420 M	8 - 40	≤ 16	420	520	680	-	-	-	17	55	47	40	-	31	27	20	-	WELDABLE FINE GRAIN STRUCTURAL STEEL
			> 16 ≤ 30	400	520	680	-	-	-	17	55	47	40	-	31	27	20	-	
			> 30 ≤ 40	400	520	680	-	-	-	17	55	47	40	-	31	27	20	-	
			> 40 ≤ 63	390	500	660	-	-	-	17	55	47	40	-	31	27	20	-	
			> 63 ≤ 100	380	480	640	-	-	-	17	55	47	40	-	31	27	20	-	
			> 100 ≤ 150	365	460	620	-	-	-	17	55	47	40	-	31	27	20	-	
	S 420 ML	8 - 40	≤ 16	420	520	680	-	-	-	17	63	55	47	31	40	34	27	20	WELDABLE FINE GRAIN STRUCTURAL STEEL
			> 16 ≤ 30	400	520	680	-	-	-	17	63	55	47	31	40	34	27	20	
			> 30 ≤ 40	400	520	680	-	-	-	17	63	55	47	31	40	34	27	20	
			> 40 ≤ 63	390	500	660	-	-	-	17	63	55	47	31	40	34	27	20	
			> 63 ≤ 100	380	480	640	-	-	-	17	63	55	47	31	40	34	27	20	
			> 100 ≤ 150	365	460	620	-	-	-	17	63	55	47	31	40	34	27	20	
EN 10025-4 (2004)	S 460 M	18- 40	≤ 16	460	540	720	-	-	-	17	55	47	40	-	-	-	-	-	Weldable fine grain structural steel
			> 16 ≤ 30	440	540	720	-	-	-	17	55	47	40	-	-	-	-	-	
			> 30 ≤ 40	430	540	720	-	-	-	17	55	47	40	-	-	-	-	-	
			> 40 ≤ 63	410	540	720	-	-	-	17	55	47	40	-	-	-	-	-	
			> 63 ≤ 100	400	540	720	-	-	-	17	55	47	40	-	-	-	-	-	
			> 100 ≤ 150	380	530	710	-	-	-	17	55	47	40	-	-	-	-	-	
	S 460 ML	18- 40	≤ 16	460	540	720	-	-	-	17	63	55	47	31	-	-	-	-	Weldable fine grain structural steel
			> 16 ≤ 30	440	540	720	-	-	-	17	63	55	47	31	-	-	-	-	
			> 30 ≤ 40	430	540	720	-	-	-	17	63	55	47	31	-	-	-	-	
			> 40 ≤ 63	410	540	720	-	-	-	17	63	55	47	31	-	-	-	-	
			> 63 ≤ 100	400	540	720	-	-	-	17	63	55	47	31	-	-	-	-	
			> 100 ≤ 150	380	530	710	-	-	-	17	63	55	47	31	-	-	-	-	
AS3678 (2016)	400	8- 40	≤ 8	400	480	-	-	-	-	18	-	-	-	-	-	-	-	-	Hot Rolled Steels - Plates
			> 8 ≤ 12	400	480	-	-	-	-	18	-	-	-	-	-	-	-	-	
			> 12 ≤ 20	380	480	-	-	-	-	18	-	-	-	-	-	-	-	-	
			> 20 ≤ 32	360	480	-	-	-	-	18	-	-	-	-	-	-	-	-	
			> 32 ≤ 50	360	480	-	-	-	-	18	-	-	-	-	-	-	-	-	
			> 50 ≤ 80	360	480	-	-	-	-	18	-	-	-	-	-	-	-	-	
			> 80 ≤ 150	-	480	-	-	-	-	18	-	-	-	-	-	-	-	-	
BS 4360 (1986)	55 C	8- 40	≤ 16	450	550	700	17	19	-	19	-	27	-	-	-	-	-	-	Weldable Structural Steels
			> 16 ≤ 40	430	550	700	17	19	-	19	-	27	-	-	-	-	-	-	
			> 40 ≤ 63	430	550	700	17	19	-	19	-	27	-	-	-	-	-	-	
			> 63 ≤ 100	430	550	700	17	19	-	19	-	27	-	-	-	-	-	-	
			> 100 ≤ 150	430	550	700	17	19	-	19	-	27	-	-	-	-	-	-	
	55 EE	8- 40	≤ 16	450	550	700	17	19	-	19	-	-	-	27	-	-	-	-	Weldable Structural Steels
			> 16 ≤ 40	430	550	700	17	19	-	19	-	-	-	27	-	-	-	-	
			> 40 ≤ 63	430	550	700	17	19	-	19	-	-	-	27	-	-	-	-	
			> 63 ≤ 100	430	550	700	17	19	-	19	-	-	-	27	-	-	-	-	
			> 100 ≤ 150	430	550	700	17	19	-	19	-	-	-	27	-	-	-	-	

Pressure Vessel - Mild Steel

SPECIFICATION	GRADE	Prod. Thick (mm)	Thick. Range (mm)	MECHANICAL PROPERTIES																GENERAL PURPOSE
				TENSILE TEST							IMPACT TEST									
				TR							LG				TR					
				YS (N/mm²)	TS (N/mm²)		EL (%)				+20	0	-20	-40	+20	0	-20	-40		
				Min	Min	Max	200	80	50	5.65√So	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG		
ASTM A 285 / ASME SA 285	A	5 - 50	-	165	310	450	27	-	30	-	-	-	-	-		-	-	-		LOW AND INTERMEDIATE TENSILE STRENGTH PRESSURE VESSEL PLATES
	B	5 - 50	-	185	345	485	25	-	28	-	-	-	-	-		-	-	-		
	C	5 - 50	-	205	380	515	23	-	27	-	-	-	-	-		-	-	-		
ASME SA 516	55	5 - 80	≤ 12.5	205	380	515	23	-	27	-	-	-	-	-	-	-	-	-		PRESSURE VESSEL PLATES, CARBON STEEL FOR MODERATE AND LOW TEMPERATURE SERVICE
			> 12.5 ≤ 50	205	380	515	23	-	27	-	-	-	-	-	-	-	-	-		
			> 50 ≤ 100	205	380	515	23	-	27	-	-	-	-	-	-	-	-	-		
			> 100 ≤ 200	205	380	515	23	-	27	-	-	-	-	-	-	-	-	-		
	60	5 - 80	≤ 12.5	220	415	550	21	-	25	-	-	-	-	-	-	-	-	-		
			> 12.5 ≤ 50	220	415	550	21	-	25	-	-	-	-	-	-	-	-	-		
			> 50 ≤ 100	220	415	550	21	-	25	-	-	-	-	-	-	-	-	-		
			> 100 ≤ 200	220	415	550	21	-	25	-	-	-	-	-	-	-	-	-		
EN 10028	P 235 GH	6 - 80	≤ 16	235	360	480	-	-	-	24	40	34	27	-	-	-	-	-		WELDABLE FINE GRAIN STEELS FOR PRESSURE PURPOSES
			> 16 ≤ 40	225	360	480	-	-	-	24	40	34	27	-	-	-	-	-		
			> 40 ≤ 60	215	360	480	-	-	-	24	40	34	27	-	-	-	-	-		
			> 60 ≤ 100	200	360	480	-	-	-	24	40	34	27	-	-	-	-	-		
			> 100 ≤ 150	185	350	480	-	-	-	24	40	34	27	-	-	-	-	-		
			> 150 ≤ 250	170	340	480	-	-	-	24	40	34	27	-	-	-	-	-		
	P 265 GH	6 - 80	≤ 16	265	410	530	-	-	-	22	40	34	27	-	-	-	-	-		WELDABLE FINE GRAIN STEELS FOR PRESSURE PURPOSES
			> 16 ≤ 40	255	410	530	-	-	-	22	40	34	27	-	-	-	-	-		
			> 40 ≤ 60	245	410	530	-	-	-	22	40	34	27	-	-	-	-	-		
			> 60 ≤ 100	215	410	530	-	-	-	22	40	34	27	-	-	-	-	-		
			> 100 ≤ 150	200	400	530	-	-	-	22	40	34	27	-	-	-	-	-		
			> 150 ≤ 250	185	390	530	-	-	-	22	40	34	27	-	-	-	-	-		
EN 10028-3 (2009)	P 275 NH	6 - 80	≤ 16	275	390	510	-	-	-	24	75	65	45	-	50	40	30	-		WELDABLE FINE GRAIN STEELS FOR PRESSURE PURPOSES
			> 16 ≤ 40	265	390	510	-	-	-	24	75	65	45	-	50	40	30	-		
			> 40 ≤ 60	255	390	510	-	-	-	24	-	-	-	-	50	40	30	-		
			> 60 ≤ 100	235	370	490	-	-	-	23	-	-	-	-	50	40	30	-		
	P 275 NL1	6 - 80	≤ 16	275	390	510	-	-	-	24	80	70	50	40	60	50	35	27		WELDABLE FINE GRAIN STEELS FOR PRESSURE PURPOSES
			> 16 ≤ 40	265	390	510	-	-	-	24	80	70	50	40	60	50	35	27		
			> 40 ≤ 60	255	390	510	-	-	-	24	-	-	-	-	60	50	35	27		
			> 60 ≤ 100	235	370	490	-	-	-	23	-	-	-	-	60	50	35	27		

Pressure Vessel - High Strength Steel (Yield Strength ± 320 - 400 Mpa)

SPECIFICATION	GRADE	Prod. Thick (mm)	Thick. Range (mm)	MECHANICAL PROPERTIES																GENERAL PURPOSE
				TENSILE TEST							IMPACT TEST									
				TR							LG				TR					
				YS (N/mm²)	TS (N/mm²)		EL (%)				+20	0	-20	-40	+20	0	-20	-40		
				Min	Min	Max	200	80	50	5.65√So	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG		
ASME SA 537	Class 1	8 - 60	≤40	345	485	620	18	-	22	-	-	-	-	-	-	-	-	-		PRESSURE VESSEL PLATES, HEAT TREATED, CARBON-MANGANESE-SILICON STEEL
			>40 ≤65	345	485	620	18	-	22	-	-	-	-	-	-	-	-	-		
			>65 ≤100	310	450	585	18	-	22	-	-	-	-	-	-	-	-	-		
ASME SA 516 / ASTM A 516	65	6 - 80	≤ 12.5	240	450	585	19	-	23	-	-	-	-	-	-	-	-	-		PRESSURE VESSEL PLATES, CARBON STEEL FOR MODERATE AND LOW TEMPERATURE SERVICE
			> 12.5 ≤ 50	240	450	585	19	-	23	-	-	-	-	-	-	-	-	-		
			> 50 ≤ 100	240	450	585	19	-	23	-	-	-	-	-	-	-	-	-		
			> 100 ≤ 200	240	450	585	19	-	23	-	-	-	-	-	-	-	-	-		
	70	7 - 80	≤ 12.5	260	485	620	17	-	21	-	-	-	-	-	-	-	-	-		
			> 12.5 ≤ 50	260	485	620	17	-	21	-	-	-	-	-	-	-	-	-		
			> 50 ≤ 100	260	485	620	17	-	21	-	-	-	-	-	-	-	-	-		
			> 100 ≤ 200	260	485	620	17	-	21	-	-	-	-	-	-	-	-	-		
EN 10028-2 (2003)	P 295 GH	6 - 80	≤ 16	295	460	580	-	-	-	21	-	-	-	-	-	-	-	40		NON ALLOY STEELS WITH SPECIFIED ELEVATED TEMPERATURE PROPERTIES
			> 16 ≤ 40	290	460	580	-	-	-	21	-	-	-	-	-	-	-	40		
			> 40 ≤ 60	285	460	580	-	-	-	21	-	-	-	-	-	-	-	40		
			> 60 ≤ 100	260	460	580	-	-	-	21	-	-	-	-	-	-	-	40		
			> 100 ≤ 150	235	440	570	-	-	-	21	-	-	-	-	-	-	-	40		
			> 150 ≤ 250	220	430	570	-	-	-	21	-	-	-	-	-	-	-	40		
	P 355 GH	6 - 80	≤ 16	355	510	650	-	-	-	20	40	34	27	-	-	-	-	-		NON ALLOY STEELS WITH SPECIFIED ELEVATED TEMPERATURE PROPERTIES
			> 16 ≤ 40	345	510	650	-	-	-	20	40	34	27	-	-	-	-	-		
			> 40 ≤ 60	335	510	650	-	-	-	20	40	34	27	-	-	-	-	-		
			> 60 ≤ 100	315	490	630	-	-	-	20	40	34	27	-	-	-	-	-		
EN 10028-3 (2009)	P 355 N	8 - 80	≤ 16	355	490	630	-	-	-	22	75	65	45	-	50	40	30	-		WELDABLE FINE GRAIN STEELS FOR PRESSURE PURPOSES
			> 16 ≤ 40	345	490	630	-	-	-	22	75	65	45	-	50	40	30	-		
			> 40 ≤ 60	335	490	630	-	-	-	22	-	-	-	-	50	40	30	-		
			> 60 ≤ 100	315	470	610	-	-	-	21	-	-	-	-	50	40	30	-		
	P 355 NH	8 - 80	≤ 16	355	490	630	-	-	-	22	75	65	45	-	50	40	30	-		WELDABLE FINE GRAIN STEELS FOR PRESSURE PURPOSES
			> 16 ≤ 40	345	490	630	-	-	-	22	75	65	45	-	50	40	30	-		
			> 40 ≤ 60	335	490	630	-	-	-	22	-	-	-	-	50	40	30	-		
			> 60 ≤ 100	315	470	610	-	-	-	21	-	-	-	-	50	40	30	-		
	P 355 NL1	8 - 80	≤ 16	355	490	630	-	-	-	22	80	70	50	40	60	50	35	27		WELDABLE FINE GRAIN STEELS FOR PRESSURE PURPOSES
			> 16 ≤ 40	345	490	630	-	-	-	22	80	70	50	40	60	50	35	27		
			> 40 ≤ 60	335	490	630	-	-	-	22	-	-	-	-	60	50	35	27		
			> 60 ≤ 100	315	470	610	-	-	-	21	-	-	-	-	60	50	35	27		
EN 10028-5 (2009)	P 355 M	8 - 63	≤ 16	355	450	610	-	-	-	22	-	-	-	-	60	40	27	-		WELDABLE FINE GRAIN STEELS FOR PRESSURE PURPOSES
			> 16 ≤ 40	355	450	610	-	-	-	22	-	-	-	-	60	40	27	-		
			> 40 ≤ 63	345	450	610	-	-	-	22	-	-	-	-	60	40	27	-		
	P 355 ML1	8 - 63	≤ 16	355	450	610	-	-	-	22	-	-	-	-	-	60	40	27		WELDABLE FINE GRAIN STEELS FOR PRESSURE PURPOSES
			> 16 ≤ 40	355	450	610	-	-	-	22	-	-	-	-	-	60	40	27		
			> 40 ≤ 63	345	450	610	-	-	-	22	-	-	-	-	-	60	40	27		

Pressure Vessel - High Strength Steel (Yield Strength ± 400 - 500 Mpa)

SPECIFICATION	GRADE	Prod. Thick (mm)	Thick. Range (mm)	MECHANICAL PROPERTIES															GENERAL PURPOSE
				TENSILE TEST							IMPACT TEST								
				TR							LG				TR				
				YS (N/mm²)	TS (N/mm²)		EL (%)				+20	0	-20	-40	+20	0	-20	-40	
				Min	Min	Max	200	80	50	5.65√So	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	
EN 10028-5 (2009)	P 420 M	8 - 63	≤ 16	420	500	660	-	-	-	19	-	-	-	-	60	40	27	-	WELDABLE FINE GRAIN STEELS FOR PRESSURE PURPOSES
			> 16 ≤ 40	400	500	660	-	-	-	19	-	-	-	-	-	-	-	-	
			> 40 ≤ 63	390	500	660	-	-	-	19	-	-	-	-	-	-	-	-	
	P 420 ML1	8 - 63	≤ 16	420	500	660	-	-	-	19	-	-	-	-	-	60	40	27	WELDABLE FINE GRAIN STEELS FOR PRESSURE PURPOSES
			> 16 ≤ 40	400	500	660	-	-	-	19	-	-	-	-	-	-	-	-	
			> 40 ≤ 63	390	500	660	-	-	-	19	-	-	-	-	-	-	-	-	
	P 460 M	8 - 40	≤ 16	460	530	720	-	-	-	17	-	-	-	-	60	40	27	-	WELDABLE FINE GRAIN STEELS FOR PRESSURE PURPOSES
			> 16 ≤ 40	440	530	720	-	-	-	17	-	-	-	-	-	-	-	-	
	P 460 ML1	8 - 40	≤ 16	460	530	720	-	-	-	17	-	-	-	-	-	60	40	27	WELDABLE FINE GRAIN STEELS FOR PRESSURE PURPOSES
			> 16 ≤ 40	440	530	720	-	-	-	17	-	-	-	-	-	-	-	-	

Line Pipe Steel - High Strength Steel (Yield Strength ± 320 - 400 Mpa)

SPECIFICATION	GRADE	Prod. Thick (mm)	Thick. Range (mm)	MECHANICAL PROPERTIES															GENERAL PURPOSE
				TENSILE TEST							IMPACT TEST								
				TR							LG				TR				
				YS (N/mm²)	TS (N/mm²)		EL (%)				+20	0	-20	-40	+20	0	-20	-40	
				Min	Min	Max	200	80	50	5.65√So	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	
API 5L PSL 1 Welded Pipe	X 46	8 - 25	≤ 25	320 - 525	4357	60	----				-4	0-		----				-	LINE PIPE STEEL
	X 52	8 - 25	≤ 25	360 - 530	4607	60	----				-4	0-		----				-	
	X 56	8 - 25	≤ 25	390 - 545	4907	60	----				-4	0-		----				-	
API 5L PSL 2 Welded Pipe	X 46M	8 - 25	≤ 25	320 - 525	4357	60	----				-4	0-		----				-	LINE PIPE STEEL
	X 52M	8 - 25	≤ 25	360 - 530	4607	60	----				-4	0-		----				-	
	X 56M	8 - 25	≤ 25	390 - 545	4907	60	----				-4	0-		----				-	

Line Pipe Steel - High Strength Steel (Yield Strength ± 400 - 500 Mpa)

SPECIFICATION	GRADE	Prod. Thick (mm)	Thick. Range (mm)	MECHANICAL PROPERTIES															GENERAL PURPOSE
				TENSILE TEST							IMPACT TEST								
				TR							LG				TR				
				YS (N/mm²)	TS (N/mm²)		EL (%)				+20	0	-20	-40	+20	0	-20	-40	
				Min	Min	Max	200	80	50	5.65√So	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	
API 5L PSL 1	X 60	8 - 25	≤ 25	415 - 565	5207	60	----				-4	0-						-	PIPELINE STEEL
	X 65	8 - 25	≤ 25	450 - 600	5357	60	----				-4	0-						-	
	X 70	8 - 25	≤ 25	485 - 635	5707	60	----				-4	0-						-	
API 5L PSL 2	X 60MB	- 25	≤ 25	415 - 565	5207	60	----				-4	0-						-	PIPELINE STEEL
	X 65MB	- 25	≤ 25	450 - 600	5357	60	----				-4	0-						-	
	X 70MB	- 25	≤ 25	485 - 635	5707	60	----				-4	0-						-	

Weather Resistant Steel - Mild Steel

SPECIFICATION	GRADE	Prod. Thick (mm)	Thick. Range (mm)	MECHANICAL PROPERTIES															GENERAL PURPOSE
				TENSILE TEST							IMPACT TEST								
				TR							LG				TR				
				YS (N/mm²)	TS (N/mm²)		EL (%)				+20	0	-20	-40	+20	0	-20	-40	
				Min	Min	Max	200	80	50	5.65√So	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	
JIS 3114:2008	SMA400AW	6-150	≤5	245	400	540	-	22	-	-	-	-	-	-	-	-	-	-	HOT ROLLED ATMOSPHERIC CORROSION RESISTING STEELS FOR WELDED STRUCTURE
			>5 ≤16	245	400	540	17	-	-	-	-	-	-	-	-	-	-	-	
			>16 ≤40	235	400	540	21	-	-	-	-	-	-	-	-	-	-	-	
			>40 ≤50	215	400	540	21	-	-	-	-	-	-	-	-	-	-	-	
			>50 ≤75	215	400	540	-	23	-	-	-	-	-	-	-	-	-	-	
			>75 ≤100	215	400	540	-	23	-	-	-	-	-	-	-	-	-	-	
			>100 ≤150	205	400	540	-	23	-	-	-	-	-	-	-	-	-	-	
	SMA400AP	6-150	≤5	245	400	540	-	22	-	-	-	-	-	-	-	-	-	-	
			>5 ≤16	245	400	540	17	-	-	-	-	-	-	-	-	-	-	-	
			>16 ≤40	235	400	540	21	-	-	-	-	-	-	-	-	-	-	-	
			>40 ≤50	215	400	540	21	-	-	-	-	-	-	-	-	-	-	-	
			>50 ≤75	215	400	540	-	23	-	-	-	-	-	-	-	-	-	-	
			>75 ≤100	215	400	540	-	23	-	-	-	-	-	-	-	-	-	-	
			>100 ≤150	205	400	540	-	23	-	-	-	-	-	-	-	-	-	-	
	SMA400BW	6-150	≤5	245	400	540	-	22	-	-	-	27	-	-	-	-	-	-	
			>5 ≤16	245	400	540	17	-	-	-	-	27	-	-	-	-	-	-	
			>16 ≤40	235	400	540	21	-	-	-	-	27	-	-	-	-	-	-	
			>40 ≤50	215	400	540	21	-	-	-	-	27	-	-	-	-	-	-	
			>50 ≤75	215	400	540	-	23	-	-	-	27	-	-	-	-	-	-	
			>75 ≤100	215	400	540	-	23	-	-	-	27	-	-	-	-	-	-	
			>100 ≤150	205	400	540	-	23	-	-	-	27	-	-	-	-	-	-	
	SMA400BP	6-150	≤5	245	400	540	-	22	-	-	-	27	-	-	-	-	-	-	
			>5 ≤16	245	400	540	17	-	-	-	-	27	-	-	-	-	-	-	
			>16 ≤40	235	400	540	21	-	-	-	-	27	-	-	-	-	-	-	
			>40 ≤50	215	400	540	21	-	-	-	-	27	-	-	-	-	-	-	
			>50 ≤75	215	400	540	-	23	-	-	-	27	-	-	-	-	-	-	
			>75 ≤100	215	400	540	-	23	-	-	-	27	-	-	-	-	-	-	
			>100 ≤150	205	400	540	-	23	-	-	-	27	-	-	-	-	-	-	
	SMA400CW	6-150	≤5	245	400	540	-	22	-	-	-	47	-	-	-	-	-	-	
			>5 ≤16	245	400	540	17	-	-	-	-	47	-	-	-	-	-	-	
			>16 ≤40	235	400	540	21	-	-	-	-	47	-	-	-	-	-	-	
			>40 ≤50	215	400	540	21	-	-	-	-	47	-	-	-	-	-	-	
			>50 ≤75	215	400	540	-	23	-	-	-	47	-	-	-	-	-	-	
			>75 ≤100	215	400	540	-	23	-	-	-	47	-	-	-	-	-	-	
	SMA400CP	6-150	≤5	245	400	540	-	22	-	-	-	47	-	-	-	-	-	-	
			>5 ≤16	245	400	540	17	-	-	-	-	47	-	-	-	-	-	-	
			>16 ≤40	235	400	540	21	-	-	-	-	47	-	-	-	-	-	-	
			>40 ≤50	215	400	540	21	-	-	-	-	47	-	-	-	-	-	-	
			>50 ≤75	215	400	540	-	23	-	-	-	47	-	-	-	-	-	-	
			>75 ≤100	215	400	540	-	23	-	-	-	47	-	-	-	-	-	-	

Weather Resistant Steel - High Strength Steel

SPECIFICATION	GRADE	Prod. Thick (mm)	Thick. Range (mm)	MECHANICAL PROPERTIES															GENERAL PURPOSE
				TENSILE TEST							IMPACT TEST								
				TR							LG				TR				
				YS (N/mm²)	TS (N/mm²)		EL (%)				+20	0	-20	-40	+20	0	-20	-40	
				Min	Min	Max	200	80	50	5.65√So	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	
ASTM A588	Gr. A	8 - 120	≤100	345	485	-	18	-	21	-	-	-	-	-	-	-	-	-	HIGH STRENGTH LOW-ALLOY STRUCTURAL STEEL WITH ATMOSPHERIC CORROSION RESISTANCE
			>100 ≤125	315	460	-	-	-	21	-	-	-	-	-	-	-	-	-	
			>125 ≤150	290	435	-	-	-	21	-	-	-	-	-	-	-	-	-	
	Gr. B	8 - 120	≤100	345	485	-	18	-	21	-	-	-	-	-	-	-	-	-	
			>100 ≤125	315	460	-	-	-	21	-	-	-	-	-	-	-	-	-	
			>125 ≤150	290	435	-	-	-	21	-	-	-	-	-	-	-	-	-	
	Gr. K	8 - 120	≤100	345	485	-	18	-	21	-	-	-	-	-	-	-	-	-	
			>100 ≤125	315	460	-	-	-	21	-	-	-	-	-	-	-	-	-	
			>125 ≤150	290	435	-	-	-	21	-	-	-	-	-	-	-	-	-	
JIS 3114:2008	SMA490AW	8 - 120	≤5	365	490	610	-	19	-	-	-	-	-	-	-	-	-	-	HOT ROLLED ATMOSPHERIC CORROSION RESISTING STEELS FOR WELDED STRUCTURE
			>5 ≤16	365	490	610	15	-	-	-	-	-	-	-	-	-	-	-	
			>16 ≤40	355	490	610	15	-	-	-	-	-	-	-	-	-	-	-	
			>40 ≤50	335	490	610	19	-	-	-	-	-	-	-	-	-	-	-	
			>50 ≤75	335	490	610	19	-	-	-	-	-	-	-	-	-	-	-	
			>75 ≤100	325	490	610	-	21	-	-	-	-	-	-	-	-	-	-	
			>100 ≤150	305	490	610	-	21	-	-	-	-	-	-	-	-	-	-	
	SMA490AP	8-120	≤5	365	490	610	-	19	-	-	-	-	-	-	-	-	-	-	HOT ROLLED ATMOSPHERIC CORROSION RESISTING STEELS FOR WELDED STRUCTURE
			>5 ≤16	365	490	610	15	-	-	-	-	-	-	-	-	-	-	-	
			>16 ≤40	355	490	610	15	-	-	-	-	-	-	-	-	-	-	-	
			>40 ≤50	335	490	610	19	-	-	-	-	-	-	-	-	-	-	-	
			>50 ≤75	335	490	610	19	-	-	-	-	-	-	-	-	-	-	-	
			>75 ≤100	325	490	610	-	21	-	-	-	-	-	-	-	-	-	-	
			>100 ≤150	305	490	610	-	21	-	-	-	-	-	-	-	-	-	-	
	SMA490BW	8-120	≤5	365	490	610	-	19	-	-	-	27	-	-	-	-	-	-	HOT ROLLED ATMOSPHERIC CORROSION RESISTING STEELS FOR WELDED STRUCTURE
			>5 ≤16	365	490	610	15	-	-	-	-	27	-	-	-	-	-	-	
			>16 ≤40	355	490	610	15	-	-	-	-	27	-	-	-	-	-	-	
			>40 ≤50	335	490	610	19	-	-	-	-	27	-	-	-	-	-	-	
			>50 ≤75	335	490	610	19	-	-	-	-	27	-	-	-	-	-	-	
			>75 ≤100	325	490	610	-	21	-	-	-	27	-	-	-	-	-	-	
			>100 ≤150	305	490	610	-	21	-	-	-	27	-	-	-	-	-	-	
	SMA490BP	8-120	≤5	365	490	610	-	19	-	-	-	27	-	-	-	-	-	-	HOT ROLLED ATMOSPHERIC CORROSION RESISTING STEELS FOR WELDED STRUCTURE
			>5 ≤16	365	490	610	15	-	-	-	-	27	-	-	-	-	-	-	
			>16 ≤40	355	490	610	15	-	-	-	-	27	-	-	-	-	-	-	
			>40 ≤50	335	490	610	19	-	-	-	-	27	-	-	-	-	-	-	
			>50 ≤75	335	490	610	19	-	-	-	-	27	-	-	-	-	-	-	
			>75 ≤100	325	490	610	-	21	-	-	-	27	-	-	-	-	-	-	
			>100 ≤150	305	490	610	-	21	-	-	-	27	-	-	-	-	-	-	
	SMA490CW	8-120	≤5	365	490	610	-	19	-	-	-	47	-	-	-	-	-	-	HOT ROLLED ATMOSPHERIC CORROSION RESISTING STEELS FOR WELDED STRUCTURE
			>5 ≤16	365	490	610	15	-	-	-	-	47	-	-	-	-	-	-	
			>16 ≤40	355	490	610	15	-	-	-	-	47	-	-	-	-	-	-	
			>40 ≤50	335	490	610	19	-	-	-	-	47	-	-	-	-	-	-	
			>50 ≤75	335	490	610	19	-	-	-	-	47	-	-	-	-	-	-	
			>75 ≤100	325	490	610	-	21	-	-	-	47	-	-	-	-	-	-	
	SMA490CP	8-120	≤5	365	490	610	-	19	-	-	-	47	-	-	-	-	-	-	HOT ROLLED ATMOSPHERIC CORROSION RESISTING STEELS FOR WELDED STRUCTURE
			>5 ≤16	365	490	610	15	-	-	-	-	47	-	-	-	-	-	-	
			>16 ≤40	355	490	610	15	-	-	-	-	47	-	-	-	-	-	-	
			>40 ≤50	335	490	610	19	-	-	-	-	47	-	-	-	-	-	-	
			>50 ≤75	335	490	610	19	-	-	-	-	47	-	-	-	-	-	-	
			>75 ≤100	325	490	610	-	21	-	-	-	47	-	-	-	-	-	-	
EN 10025-5:2004	S 355 J0W	8 - 120	< 3	355	510	680	-	16	-	-	-	27	-	-	-	-	-	-	STRUCTURAL STEELS WITH IMPROVED ATMOSPHERIC CORROSION RESISTANCE
			≥ 3 ≤ 16	355	470	630	-	-	-	20	-	27	-	-	-	-	-	-	
			> 16 ≤ 40	345	470	630	-	-	-	20	-	27	-	-	-	-	-	-	
			> 40 ≤ 63	335	470	630	-	-	-	19	-	27	-	-	-	-	-	-	
			> 63 ≤ 80	325	470	630	-	-	-	18	-	27	-	-	-	-	-	-	
			> 80 ≤ 100	315	470	630	-	-	-	18	-	27	-	-	-	-	-	-	
			> 100 ≤ 150	295	450	600	-	-	-	18	-	27	-	-	-	-	-	-	
	S 355 J2W	8 - 120	< 3	355	510	680	-	16	-	-	-	-	27	-	-	-	-	-	STRUCTURAL STEELS WITH IMPROVED ATMOSPHERIC CORROSION RESISTANCE
			≥ 3 ≤ 16	355	470	630	-	-	-	20	-	-	27	-	-	-	-	-	
			> 16 ≤ 40	345	470	630	-	-	-	20	-	-	27	-	-	-	-	-	
			> 40 ≤ 63	335	470	630	-	-	-	19	-	-	27	-	-	-	-	-	
			> 63 ≤ 80	325	470	630	-	-	-	18	-	-	27	-	-	-	-	-	
			> 80 ≤ 100	315	470	630	-	-	-	18	-	-	27	-	-	-	-	-	
			> 100 ≤ 150	295	450	600	-	-	-	18	-	-	27	-	-	-	-	-	
	S 355 K2W	8 - 120	< 3	355	510	680	-	16	-	-	-	-	40	-	-	-	-	-	STRUCTURAL STEELS WITH IMPROVED ATMOSPHERIC CORROSION RESISTANCE
			≥ 3 ≤ 16	355	470	630	-	-	-	20	-	-	40	-	-	-	-	-	
			> 16 ≤ 40	345	470	630	-	-	-	20	-	-	40	-	-	-	-	-	
			> 40 ≤ 63	335	470	630	-	-	-	19	-	-	40	-	-	-	-	-	
			> 63 ≤ 80	325	470	630	-	-	-	18	-	-	40	-	-	-	-	-	
			> 80 ≤ 100	315	470	630	-	-	-	18	-	-	40	-	-	-	-	-	
			> 100 ≤ 150	295	450	600	-	-	-	18	-	-	40	-	-	-	-	-	
AS/NZS 3678 (2016)	WR350	6 - 80	≤ 8	340	450	-	-	-	-	20	-	-	-	-	-	-	-	-	STRUCTURAL STEELS WITH IMPROVED ATMOSPHERIC CORROSION RESISTANCE
			> 8 ≤ 12	340	450	-	-	-	-	20	-	-	-	-	-	-	-	-	
			> 12 ≤ 20	340	450	-	-	-	-	20	-	-	-	-	-	-	-	-	
			> 20 ≤ 32	340	450	-	-	-	-	20	-	-	-	-	-	-	-	-	
			> 32 ≤ 50	340	450	-	-	-	-	20	-	-	-	-	-	-	-	-	
			> 50 ≤ 80	340	450	-	-	-	-	20	-	-	-	-	-	-	-	-	
			> 80 ≤ 150	-	450	-	-	-	-	20	-	-	-	-	-	-	-	-	

Ship Building Quality

SPEC.	GRADE	Prod. Thick. (mm)	THick. Range (mm)	MECHANICAL PROPERTIES																					GENERAL PURPOSE
				TENSILE TEST														IMPACT TEST							
				LG							TR							LG				TR			
				YS (N/mm²)	TS (N/mm²)		EL (%)				YS (N/mm²)	TS (N/mm²)		EL (%)				+20	0	-20	-40	+20	0	-20	-40
				Min	Min	Max	200	80	50	5.65√So	Min	Min	Max	200	80	50	5.65√So	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG
A. B. S.	A	5-70	-70	-	-	-	-	-	-	-	235	400	520	-	-	-	22	-	-	-	-	-	-	-	-	Structural Steel for Ships
	B	5-70	-70	-	-	-	-	-	-	-	235	400	520	-	-	-	22	-	27[A]	-	-	-	20	-	-	
	D	5-70	-70	-	-	-	-	-	-	-	235	400	520	-	-	-	22	-	-	27	-	-	-	20	-	
	E	5-70	-70	-	-	-	-	-	-	-	235	400	520	-	-	-	22	-	-	-	27	-	-	-	20	
	AH32	8 - 70	-70	-	-	-	-	-	-	-	315	440	570	-	-	-	22	-	31	-	-	-	22	-	-	
	DH32	8 - 70	-70	-	-	-	-	-	-	-	315	440	570	-	-	-	22	-	-	31	-	-	-	22	-	
	EH32	8 - 70	-70	-	-	-	-	-	-	-	315	440	570	-	-	-	22	-	-	-	31	-	-	-	22	
	AH36	8 - 70	-70	-	-	-	-	-	-	-	355	490	620	-	-	-	21	-	34	-	-	-	24	-	-	
	DH36	8 - 70	-70	-	-	-	-	-	-	-	355	490	620	-	-	-	21	-	-	34	-	-	-	24	-	
	EH36	8 - 70	-70	-	-	-	-	-	-	-	355	490	620	-	-	-	21	-	-	-	34	-	-	-	24	
	AH40	8 - 70	-70	-	-	-	-	-	-	-	390	510	650	-	-	-	20	-	39	-	-	-	26	-	-	
	DH40	8 - 70	-70	-	-	-	-	-	-	-	390	510	650	-	-	-	20	-	-	39	-	-	-	26	-	
	EH40	8 - 70	-70	-	-	-	-	-	-	-	390	510	650	-	-	-	20	-	-	-	39	-	-	-	26	
ACharpy V-notch IMPact test tidak diberlukan untuk ketebalan < 25 mm																									
Untuk A/B Grade A/B/D/E dan AH/DH/EH 32/36/40 bisa supply dengan Z35 dengan maksimum tabal 70 mm																									
B. K. I.	A	5 - 70	≤50	-	-	-	-	-	-	-	235	400	520	-	-	-	22	-	-	-	-	-	-	-	-	Structural Steel for Ships
	B	6 - 70	≤50	-	-	-	-	-	-	-	235	400	520	-	-	-	22	-	27[B]	-	-	-	20	-	-	
			>50 ≤60	-	-	-	-	-	-	-	235	400	520	-	-	-	22	-	27[B]	-	-	-	20	-	-	
	D	6 - 70	≤35	-	-	-	-	-	-	-	235	400	520	-	-	-	22	-	-	27	-	-	-	20	-	
			>35 ≤60	-	-	-	-	-	-	-	235	400	520	-	-	-	22	-	-	27	-	-	-	20	-	
	E	6 - 70	≤60	-	-	-	-	-	-	-	235	400	520	-	-	-	22	-	-	-	27	-	-	-	20	
	A32	8 - 70	≤60	-	-	-	-	-	-	-	315	440	570	-	-	-	22	-	31	-	-	-	22	-	-	
	D32	8 - 70	≤60	-	-	-	-	-	-	-	315	440	570	-	-	-	22	-	-	31	-	-	-	22	-	
	E32	8 - 70	≤60	-	-	-	-	-	-	-	315	440	570	-	-	-	22	-	-	-	31	-	-	-	22	
	A36	8 - 70	≤60	-	-	-	-	-	-	-	355	490	630	-	-	-	21	-	34	-	-	-	24	-	-	
	D36	8 - 70	≤60	-	-	-	-	-	-	-	355	490	630	-	-	-	21	-	-	34	-	-	-	24	-	
	E36	8 - 70	≤60	-	-	-	-	-	-	-	355	490	630	-	-	-	21	-	-	-	34	-	-	-	24	
	A40	8 - 70	≤60	-	-	-	-	-	-	-	390	510	660	-	-	-	20	-	39	-	-	-	26	-	-	
	D40	8 - 70	≤60	-	-	-	-	-	-	-	390	510	660	-	-	-	20	-	-	39	-	-	-	26	-	
	E40	8 - 70	≤60	-	-	-	-	-	-	-	390	510	660	-	-	-	20	-	-	-	39	-	-	-	26	
BCharpy V-notch IMPact test umumnya tidak diperlukan untuk ketebalan < 25 mm Untuk BKI Grade E dan E 40 bisa supply dengan Z35 dengan maksimum tabal 70 mm.																									
B. V.	A	8 - 50	8 - 50	-	-	-	-	-	-	-	235	400	520	-	-	-	22	-	-	-	-	-	-	-	-	Structural Steel for Ships
	B	8 - 50	8 - 50	-	-	-	-	-	-	-	235	400	520	-	-	-	22	-	27[A]	-	-	-	20	-	-	
	D	8 - 35	8 - 35	-	-	-	-	-	-	-	235	400	520	-	-	-	22	-	-	27	-	-	-	20	-	
	AH36	8 - 50	8 - 50	-	-	-	-	-	-	-	355	490	630	-	-	-	21	-	34	-	-	-	24	-	-	
	DH36	8 - 50	8 - 50	-	-	-	-	-	-	-	355	490	630	-	-	-	21	-	-	34	-	-	-	24	-	
	EH36	8 - 50	8 - 50	-	-	-	-	-	-	-	355	490	630	-	-	-	21	-	-	-	34	-	-	-	24	
	AH40	8 - 32	8 - 30	-	-	-	-	-	-	-	390	510	660	-	-	-	20	-	39	-	-	-	26	-	-	
	DH40	8 - 32	8 - 30	-	-	-	-	-	-	-	390	510	660	-	-	-	20	-	-	39	-	-	-	26	-	
	EH40	8 - 32	8 - 30	-	-	-	-	-	-	-	390	510	660	-	-	-	20	-	-	-	39	-	-	-	26	
CCharpy V-notch IMPact test umumnya tidak diperlukan untuk ketebalan < 35 mm																									
D. N. V. G.L	A	8 - 50	8 - 50	-	-	-	-	-	-	-	235	400	520	-	-	-	22	-	-	-	-	-	-	-	-	Structural Steel for Ships
	B	8 - 50	8 - 50	-	-	-	-	-	-	-	235	400	520	-	-	-	22	-	27[A]	-	-	-	20	-	-	
	D	8 - 35	8 - 50	-	-	-	-	-	-	-	235	400	520	-	-	-	22	-	-	27	-	-	-	20	-	
	AH36	8 - 50	8 - 50	-	-	-	-	-	-	-	355	490	620	-	-	-	21	-	34	-	-	-	24	-	-	
	DH36	8 - 50	8 - 50	-	-	-	-	-	-	-	355	490	620	-	-	-	21	-	-	34	-	-	-	24	-	
	EH36	8 - 50	8 - 50	-	-	-	-	-	-	-	355	490	620	-	-	-	21	-	-	-	34	-	-	-	24	
	AH40	8 - 30	8 - 30	-	-	-	-	-	-	-	390	510	650	-	-	-	20	-	41	-	-	-	27	-	-	
	DH40	8 - 30	8 - 30	-	-	-	-	-	-	-	390	510	650	-	-	-	20	-	-	41	-	-	-	27	-	
	EH40	8 - 30	8 - 30	-	-	-	-	-	-	-	390	510	650	-	-	-	20	-	-	-	41	-	-	-	27	
DCharpy V-notch IMPact test umumnya tidak diperlukan untuk ketebalan < 25 mm Untuk DNVGL grade A & B product Coil & Strip bisa supply Z35 dengan maksimum tabal 16mm.																									
L.R.	A	-50	-50	-	-	-	-	-	-	-	235	400	520	-	-	-	22	27[J]	-	-	-	-	-	-	-	Structural Steel for Ships
	B	5 -50	-50	-	-	-	-	-	-	-	235	400	520	-	-	-	22	-	27[J]	-	-	-	-	-	-	
	AH36	8 - 50	-50	-	-	-	-	-	-	-	355	490	620	-	-	-	21	-	34	-	-	-	-	-	-	
	DH36	8 - 50	-50	-	-	-	-	-	-	-	355	490	620	-	-	-	21	-	-	34	-	-	-	-	-	
	EH36	8 - 50	-50	-	-	-	-	-	-	-	355	490	620	-	-	-	21	-	-	-	34	-	-	-	-	
	AH40	8 - 50	-50	-	-	-	-	-	-	-	355	510	650	-	-	-	20	-	39	-	-	-	-	-	-	
	DH40	8 - 50	-50	-	-	-	-	-	-	-	390	510	650	-	-	-	20	-	-	39	-	-	-	-	-	
	EH40	8 - 50	-50	-	-	-	-	-	-	-	390	510	650	-	-	-	20	-	-	-	39	-	-	-	-	
	360 AR	5 - 40	-40	-	-	-	-	-	-	-	190	360	480	-	-	-	24	-	-	-	-	-	-	-	-	Boiler (MS)
	410 AR	5 - 40	-40	-	-	-	-	-	-	-	215	410	530	-	-	-	22	-	-	-	-	-	-	-	-	
ECharpy V-notch IMPact test tidak diperlukan untuk ketebalan < 50 mm																									
N.K	A	-50	-50	-	-	-	-	-	-	-	235	400	520	-	-	-	22	-	-	-	-	-	-	-	-	Structural Steel for Ships
	B	-50	-50	-	-	-	-	-	-	-	235	400	520	-	-	-	22	-	27[K]	-	-	-	20	-	-	
	D	-50	≤35	-	-	-	-	-	-	-	235	400	520	-	-	-	22	-	-	27	-	-	-	20	-	
			>35 ≤50	-	-	-	-	-	-	-	235	400	520	-	-	-	22	-	-	27	-	-	-	20	-	
	AH32	8-50	8-50	-	-	-	-	-	-	-	355	490	620	-	-	-	21	-	31	-	-	-	22	-	-	
	DH32	8-50	8-50	-	-	-	-	-	-	-	355	490	620	-	-	-	21	-	-	31	-	-	-	22	-	
	AH36	8-50	8-50	-	-	-	-	-	-	-	355	490	620	-	-	-	21	-	34	-	-	-	24	-	-	
	DH36	8-50	8-50	-	-	-	-	-	-	-	355	490	620	-	-	-	21	-	-	34	-	-	-	24	-	

High Strength Low Alloy

Specification	Grade	Product Thickness (mm)	Mechanical Properties						Application	Remarks
			Thickness Range (mm)	Tensile Test (TR)			Bend Test	Impact Test (LG)		
				YS min. (N/mm²)	UTS (N/mm²)	E min. (%)		LG (Average Temp.)	TR (Average Temp.)	
AS/NZS 3678 ACRS Certificate No. 171202	350	8 - 100	≥ 8 ≤ 12	360	450 min	20 (5.65√So)	-	-	-	STRUCTURAL STEEL HOT ROLLED PLATES, FLOORPLATES AND SLABS
			> 12 ≤ 20	350	450 min	20 (5.65√So)				
			> 20 ≤ 32	340	450 min	20 (5.65√So)				
			> 32 ≤ 50	340	450 min	20 (5.65√So)				
			> 50 ≤ 80	340	450 min	20 (5.65√So)				
			> 80 ≤ 100	330	450 min	20 (5.65√So)				
	400	8 - 32	≥ 8 ≤ 12	400	480 min	18 (5.65√So)				
			> 12 ≤ 20	380	480 min	18 (5.65√So)				
			> 20 ≤ 32	360	480 min	18 (5.65√So)				

Offshore Structure - Mild Steel

SPECIFICATION	GRADE	Prod. Thick (mm)	Thick. Range (mm)	MECHANICAL PROPERTIES															GENERAL PURPOSE
				TENSILE TEST							IMPACT TEST								
				TR							LG				TR				
				YS (N/mm²)	TS (N/mm²)		EL (%)				+20	0	-20	-40	+20	0	-20	-40	
				Min	Min	Max	200	80	50	5.65√So	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	
API 2H	42	8 - 80	≤ 63.5	289	427	565	18	-	22	-	-	-	-	-	-	-	-	34	NORMALIZED PLATE FOR OFFSHORE STRUCTURE
		8 - 80	> 63.5	289	427	565	18	-	22	-	-	-	-	-	-	-	-	34	

Offshore Structure - High Strength Steel (Yield Strength ± 320 - 400 Mpa)

SPECIFICATION	GRADE	Prod. Thick (mm)	Thick. Range (mm)	MECHANICAL PROPERTIES															GENERAL PURPOSE
				TENSILE TEST							IMPACT TEST								
				TR							LG				TR				
				YS (N/mm²)	TS (N/mm²)		EL (%)				+20	0	-20	-40	+20	0	-20	-40	
				Min	Min	Max	200	80	50	5.65√So	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	
API 2H	50	6-80	≤ 63.5	345	483	620	16	-	21	-	-	-	-	-	-	-	-	41	NORMALIZED PLATE FOR OFFSHORE STRUCTURES
		6-80	> 63.5	324	483	620	16	-	21	-	-	-	-	-	-	-	-	41	
API 2W	50	6-80	≤ 40	448	-	18	-	23	-	-	-	-	-	-	-	-	-	41	STEEL PLATES FOR OFFSHORE STRUCTURES PRODUCED BY TMCP
		6-80	> 40 ≤ 90	448	-	18		23		-	-	-	-	-	-	-	-	41	

Offshore Structure - High Strength Steel (Yield Strength ± 400 - 500 Mpa)

SPECIFICATION	GRADE	Prod. Thick (mm)	Thick. Range (mm)	MECHANICAL PROPERTIES															GENERAL PURPOSE
				TENSILE TEST							IMPACT TEST								
				TR							LG				TR				
				YS (N/mm²)	TS (N/mm²)		EL (%)				+20	0	-20	-40	+20	0	-20	-40	
				Min	Min	Max	200	80	50	5.65√So	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	
API 2W	60	6 - 40	≤ 40	414	517	-	16	-	22	-	-	-	-	-	-	-	-	48	STRUCTURAL STEEL FOR OFFSHORE
			> 40 ≤ 100	414	517	-	16		22		-	-	-	-	-	-	-	48	

High Carbon - Steel Plate

SPECIFICATION	GRADE	Prod. Thick (mm)	Thick. Range (mm)	MECHANICAL PROPERTIES													GENERAL PURPOSE
				TENSILE TEST							IMPACT TEST						
				TR							LG				TR		
				YS (N/mm²)	TS (N/mm²)		EL (%)				+20	0	-20	-40	-20	-40	
				Min	Min	Max	200	80	50	5.65√So	AVG	AVG	AVG	AVG	AVG	AVG	
ASTM A830	1042	≤ 120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	CARBON STEEL, STRUCTURAL QUALITY
	1045	≤ 120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
JIS G 4051:2009	S45C	≤ 120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Carbon Steel
EN 10083-2	C45	≤ 120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NON ALLOY STEELS
	C45 + N	≤ 120	≤ 16	340	620	-	-	-	-	14	-	-	-	-	-	-	NON ALLOY STEELS
		≤ 120	<16 ≤100	305	580	-	-	-	-	16	-	-	-	-	-	-	NON ALLOY STEELS
AS 3678: 2011	K1042	≤ 120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Hot Rolled Steels - Plates

Normalizing Furnace

As a result of continual expansion, Gunung Raja Paksi are pleased to announce that we are capable of producing normalized plates, which includes pressure vessel grades such as ASTM A516 and A537 Cl-1 plates. This grade requires heat treatment (normalizing) to achieve better plate quality.

Shotblasting Painting

We also have a shotblasting and painting facility which is commonly applied to steel for shipbuilding purposes, or as per customer requirement.

Hot Rolled Coil

We can also supply flat products in coil form, whether it is hot-rolled or cold-rolled. Our hot rolled coils have excellent formability and weldability. On the other hand, our cold rolled coils offer superior surface quality, mechanical property, and precise dimensions.

Our hot rolled coils are produced by heating the best steel slabs we can source over the recrystallization temperature, rolled into desired thickness, and coiled at high temperature.

Applications of our hot rolled coils include welded steel structural beams, forming application, storage tanks, boilers, flanges, gas cylinders, and welded pipe.

Standard & Specification:
ASTM A-36
ASTM A-572
JIS G 3101
JIS G 3131

Available Size:
Thickness 2mm - 25mm
Width 900mm – 1524mm
Maximum 25 MT/Coil

Annual Capacity:
720.000 MT/Year
(for coil production only)

Forming (Commercial Or Drawing Quality)

SPECIFICATION	GRADE	Prod. Thick (mm)	Thick. Range (mm)	MECHANICAL PROPERTIES															GENERAL PURPOSE
				TENSILE TEST							IMPACT TEST								
				TR							LG				TR				
				YS (N/mm²)	TS (N/mm²)		EL (%)				+20	0	-20	-40	+20	0	-20	-40	
				Min	Min	Max	200	80	50	5.65√So	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	
ASTM A830	1006	≤ 25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	CARBON STEEL
	1008	≤ 25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
A1011 CS	Type A	≤6	≤6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Hot rolled steel sheet and strip, Commercial Steel
	Type B	≤6	≤6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Type C	≤6	≤6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Type D	≤6	≤6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
A1011 DS	Type A	≤6	≤6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Hot rolled steel sheet and strip, Drawing Steel
	Type B	≤6	≤6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
JIS G 3113:2006	SAPH 400 (41)	2 - 14	≥ 1.6 < 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Hot rolled steel plate, sheet and strip for automobile structural uses
			≥ 2 < 2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			≥ 2.5 < 3.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			≥ 3.15 < 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			≥ 4 < 6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			≥ 6 < 6.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			≥ 6.3 < 8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			≥ 8 ≤ 14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	SAPH 440 (45)	4 - 14	≥ 1.6 < 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			≥ 2 < 2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			≥ 2.5 < 3.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			≥ 3.15 < 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			≥ 4 < 6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			≥ 6 < 6.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			≥ 6.3 < 8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			≥ 8 ≤ 14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
JIS G 3131:2010	SPHC	2 - 14	≥ 1.2 < 1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Hot rolled mild steel plates, sheet and strip
			≥ 1.6 < 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			≥ 2 < 2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			≥ 2.5 < 3.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			≥ 3.2 < 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			≥ 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	SPHD	2 - 14	≥ 1.2 < 1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			≥ 1.6 < 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			≥ 2 < 2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			≥ 2.5 < 3.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			≥ 3.2 < 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			≥ 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
JIS G 3132	SPHT - 1	2 - 13	≥ 1.2 < 1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Hot rolled carbon steel strip for pipes and tubes
			≥ 1.6 < 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			≥ 3 < 6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			≥ 6 ≤ 13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	SPHT - 2	2 - 13	≥ 1.2 < 1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			≥ 1.6 < 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			≥ 3 < 6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			≥ 6 ≤ 13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	SPHT - 3	5 - 13	≥ 1.2 < 1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			≥ 1.6 < 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			≥ 3 < 6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			≥ 6 ≤ 13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

General & Weldable Structural - Mild Steel

SPECIFICATION	GRADE	Prod. Thick (mm)	Thick. Range (mm)	MECHANICAL PROPERTIES															GENERAL PURPOSE
				TENSILE TEST							IMPACT TEST								
				TR							LG				TR				
				YS (N/mm²)	TS (N/mm²)		EL (%)				+20	0	-20	-40	+20	0	-20	-40	
				Min	Min	Max	200	80	50	5.65√So	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	
ASTM A-36 / ASME A-36	-	2 - 25	≤ 20	250[A]	400	550	20[B]	-	23[B]	-	-	-	-	-	-	-	-	-	SPECIFICATION FOR CARBON STRUCTURAL STEEL
			> 20 ≤ 40	250[A]	400	550	20[B]	-	23[B]	-	-	-	-	-	-	-	-	-	
			> 40 ≤ 65	250[A]	400	550	20[B]	-	23[B]	-	-	-	-	-	-	-	-	-	
			> 65 ≤ 100	250[A]	400	550	20[B]	-	23[B]	-	-	-	-	-	-	-	-	-	
			> 100	250[A]	400	550	20[B]	-	23[B]	-	-	-	-	-	-	-	-	-	
ASTM A-283 / ASME A-283	A	2 - 25	≤ 40	165	310	415	27[J]	-	30[J]	-	-	-	-	-	-	-	-	-	LOW AND INTERMEDIATE TENSILE STRENGTH CARBON STEEL PLATES
			> 40	165	310	415	27[J]	-	30[J]	-	-	-	-	-	-	-	-	-	
	B	2 - 25	≤ 40	185	345	450	25[J]	-	28[J]	-	-	-	-	-	-	-	-	-	
			> 40	185	345	450	25[J]	-	28[J]	-	-	-	-	-	-	-	-	-	
	C	2 - 25	≤ 40	205	380	515	22[J]	-	25[J]	-	-	-	-	-	-	-	-	-	
			> 40	205	380	515	22[J]	-	25[J]	-	-	-	-	-	-	-	-	-	
	D	2 - 25	≤ 40	230	415	550	20[J]	-	23[J]	-	-	-	-	-	-	-	-	-	
			> 40	230	415	550	20[J]	-	23[J]	-	-	-	-	-	-	-	-	-	
ASTM A-131	A	2 - 25	≤ 25	235	400	520	21	-	24	-	-	-	-	-	-	-	-	-	Structural Steel for Ships
			> 25 ≤ 35	235	400	520	21	-	24	-	-	-	-	-	-	-	-	-	
			> 35 ≤ 50	235	400	520	21	-	24	-	-	-	-	-	-	-	-	-	
			> 50 ≤ 70	235	400	520	21	-	24	-	34	-	-	-	-	24	-	-	
			> 70 ≤ 100	235	400	520	21	-	24	-	41	-	-	-	-	27	-	-	
ASTM A-573 / ASME SA-573	58	2 - 25	≤ 13	220	400	490	21[F]	-	24[F]	-	-	-	-	-	-	-	-	-	STRUCTURAL CARBON STEEL PLATES WITH IMPROVED TOUGHNESS
			> 13 ≤ 40	220	400	490	21[F]	-	24[F]	-	-	-	-	-	-	-	-	-	
	65	2 - 25	≤ 13	240	450	530	20[F]	-	23[F]	-	-	-	-	-	-	-	-	-	STRUCTURAL CARBON STEEL PLATES WITH IMPROVED TOUGHNESS
			> 13 ≤ 40	240	450	530	20[F]	-	23[F]	-	-	-	-	-	-	-	-	-	
	70	5 - 20	≤ 13	290	485	620	18[F]	-	21[F]	-	-	-	-	-	-	-	-	-	STRUCTURAL CARBON STEEL PLATES WITH IMPROVED TOUGHNESS
			> 13 ≤ 40	290	485	620	18[F]	-	21[F]	-	-	-	-	-	-	-	-	-	
ASTM A-709 / ASME SA 709	36	2 - 25	≤ 20	250[A]	400	550	20[B]	-	23[B]	-	-	-	-	-	-	-	-	-	STRUCTURAL STEELS FOR BRIDGES
			> 20 ≤ 40	250[A]	400	550	20[B]	-	23[B]	-	-	-	-	-	-	-	-	-	
			> 40 ≤ 65	250[A]	400	550	20[B]	-	23[B]	-	-	-	-	-	-	-	-	-	
			> 65 ≤ 100	250[A]	400	550	20[B]	-	23[B]	-	-	-	-	-	-	-	-	-	
			> 100	250[A]	400	550	20[B]	-	23[B]	-	-	-	-	-	-	-	-	-	
	50	5 - 20	≤ 40	345	450	-	18[E]	-	21[E]	-	-	-	-	-	-	-	-	-	STRUCTURAL STEEL FOR BRIDGES
			> 40	345	450	-	18[E]	-	21[E]	-	-	-	-	-	-	-	-	-	
JISG 3101	SS - 400	2 - 25	≤ 5	245.00	400	510	-	-	21	-	-	-	-	-	-	-	-	-	HOT ROLLED STEEL FOR GENERAL STRUCTURE
			> 5 ≤ 16	245	400	510	17	-	-	-	-	-	-	-	-	-	-	-	
			>16 ≤ 40	235	400	510	21	-	-	-	-	-	-	-	-	-	-	-	
			>40 ≤100	215[A]	400	510	-	-	23[B]	-	-	-	-	-	-	-	-	-	
			>100	205	400	510	-	-	23[B]	-	-	-	-	-	-	-	-	-	
	SS - 490	2 - 25	≤5	285	490	610	-	-	19	-	-	-	-	-	-	-	-	-	
			> 5 < 16	285	490	610	15	-	-	-	-	-	-	-	-	-	-	-	
			>16 < 40	275	490	610	19	-	-	-	-	-	-	-	-	-	-	-	
			>40 ≤100	255	490	610	-	-	21[E]	-	-	-	-	-	-	-	-	-	
			>100	245	490	610	-	-	21[E]	-	-	-	-	-	-	-	-	-	
	SS - 540	5 - 15	≤ 5	400	540	-	-	-	16	-	-	-	-					-	
			> 5 < 16	400	540	-	13	-	-	-	-	-	-					-	
			>16 < 40	390	540	-	17	-	-	-	-	-	-					-	
JIS G 3106	SM 400 A	2 - 25	≤ 5	245.00	400	510	-	-	23	-	-	-	-	-	-	-	-	-	HOT ROLLED STEEL FOR WELDED STRUCTURE
			> 5 ≤ 16	245.00	400	510	18	-	-	-	-	-	-	-	-	-	-	-	
			> 16 ≤ 40	235.00	400	510	22	-	-	-	-	-	-	-	-	-	-	-	
			> 40 ≤ 75	215.00	400	510	-	-	24	-	-	-	-	-	-	-	-	-	
			> 75 ≤ 100	215.00	400	510	-	-	24	-	-	-	-	-	-	-	-	-	
			> 100 ≤ 160	205.00	400	510	-	-	24[D]	-	-	-	-	-	-	-	-	-	
			> 160 ≤ 200	195.00	400	510	-	-	24[D]	-	-	-	-	-	-	-	-	-	
	SM 400 B	2 - 25	≤ 5	245	400	510	-	-	23	-	-	-	-	-	-	-	-	-	
			> 5 ≤ 16	245	400	510	18	-	-	-	-	27[J]	-	-	-	-	-	-	
			> 16 ≤ 40	235	400	510	22	-	-	-	-	27	-	-	-	-	-	-	
			> 40 ≤ 75	215	400	510	-	-	24	-	-	27	-	-	-	-	-	-	
			> 75 ≤ 100	215	400	510	-	-	24	-	-	27	-	-	-	-	-	-	
			> 100 ≤ 160	205	400	510	-	-	24[D]	-	-	27	-	-	-	-	-	-	
			> 160 ≤ 200	195	400	510	-	-	24[D]	-	-	27	-	-	-	-	-	-	
	SM 400 C	2 - 25	≤ 5	245	400	510	-	-	23	-	-	-	-	-	-	-	-	-	
			> 5 ≤ 16	245	400	510	18	-	-	-	-	47[J]	-	-	-	-	-	-	
			> 16 ≤ 40	235	400	510	22	-	-	-	-	47	-	-	-	-	-	-	
			> 40 ≤ 75	215	400	510	-	-	24	-	-	47	-	-	-	-	-	-	
			> 75 ≤ 100	215	400	510	-	-	24	-	-	47	-	-	-	-	-	-	
			> 100 ≤ 160	-	400	510	-	-	24[D]	-	-	47	-	-	-	-	-	-	
			> 160 ≤ 200	-	400	510	-	-	24[D]	-	-	47	-	-	-	-	-	-	
EN 10025-2:2004	S 235 JR + AR	2 - 25	< 3	235	360	510	-	19	-	-	27	-	-	-	-	-	-	-	STRUCTURAL STEEL
			≥ 3 ≤ 16	235	360	510	-	-	-	24	27	-	-	-	-	-	-	-	
			> 16 ≤ 40	225	360	510	-	-	-	24	27	-	-	-	-	-	-	-	
			> 40 ≤ 63	215	360	510	-	-	-	23	27	-	-	-	-	-	-	-	
			> 63 ≤ 80	215	360	510	-	-	-	22	27	-	-	-	-	-	-	-	
			> 80 ≤ 100	215	360	510	-	-	-	22	27	-	-	-	-	-	-	-	
			> 100 ≤ 150	195	350	500	-	-	-	22	27	-	-	-	-	-	-	-	
			> 150 ≤ 200	185	340	490	-	-	-	21	27	-	-	-	-	-	-	-	
			> 200 ≤ 250	175	340	490	-	-	-	21	27	-	-	-	-	-	-	-	
	S 235 JO + AR	2 - 25	< 3	235	360	510	-	19	-	-	-	27	-	-	-	-	-	-	
			≥ 3 ≤ 16	235	360	510	-	-	-	24	-	27	-	-	-	-	-	-	
			> 16 ≤ 40	225	360	510	-	-	-	24	-	27	-	-	-	-	-	-	
			> 40 ≤ 63	215	360	510	-	-	-	23	-	27	-	-	-	-	-	-	
			> 63 ≤ 80	215	360	510	-	-	-	22	-	27	-	-	-	-	-	-	
			> 80 ≤ 100	215	360	510	-	-	-	22	-	27	-	-	-	-	-	-	
			> 100 ≤ 150	195	350	500	-	-	-	22	-	27	-	-	-	-	-	-	
			> 150 ≤ 200	185	340	490	-	-	-	21	-	27	-	-	-	-	-	-	
			> 200 ≤ 250	175	340	490	-	-	-	21	-	27	-	-	-	-	-	-	
	S 235 J2 + N	2 - 25	< 3	235	360	510	-	19	-	-	-	-	-	27	-	-	-	-	
			≥ 3 ≤ 16	235	360	510	-	-	-	24	-	-	-	27	-	-	-	-	
			> 16 ≤ 40	225	360	510	-	-	-	24	-	-	-	27	-	-	-	-	
			> 40 ≤ 63	215	360	510	-	-	-	23	-	-	-	27	-	-	-	-	
			> 63 ≤ 80	215	360	510	-	-	-	22	-	-	-	27	-	-	-	-	
			> 80 ≤ 100	215	360	510	-	-	-	22	-	-	-	27	-	-	-	-	
			> 100 ≤ 150	195	350	500	-	-	-	22	-	-	-	27	-	-	-	-	
			> 150 ≤ 200	185	340	490	-	-	-	21	-	-	-	27	-	-	-	-	
			> 200 ≤ 250	175	340	490	-	-	-	21	-	-	-	27	-	-	-	-	

General & Weldable Structural - High Strength Steel

SPECIFICATION	GRADE	Prod. Thick (mm)	Thick. Range (mm)	MECHANICAL PROPERTIES																GENERAL PURPOSE
				TENSILE TEST							IMPACT TEST									
				TR							LG				TR					
				YS (N/mm^2)	TS (N/mm^2)		EL (%)				+20	0	-20	-40	+20	0	-20	-40		
				Min	Min	Max	200	80	50	5.65√So	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG		
DIN 17100 (1980)	ST 37.2	2 - 20	≤ 16	235	340	470	24	-	-	-	27	-	-	-	-	-	-	-		
			> 16 ≤ 25	225	340	470	24	-	-	-	-	-	-	-	-	-	-	-		
			> 25 < 40	225	340	470	24	-	-	-	-	-	-	-	-	-	-	-		
			> 40 ≤ 63	215	340	470	23	-	-	-	-	-	-	-	-	-	-	-		
			> 63 ≤ 80	205	340	470	22	-	-	-	-	-	-	-	-	-	-	-		
			> 80 ≤ 100	195	340	470	22	-	-	-	-	-	-	-	-	-	-	-		
	ST 44.2	2 - 20	≤ 16	275	410	540	20	-	-	-	27	-	-	-	-	-	-	-		
			> 16 < 25	265	410	540	20	-	-	-	27	-	-	-	-	-	-	-		
			> 25 < 40	265	410	540	20	-	-	-	27	-	-	-	-	-	-	-		
			> 40 < 63	255	410	540	19	-	-	-	27	-	-	-	-	-	-	-		
			> 63 < 80	245	410	540	18	-	-	-	-	-	-	-	-	-	-	-		
			> 80 < 100	235	410	540	18	-	-	-	-	-	-	-	-	-	-	-		
AS/NZS 3678	200	2 - 20	≤ 8	200	300	-	-	-	-	24	-	-	-	-	-	-	-	-	Hot Rolled Steels - Plates	
			> 8 ≤ 12	200	300	-	-	-	-	24	-	-	-	-	-	-	-	-		
			> 12 ≤ 20	no specified limit	300	-	-	-	-	24	-	-	-	-	-	-	-	-		
			> 20 ≤ 32	no specified limit	300	-	-	-	-	24	-	-	-	-	-	-	-	-		
			> 32 ≤ 50	no specified limit	300	-	-	-	-	24	-	-	-	-	-	-	-	-		
			> 50 ≤ 80	no specified limit	300	-	-	-	-	24	-	-	-	-	-	-	-	-		
			> 80 ≤ 150	no specified limit	300	-	-	-	-	24	-	-	-	-	-	-	-	-		
	250	2 - 20	≤ 8	280	410	-	-	-	-	22	-	-	-	-	-	-	-	-	HOT ROLLED STEEL PLATES	
			> 8 ≤ 12	260	410	-	-	-	-	22	-	-	-	-	-	-	-	-		
			> 12 ≤ 20	250	410	-	-	-	-	22	-	-	-	-	-	-	-	-		
			> 20 ≤ 32	250	410	-	-	-	-	22	-	-	-	-	-	-	-	-		
			> 32 ≤ 50	250	410	-	-	-	-	22	-	-	-	-	-	-	-	-		
			> 50 ≤ 80	240	410	-	-	-	-	21	-	-	-	-	-	-	-	-		
			> 80 ≤ 150	230	410	-	-	-	-	22	-	-	-	-	-	-	-	-		
	300	2 - 20	≤ 8	320	430	-	-	-	-	21	-	-	-	-	-	-	-	-	HOT ROLLED STEEL PLATES	
			> 8 ≤ 12	310	430	-	-	-	-	21	-	-	-	-	-	-	-	-		
			> 12 ≤ 20	300	430	-	-	-	-	21	-	-	-	-	-	-	-	-		
			> 20 ≤ 32	280	430	-	-	-	-	21	-	-	-	-	-	-	-	-		
			> 32 ≤ 50	280	430	-	-	-	-	21	-	-	-	-	-	-	-	-		
			> 50 ≤ 80	270	430	-	-	-	-	21	-	-	-	-	-	-	-	-		
			> 80 ≤ 150	260	430	-	-	-	-	21	-	-	-	-	-	-	-	-		
AS 1594	HA 250	2-20	≤ 3	250	350	-	16	20	22	-	-	-	-	-	-	-	-	-	Hot Rolled Steels Flat Products	
			>3 ≤5	250	350	-	17	24	26	-	-	-	-	-	-	-	-	-		
			> 5	250	350	-	17	24	26	-	-	-	-	-	-	-	-	-		
	HU 250	2-20	≤ 3	250	350	-	16	20	22	-	-	-	-	-	-	-	-	-	Hot Rolled Steels Flat Products	
			>3 ≤5	250	350	-	17	24	26	-	-	-	-	-	-	-	-	-		
			> 5	250	350	-	17	24	26	-	-	-	-	-	-	-	-	-		
	HA 300	4-16	≤ 3	300	400	-	15	18	20	-	-	-	-	-	-	-	-	-	Hot Rolled Steels Flat Products	
			>3 ≤5	300	400	-	16	22	24	-	-	-	-	-	-	-	-	-		
			> 5	300	400	-	16	22	24	-	-	-	-	-	-	-	-	-		
	HU 300	4-16	≤ 3	300	400	-	15	18	20	-	-	-	-	-	-	-	-	-	Hot Rolled Steels Flat Products	
			>3 ≤5	300	400	-	16	22	24	-	-	-	-	-	-	-	-	-		
			> 5	300	400	-	16	22	24	-	-	-	-	-	-	-	-	-		
BS 4360	40 A	2 - 20	≤ 16	235	340	500	22[A]	25[B]	-	25	-	-	-	-	-	-	-	-	WELDABLE STRUCTURAL STEELS	
			> 16 ≤ 40	225	340	500	22	25	-	25	-	-	-	-	-	-	-	-		
			> 40 ≤ 63	215	340	500	22	25	-	25	-	-	-	-	-	-	-	-		
			> 63 ≤ 100	205	340	500	22	25	-	25	-	-	-	-	-	-	-	-		
			> 100 ≤ 150	185	340	500	22	25	-	25	-	-	-	-	-	-	-	-		
	40 B	2 - 20	≤ 16	235	340	500	22[A]	25[B]	-	25	27	-	-	-	-	-	-	-		
			> 16 ≤ 40	225	340	500	22	25	-	25	27	-	-	-	-	-	-	-		
			> 40 ≤ 63	215	340	500	22	25	-	25	27	-	-	-	-	-	-	-		
			> 63 ≤ 100	205	340	500	22	25	-	25	27	-	-	-	-	-	-	-		
			> 100 ≤ 150	185	340	500	22	25	-	25	27	-	-	-	-	-	-	-		
	40 C	2 - 20	≤ 16	235	340	500	22[A]	25[B]	-	25	-	27	-	-	-	-	-	-		
			> 16 ≤ 40	225[D]	340	500	22	25	-	25	-	27	-	-	-	-	-	-		
			> 40 ≤ 63	215	340	500	22	25	-	25	-	27	-	-	-	-	-	-		
			> 63 ≤ 100	210	340	500	22	25	-	25	-	27	-	-	-	-	-	-		
			> 100 ≤ 150	185	340	500	22	25	-	25	-	27	-	-	-	-	-	-		
	40 D	5 - 20	≤ 16	235	340	500	22[A]	25[B]	-	25	-	-	27	-	-	-	-	-		
			> 16 ≤ 40	225	340	500	22	25	-	25	-	-	27	-	-	-	-	-		
			> 40 ≤ 63	215	340	500	22	25	-	25	-	-	27	-	-	-	-	-		
			> 63 ≤ 100	215	340	500	22	25	-	25	-	-	27	-	-	-	-	-		
			> 100 ≤ 150	205	340	500	22	25	-	25	-	-	27	-	-	-	-	-		
	43 A	2 - 20	≤ 16	275	430	580	20[A]	23[B]	-	22	-	-	-	-	-	-	-	-	Not Required	
			> 16 ≤ 40	265	430	580	20	23	-	22	-	-	-	-	-	-	-	-		
			> 40 ≤ 63	255	430	580	20	23	-	22	-	-	-	-	-	-	-	-		
			> 63 ≤ 100	245	430	580	20	23	-	22	-	-	-	-	-	-	-	-		
			> 100 ≤ 150	225	410	580	20	23	-	22	-	-	-	-	-	-	-	-		
	43 B	2 - 20	≤ 16	275	430	580	20[A]	23[B]	-	22	27	-	-	-	-	-	-	-	Not Required	
			> 16 ≤ 40	265	430	580	20	23	-	22	27	-	-	-	-	-	-	-		
			> 40 ≤ 63	255	430	580	20	23	-	22	27	-	-	-	-	-	-	-		
			> 63 ≤ 100	245	430	580	20	23	-	22	27	-	-	-	-	-	-	-		
			> 100 ≤ 150	225	410	580	20	23	-	22	27	-	-	-	-	-	-	-		
	43 C	2 - 20	≤ 16	275	430	580	20[A]	23[B]	-	22	-	27	-	-	-	-	-	-	Not Required	
			> 16 ≤ 40	265	430	580	20	23	-	22	-	27	-	-	-	-	-	-		
			> 40 ≤ 63	255	430	580	20	23	-	22	-	27	-	-	-	-	-	-		
			> 63 ≤ 100	245	430	580	20	23	-	22	-	27	-	-	-	-	-	-		
			> 100 ≤ 150	225	410	580	20	23	-	22	-	27	-	-	-	-	-	-		
	43 D	5- 20	≤ 16	275	430	580	20[A]	23[B]	-	22	-	-	27	-	-	-	-	-	Not Required	
			> 16 ≤ 40	265	430	580	20	23	-	22	-	-	27	-	-	-	-	-		
			> 40 ≤ 63	255	430	580	20	23	-	22	-	-	27	-	-	-	-	-		
			> 63 ≤ 100	245	430	580	20	23	-	22	-	-	27	-	-	-	-	-		

Line Pipe Mild Steel

SPECIFICATION	GRADE	Prod. Thick (mm)	Thick. Range (mm)	MECHANICAL PROPERTIES															GENERAL PURPOSE
				TENSILE TEST							IMPACT TEST								
				TR							LG				TR				
				YS (N/mm²)	TS (N/mm²)		EL (%)				+20	0	-20	-40	+20	0	-20	-40	
				Min	Min	Max	200	80	50	5.65√So	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	
API 5L PSL 1	B	- 25	≤ 25	245 - 4504	15	760		----				40	------						LINE PIPE STEEL
	X 42	8 - 25	≤ 25	290 - 4954	15	760		----				40	------						
API 5L PSL 2	BM	8 - 25	≤ 25	245 - 4504	15	760		----				40	------						
	X 42MS	- 25	≤ 25	290 - 4954	15	760		----				40	------						

Line Pipe High Strength Steel

SPECIFICATION	GRADE	Prod. Thick (mm)	Thick. Range (mm)	MECHANICAL PROPERTIES															GENERAL PURPOSE
				TENSILE TEST							IMPACT TEST								
				TR							LG				TR				
				YS (N/mm²)	TS (N/mm²)		EL (%)				+20	0	-20	-40	+20	0	-20	-40	
				Min	Min	Max	200	80	50	5.65√So	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	
API 5L PSL 1 Welded Pipe	X 46	8 - 20	≤ 25	320 - 525	435	760	-	-	-	-	-	40	-	-	-	-	-	-	LINE PIPE STEEL
	X 52	8 - 20	≤ 25	360 - 530	460	760	-	-	-	-	-	40	-	-	-	-	-	-	
	X 56	8 - 20	≤ 25	390 - 545	490	760	-	-	-	-	-	40	-	-	-	-	-	-	
	X 60	8 - 16	≤ 25	415 - 565	520	760	-	-	-	-	-	40	-	-	-	-	-	-	
	X 65	8 - 16	≤ 25	450 - 600	535	760	-	-	-	-	-	40	-	-	-	-	-	-	
	X 70	8	≤ 25	485 - 635	570	760	-	-	-	-	-	40	-	-	-	-	-	-	
API 5L PSL 2 Welded Pipe	X 46M	8 - 20	≤ 25	320 - 525	435	760	-	-	-	-	-	40	-	-	-	-	-	-	LINE PIPE STEEL
	X 52M	8 - 20	≤ 25	360 - 530	460	760	-	-	-	-	-	40	-	-	-	-	-	-	
	X 56M	8 - 20	≤ 25	390 - 545	490	760	-	-	-	-	-	40	-	-	-	-	-	-	
	X 60M	8 - 16	≤ 25	415 - 565	520	760	-	-	-	-	-	40	-	-	-	-	-	-	
	X 65M	8 - 16	≤ 25	450 - 600	535	760	-	-	-	-	-	40	-	-	-	-	-	-	
	X 70M	8	≤ 25	485 - 635	570	760	-	-	-	-	-	40	-	-	-	-	-	-	
API 5L PSL 2 Offshore Service	X 42MO	8 - 20	≤ 25	290 - 495	415	760	-	-	-	-	-	40	-	-	-	-	-	-	LINE PIPE STEEL FOR OFFSHORE SERVICES
	X 46MO	8 - 20	≤ 25	320 - 520	435	760	-	-	-	-	-	40	-	-	-	-	-	-	
	X 52MO	8 - 20	≤ 25	360 - 525	460	760	-	-	-	-	-	40	-	-	-	-	-	-	
	X 56MO	8 - 20	≤ 25	390 - 540	490	760	-	-	-	-	-	40	-	-	-	-	-	-	

Gas Cylinder Steel

SPECIFICATION	GRADE	Prod. Thick (mm)	Thick. Range (mm)	MECHANICAL PROPERTIES															GENERAL PURPOSE
				TENSILE TEST							IMPACT TEST								
				TR							LG				TR				
				YS (N/mm²)	TS (N/mm²)		EL (%)				+20	0	-20	-40	+20	0	-20	-40	
				Min	Min	Max	200	80	50	5.65√So	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	
JIS G 3116	SG 255		≥1.6 ≤5.0	2554	00	–		-2	8-		----				-	√	–		GAS CYLINDER STEEL
	SG 295		≥1.6 ≤5.0	2954	40	–		-2	6-		------						√	-	
	SG 325		≥1.6 ≤5.0	3254	90	–		-2	2-		------						√	-	

Coil Plate

We produce Steel Coil Plate with our proprietary technology to guarantee the best quality product results. Our Coil Plate comes with a variety of standards and sizes that can be tailored to your needs.

GRP uses equalizing process to produce highest standard of coil plate, this industry leading standard produces a quality steel plate that is consistently flat.

Standard & Specification:
A36, SS400, A283, EN 10025 Gr.235 JR, A572Gr50.

Available Size:
Thickness 2.0mm – 12mm
Width 900 – 1524 mm

Annual Capacity:
360.000 MT/Year

Green Label Indonesia

EPD® THE INTERNATIONAL EPD® SYSTEM

ECO PLATFORM EPD VERIFIED

High Strength Steel YS>300 Mpa

SPECIFICATION	GRADE	Prod. Thick (mm)	MECHANICAL PROPERTIES				
			Tensile Testing			Impact Testing (CVN)	
			YS (MPa)	TS (MPa)	EL (%)	LG	TR
ASTM A 131 / ASME SA 131	AH36	6 - 10	355	490 - 620	19	0°C (27 Joule)	0°C (24 Joule)
	DH36	6 - 10	355	490 - 620	19	-20°C (27 Joule)	-20°C (24 Joule)
	EH36	6 - 10	355	490 - 620	19	-40°C (27 Joule)	-40°C (24 Joule)
	AH40	6 - 10	390	510 - 650	19	0°C (39 Joule)	0°C (26 Joule)
	DH40	6 - 10	390	510 - 650	19	-20°C (39 Joule)	-20°C (26 Joule)
	EH40	6 - 10	390	510 - 650	19	-40°C (39 Joule)	-40°C (26 Joule)
ASTM A 572 / ASME SA 527	50	6 - 10	345	450	18M	-	-
	55	6 - 10	380	485	17M	-	-
	60	6 - 10	415	520	16M	-	-
ASTM A 573 / ASME SA 573	70	6 - 10	290	485 - 620	18R	-	-
JIS G 3101	SS 490	6 - 10	285	490 - 610	15	-	-
	SS 540	6 - 10	400	540	13	-	-
JIS G 3106	SM 490 A	6 - 10	325	490 -610	17	-	-
	SM 490 B	6 - 10	325	490 -610	17	0°C (27 Joule)	-
	SM 490 C	6 - 10	325	490 -610	17	0°C (47 Joule)	-
	SM 490 YA	6 - 10	365	490 -610	15	-	-
	SM 490 YB	6 - 10	365	490 -610	15	0°C (27 Joule)	-
	SM 520 B	6 - 10	365	520 - 640	15	0°C (27 Joule)	-
	SM 520 C	6 - 10	365	520 - 640	15	0°C (47 Joule)	-
BS 4360	50 B	6 - 10	355	490 - 640	18C	+20°C (27 Joule)	-
	50 C	6 - 10	355	490 - 640	18C	0°C (27 Joule)	-
	50 D	6 - 10	355	490 - 640	18C	-20°C (47 Joule)	-
	50 DD	6 - 10	355	490 - 640	18C	-30°C (47 Joule)	-
EN 10025-2 / MS EN 10025-2	S 355 JR	6 - 10	355	470 - 630	20	+20°C (27 Joule)	-
	S 355 J0	6 - 10	355	470 - 630	20	0°C (27 Joule)	-
	S 355 J2	6 - 10	355	470 - 630	20	-20°C (47 Joule)	-
CSA G40.21 (1998)	350 W (50 W)	6 - 10	350	450 - 650	17	-	-
	400 W (60 W)	6 - 10	400	520 - 690	13	-	-
	1E-1863	6-100	345 -500	450	16	-29°C (11 Joule)	-

PRESSURE VESSEL STEEL

SPECIFICATION	GRADE	Prod. Thick (mm)	MECHANICAL		
			Tensile Testing		
			YS (MPa)	TS (MPa)	EL (%)
ASTM A 516 / ASME SA 516	55	6 - 10	205	380 - 515	23
	60	6 - 10	220	415 - 550	21
	65	6 - 10	240	450 - 585	19
	70	6 - 10	260	485 - 620	17
ASTM A 572 / ASME SA 527	B	4 - 12	185	345 - 485	25
	C	4 - 12	205	380 - 515	23
JIS G 3101	SG 255	2 - 4	255	400	28
	SG 295	2 - 3	295	440	26

WEATHER RESISTANT STEEL / Atmospheric Corrosion Resistance

SPECIFICATION	GRADE	Prod. Thick (mm)	MECHANICAL		
			Tensile Testing		
			YS (MPa)	TS (MPa)	EL (%)
ASTM A 242 / ASME SA 242	-	6 - 10	345	480	18

SHIP-BUILDING STEEL

SPECIFICATION	GRADE	Prod. Thick (mm)	MECHANICAL PROPERTIES				
			Tensile Testing			Impact Testing (CVN)	
			YS (MPa)	TS (MPa)	EL (%)	LG	TR
Certified by LR, ABS, BV, BKI, & DNV GL	AH36	6 - 10	355	490 - 620	19	0°C (27 Joule)	0°C (24 Joule)
	DH36	6 - 10	355	490 - 620	19	-20°C (27 Joule)	-20°C (24 Joule)
	EH36	6 - 10	355	490 - 620	19	-40°C (27 Joule)	-40°C (24 Joule)
	AH40	6 - 10	390	510 - 650	19	0°C (39 Joule)	0°C (26 Joule)
	DH40	6 - 10	390	510 - 650	19	-20°C (39 Joule)	-20°C (26 Joule)
	EH40	6 - 10	390	510 - 650	19	-40°C (39 Joule)	-40°C (26 Joule)
	A	5-12	235	400 - 520	21	-	-
	B	5-12	235	400 - 520	21	0°C (27 Joule)	0°C (20 Joule)
	D	5-12	235	400 - 520	21	-20°C (27 Joule)	-20°C (20 Joule)
	E	5-12	235	400 - 520	21	-40°C (27 Joule)	-40°C (20 Joule)

AVAILABLE SIZE

	Maximum Length (mm)			
	Thickness Range (mm)	Width Range (mm)		
		900 - 1070	1070 -1219	1219 - 1524
MILD STEEL (YS < 300 MPa)	2 - 3	4000	4000	-
	3 - 4.5	6000	6000	-
	4.5 - 6	12000	12000	12000
	6 - 8	12000	12000	12000
	8 - 9	12000	12000	12000
	9 - 12	12000	12000	12000

*Minimum Length 2000 mm

	Maximum Length (mm)			
	Thickness Range (mm)	Width Range (mm)		
		900 - 1070	1070 -1219	1219 - 1524
HIGH STRENGTH STEEL (YS > 300 MPa)	6 - 8	12000	12000	12000
	8 - 9	12000	12000	12000
	9 - 10	12000	12000	12000

*Minimum Length 2000 mm

The strength, flexibility, and affordability of the steel bar make it one of the most widely used construction / construction materials in the world. We offer steel bars in various shapes and sizes.

Cold Rolled Coil (CRC)

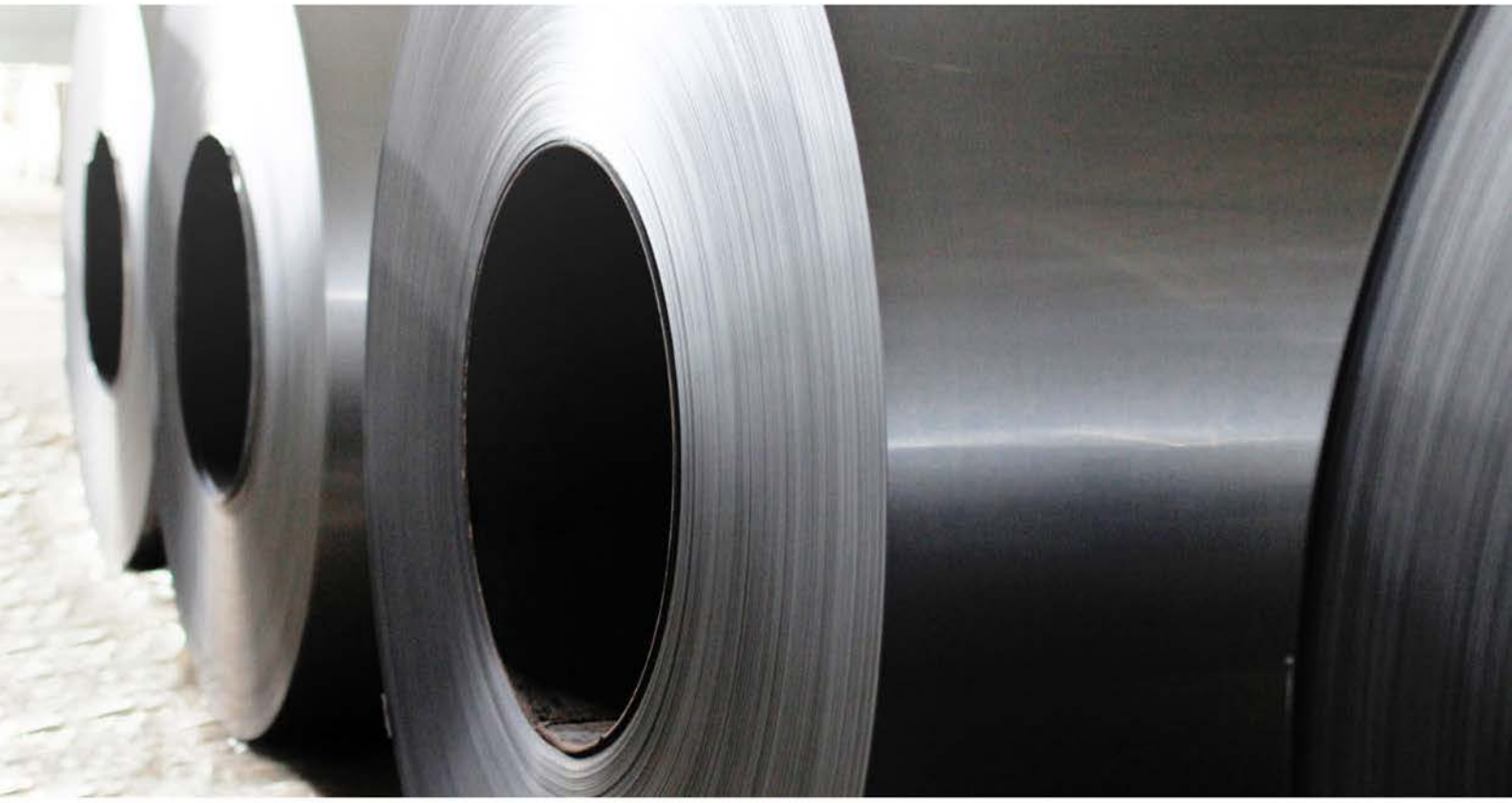
Welded Beam

CNP (Lipped Channel)

ERW Pipe

Spiral Pipe

Downstream Products



Cold Rolled Coil

GRP also produces our coil products in cold rolled form to cater to specific materials requirement for that unique product application.

This flat steel product rolled into thinner sizes while it is in normal room temperature to the exact thickness requirement and rolled into coils. The resulting of cold rolled coils is that they have a better surface quality, thinner profiles, and excellent finishes, and can be made into different type of products by means of cold forming.

Standard & Specification:
JIS G 3141 spec 1B
JIS G 3141 spec SB
JIS G 3141 spec SD

Available Size:
Thickness 0.2mm – 2.5mm
Width 700mm – 1270mm
Maximum 27 MT/Coil

Annual Capacity:
500.000 MT/Year

Welded Beam

ECO PLATFORM EPD VERIFIED

EPD® THE INTERNATIONAL EPD® SYSTEM

Functioned similar to the mass produced H and I beam, the welded beams are made by joining together different plates to form a single beam.

Welded beam serves as the alternatives for construction projects that require beams that are not able to be produced in hot rolled form. Our welded beam products are machine welded and are closely supervised by our qualified technician and engineers to ensure the quality of the welding and the final products.

At GRP, we produce our welded beam in compliance with the JIS G 3192 standard sizes and dimensions. We also provide the services to tailor-made the beam sizes and dimension to suit the unique and challenging construction project as required by our customers.

Standard & Specification:
Supply various specification / international standard like JIS , ASTM , EN , BS , AS , ABS, AS/NZS 3679.2 etc.

Annual Capacity:
60.000 MT/Year

Available Size:
As per customer Requirement
Flange Width Range: 200 - 1,000 mm
Web Height Range: 200 - 3,000 mm
Thickness Flange Range: 8 - 100 mm
Maximum Length: 25,000 mm

According JIS G 3192

Welded Beam Standard Specification

Standard Sectional Dimension				Section Area A	Unit Weight	Unit Weight	Informative Reference					
							Geometrical Moment of Inertia		Radius of Gyration of Area		Modulus of Section	
H x B	t1	t2	r				Ix	Iy	ix	iy	Zx	Zy
mm	mm	mm	mm	mm²	kg/m	kg/12m	cm⁴	cm⁴	cm	cm	cm³	cm³
600 x 300	12	20	28	192.5	151.00	1812	118,000	9,020	24.80	6.85	4,020.00	601.00
700 x 300	13	24	28	235.5	181.00	2171	201,000	10,800	29.30	6.78	5,760.00	722.00
800 x 300	14	26	28	267.4	207.00	2474	292,000	11,700	33.00	6.62	7,290.00	782.00
900 x 300	16	28	28	309.8	240.00	2878	411,000	12,600	36.00	6.39	9,140.00	843.00
350 x 350	12	19	20	173.9	137	1644	40,300	13,600	15.2	8.84	2,300.00	776.00
400 x 400	13	21	22	218.7	172	-	66,600	22,400	17.5	10.1	3,330.00	1,120.00

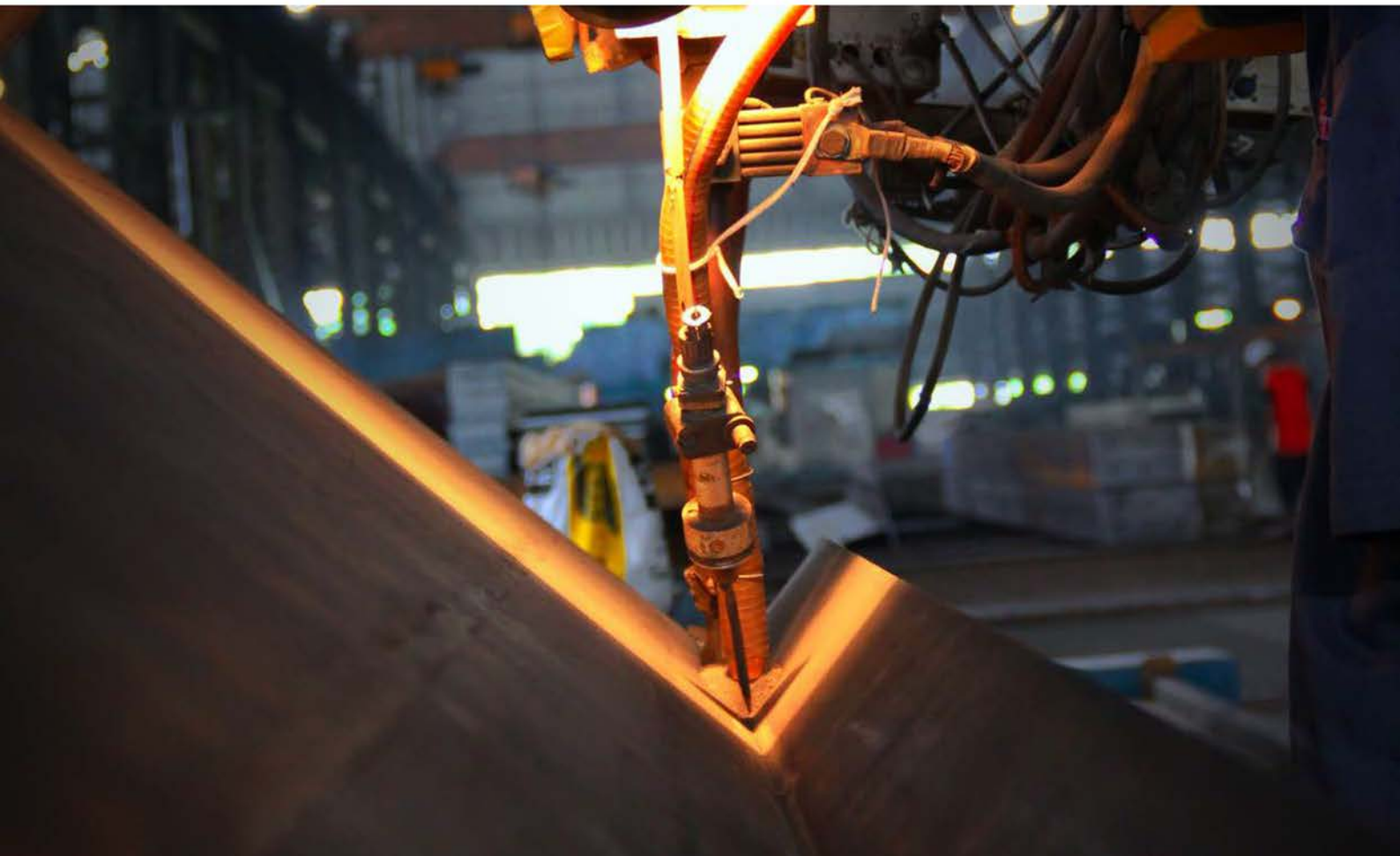
NOTE : Non standard sizes are available upon request and subject to minimum quantity.

Structural steel, welded I-Sections to AS/NZS 3679.2

Structural Section	Range	300	300L15	400	400L15	350	350L15
Beams	700WB to 1200WB with web thicknesses 10 to 16mm	√	√	√	√	√	√
Columns	350WC to 500WC with web thickness 16 to 40mm	√	√	√	√	√	√
			Cert. No. 171203			T 1011	

1		2	3	4	5	6
Designation		Depth of section (d)	Flange Width (bf)	Flange Thickness (tf)	Web Thickness (tw)	Depth between flanges (dh)
kg/m		mm	mm	mm	mm	mm
1200 WB	455	1 200	500	40.0	16.0	1 120
	423	1 192	500	36.0	16.0	1 120
	392	1 184	500	32.0	16.0	1 120
	342	1 184	400	32.0	16.0	1 120
	317	1 176	400	28.0	16.0	1 120
	278	1 170	350	25.0	16.0	1 120
	249	1 170	275	25.0	16.0	1 120
1000 WB	322	1 024	400	32.0	16.0	960
	296	1 016	400	28.0	16.0	960
	258	1 010	350	25.0	16.0	960
	215	1 000	300	20.0	16.0	960
900 WB	282	924	400	32.0	12.0	860
	257	916	400	28.0	12.0	860
	218	910	350	25.0	12.0	860
	175	900	300	20.0	12.0	860
800 WB	192	816	300	28.0	10.0	760
	168	810	275	25.0	10.0	760
	146	800	275	20.0	10.0	760
	122	792	250	16.0	10.0	760
700 WB	172	716	275	28.0	10.0	660
	150	710	250	25.0	10.0	660
	130	700	250	20.0	10.0	660
	115	692	250	16.0	10.0	660

1		2	3	4	5	6
Designation		Depth of section (d)	Flange Width (bf)	Flange Thickness (tf)	Web Thickness (tw)	Depth between flanges (dh)
kg/m		mm	mm	mm	mm	mm
500 WC	440	480	500	40.0	40.0	400
	414	480	500	40.0	32.0	400
	383	472	500	36.0	32.0	400
	340	514	500	32.0	25.0	450
	290	506	500	28.0	20.0	450
	267	500	500	25.0	20.0	450
	228	490	500	20.0	20.0	450
400 WC	362	430	400	40.0	40.0	350
	328	430	400	40.0	28.0	350
	303	422	400	36.0	28.0	350
	270	414	400	32.0	25.0	350
	212	400	400	25.0	20.0	350
	181	390	400	20.0	20.0	350
	144	382	400	16.0	16.0	350
350 WC	280	355	350	40.0	28.0	275
	258	347	350	36.0	28.0	275
	230	339	350	32.0	25.0	275
	197	331	350	28.0	20.0	275



Lipped Channel

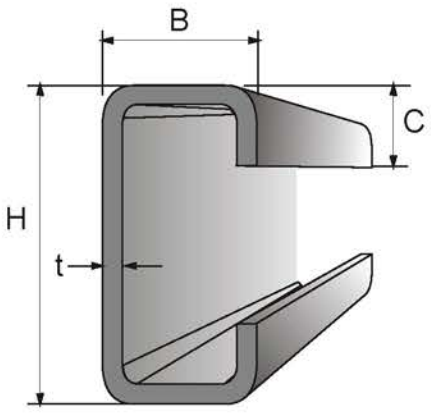
Lipped Channel is the ultimate alternative instead of Hot / Cold Rolled channel which has the same advantages such as reduced thickness and cost-effectiveness. Lipped Channels are often used for steel structures, storage areas, pollution control devices, and a variety of other architectural needs.

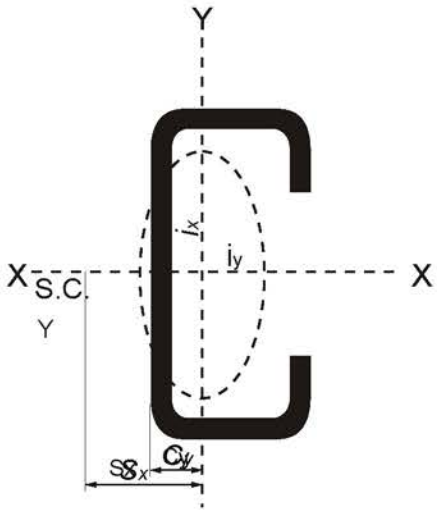
Standard Material:
JIS G 3131 SPHC ,
SAE 1006 / SAE 1008

Std Dimentional Tolerances:
JIS G 3350

Available Size:
CNP 100 x 50 x 2.0 mm up to CNP 200 x 75 x 3.2 mm

Annual Capacity:
35.000 MT/Year





JIS G 3131 / ASTM 830

Metric Size

Dimension		Section Area	Unit Weight	Informative Reference									
				Geometrical Moment of Inertia		Modulus of Section		Modulus of Gyration		Center of Grafity	Shear Center	Torsion Constant	Warping Constant
H x B x C mm	t mm	A cm²	Kg /m	Ix cm⁴	Iy cm⁴	Zx cm³	Zy cm³	rx cm	ry cm	Cy cm	Xo cm	J cm⁴	Cw cm⁶
C 100 x 50 x 20	2	4.54	3.56	71	17	14.3	5.4	3.97	1.93	1.87	4.48	605	444
	2.3	5.17	4.06	81	19	16.1	6	3.95	1.92	1.86	4.46	912	496
	2.5	5.59	4.39	87	20	17.3	6.5	3.94	1.9	1.86	4.45	1164	528
	2.8	6.2	4.87	95	22	19.1	7.1	3.92	1.89	1.86	4.42	1621	574
	3	6.61	5.19	101	23	20.2	7.4	3.91	1.88	1.86	4.41	1982	603
	3.2	7.01	5.5	106	24	21.3	7.8	3.9	1.87	1.86	4.4	2392	630
C 125 x 50 x 20	2	5.04	3.95	120	18	19.3	5.5	4.89	1.91	1.69	4.15	672	675
	2.3	5.75	4.51	136	21	21.8	6.2	4.87	1.89	1.69	4.12	1013	755
	2.5	6.21	4.88	147	22	23.5	6.6	4.86	1.88	1.69	4.11	1295	805
	2.8	6.9	5.42	162	24	25.9	7.2	4.84	1.86	1.69	4.08	1804	877
	3	7.36	5.78	172	25	27.5	7.6	4.83	1.85	1.69	4.07	2207	922
	3.2	7.81	6.13	181	27	29	8	4.82	1.84	1.68	4.05	2665	965
C 150 x 50 x 20	2	5.54	4.35	185	19	24.7	5.6	5.79	1.87	1.55	3.86	738	971
	2.3	6.32	4.96	210	22	28	6.3	5.77	1.86	1.55	3.84	1115	1088
	2.5	6.84	5.37	226	23	30.2	6.8	5.75	1.85	1.55	3.82	1425	1162
	2.8	7.6	5.97	250	26	33.3	7.4	5.73	1.83	1.54	3.8	1987	1267
	3	8.11	6.37	265	27	35.4	7.8	5.72	1.82	1.54	3.78	2432	1334
	3.2	8.61	6.76	280	28	37.4	8.2	5.71	1.81	1.54	3.77	2938	1398
C 150 x 65 x 20	2	6.14	4.82	218	36	29.1	8.3	5,96	2.43	2.12	5.19	818	1784
	2.3	7.01	5.5	248	41	33	9.4	5,94	2.42	2.12	5.16	1236	2006
	2.5	7.59	5.96	267	44	35.6	10	5,93	2.41	2.12	5.15	1581	2148
	2.8	8.44	6.63	295	48	39.4	11	5,91	2.39	2.12	5.13	2207	2352
	3	9.01	7.07	314	51	41.8	11.6	5,9	2.38	2.11	5.11	2702	2482
	3.2	9.57	7.51	332	54	44.2	12.2	5,89	2.37	2.11	5.09	3265	2608
C 200 x 75 x 20	2	7.54	5.92	467	56	46.7	10.6	7,87	2.73	2.2	5.49	1005	4571
	2.3	8.62	6.77	531	64	53.1	12	7,85	2.72	2.2	5.47	1520	5159
	2.5	9.34	7.33	573	68	57.3	12.9	7,84	2.71	2.2	5.45	1946	5537
	2.8	10.4	8.17	636	75	63.6	14.2	7,82	2.69	2.2	5.42	2719	6085
	3	11.11	8.72	676	80	67.6	15	7,8	2.68	2.19	5.41	3332	6437
	3.2	11.81	9.27	716	84	71.6	15.8	7,79	2.67	2.19	5.39	4030	6779

Technical Specification: Material : JIS G 3131 / ASTM 830, Symbol : SPHC/ SAE 1006/ SAE 1008
Standard length : 6 Meters, Dimention Tolerance : JIS G 3350

Note: Non standard sizes are available upon request and subject to minimum quantity

SNI 07-0138-1987

Dimension		Section Area	Unit Weight	Informative Reference									
				Geometrical Moment of Inertia		Modulus of Section		Modulus of Gyration		Center of Grafity	Shear Center	Torsion Constant	Warping Constant
H x B x C mm	t mm	A cm²	Kg /m	Ix cm⁴	Iy cm⁴	Zx cm³	Zy cm³	rx cm	ry cm	Cy cm	Xo cm	J cm⁴	Cw cm⁶
C 100 x 50 x 20	2.0	4.437	3.56	71	17	14.3	5.4	3.97	1.93	1.87	4.48	605	444
	2.3	5.172	4.06	81	19	16.1	6.0	3.95	1.92	1.86	4.46	912	496
	2.8	6.205	4.87	95	22	19.1	7.1	3.92	1.89	1.86	4.42	1621	574
	3.2	7.007	5.50	106	24	21.3	7.8	3.90	1.87	1.86	4.40	2392	630
C 125 x 50 x 20	2.3	5.747	4.51	136	21	21.8	6.2	4.87	1.89	1.69	4.12	1013	755
	3.2	7.807	6.13	181	27	29.0	8.0	4.82	1.84	1.68	4.05	2665	965
C 150 x 50 x 20	2.3	6.32	4.96	210	22	28.0	6.3	5.77	1.86	1.55	3.84	1115	1088
	3.2	8.607	6.76	280	28	37.4	8.2	5.71	1.81	1.54	3.77	2938	1398
C 150 x 65 x 20	2.3	7.01	5.50	248	41	33.0	9.4	5.94	2.42	2.12	5.16	1236	2006
	3.2	9.57	7.51	332	54	44.2	12.2	5.89	2.37	2.11	5.09	3265	2608
C 200 x 75 x 20	3.2	11.81	9.27	716	84	71.6	15.8	7.79	2.67	2.19	5.39	4030	6779

Chemical Composition

- Carbon (C) : 0.25 % max
- Phosphor (p) : 0.05 % max
- Sulfur (s) : 0.05 % max

Mechanical Properties

- Tensile Strength : 176.4 N/mm² min
- Yield Strenth : 333.2 N/mm² min
- Elongation : 21 % min

Tolerance

- Thickness ≤ 2.3 mm : ± 0.24 mm
  ≤ 3.2 mm : ± 0.3 mm
- High (H) ≤ 125 mm : ± 1.5 mm
  ≤ 250 mm : ± 2.0 mm
- Width (B) ≤ 75 mm : ± 2.0 mm
- Lip (C) ≤ 25 mm : ± 2.0 mm
- Length 6 - 7 M : ± 40 mm

ERW Pipe

(Electric Resistance Welded Pipe)

With many different application and uses that can be achieved from using round pipe products, at GRP we manufactured our pipe from 2 3/8" OD in a variety of length to over 100 feet using Electric Resistance Welding (ERW) methods.

As we strive to maintain to the highest standard quality, our ERW tubular pipe complied with different local and international standard specifications for its varying application requirements.

The surface finish for this product is available in bare or in coated form and the processing will be carried out in our facility. For the application carrying flow of water / liquid material, we can also perform hydrostatic testing on the products to ensure leakage-proof in its operations.

Standard & Specification:

ASTM A53 (A), BS 1387 : 1985
Heavy Series (H)
Medium Series (M)
Light Series (L)
BS EN 10255 : 2004 (E)
JIS G 3444 STK 290,
JIS G 3444 STK 400,
JIS G 3445 STKM 11 A, STKM 12 A
JIS G 3452 SGP Black And Galvanized Pipe,
JIS G 3454 STPG 370,
SNI 07 – 0068 – 2007 PKB 30,
SNI 07 – 0068 2007 PKB 41

Available Size:

1 inch OD to 6 inch OD
(Outside Diameter)
Thickness 2mm-6mm

Annual Capacity:

70.000 MT/Year

ASTM A 53 (A)

Normal Size		Outside Diameter (mm)	Thickness (mm)	Sch	Test Pressure	
DN	NPS				Psi	Kg/cm²
25	1"	33,4	3,38	40	700	49
32	11/4"	42,2	3,56	40	1200	85
40	11/2"	48,3	3,68	40	1200	85
50	2"	60,3	3,91	40	2300	161
65	12/2"	73	5,16	40	2500	175
80	3"	88,9	3,18	-	1290	91
			3,96	-	1600	112
			4,78	-	1930	136
			5,49	40	2220	156
100	4"	114,3	3,18	-	1000	70
			3,96	-	1250	88
			4,78	-	1500	105
			5,56	-	1750	123
			6,02	40	1900	134

Chemical composition

Carbor (C)	: 0.25 % max
Posphor (p)	: 0.05 % max
Sulphur (s)	: 0.045 % max

Mechanical properties

Tensile Strength	: 330 N/mm² Min
Yield Strength	: 205 N/mm² Min
Elongation	: 22% min

tolerance

Thickness	: ± 12.5%
Outside Diamenter	
OD ≤ 48.3 mm	: ± 0.4 mm
OD ≥ 60.3 mm	: ± 1 %

BS 1387:1985

Light (L)

Normal Size		Outside Diameter		Wall Thickness T (mm)	Hydrostatic Test	
DN (mm)	Thread Size R	Max (mm)	Min (mm)		Psi	BAR
25	1	33,8	33,2	2,6	730	50
32	11/4	42,5	41,9	2,6	730	50

Chemical composition

Carbor (C)	: 0.20 % max
Posphor (p)	: 0.045 % max
Sulphur (s)	: 0.045 % max

BS 1387:1985

Medium Series (M)

Normal Size		Outside Diameter		Wall Thickness T (mm)	Hydrostatic Test	
DN (mm)	Thread Size R	Max (mm)	Min (mm)		Psi	BAR
32	11/4	42,9	42,1	3,2	730	50
40	11/2	48,8	48	3,2	730	50
50	2	60,8	59,8	3,6	730	50
65	21/2	76,6	75,4	3,6	730	50
80	3	89,5	88,1	4,0	730	50
100	4	114,9	113,3	4,5	730	50
125	5	140,6	138,7	5,0	730	50
150	6	166,1	164,1	5,0	730	50

Mechanical properties

Tensile Strength	: 320 ~ 460 N/mm²
Yield Strength	: 195 N/mm² Min
Elongation	: 20% min

Tolerance

Thickness light tubes	: - 8%
Medium and heavy tubes	: - 10%

BS 1387:1985

Heavy (H)

Normal Size		Outside Diameter		Wall Thickness T (mm)	Hydrostatic Test	
DN (mm)	Thread Size R	Max (mm)	Min (mm)		Psi	BAR
65	21/2	76,6	75,4	4,5	730	50
80	3	89,5	88,1	5,0	730	50
100	4	114,9	113,3	5,4	730	50
125	5	140,6	138,7	5,4	730	50
150	6	166,1	164,1	5,4	730	50

BS EN 10255:2004 (E)

Type L

Nominal Size		Specified Outside Diameter (mm)	Outside Diameter		Wall Thickness T (mm)	Hydrostatic Test	
DN (mm)	Thread Size R		Max (mm)	Min (mm)		Psi	BAR
25	1	33.7	34.2	33.3	2.9	730	50
32	1 1/4	42.4	42.9	42	2.9	730	50
40	1 1/2	48.3	48.8	47.9	2.9	730	50
50	2	60.3	60.8	59.7	3.2	730	50
65	2 1/2	76.1	76.6	75.3	3.2	730	50
80	3	88.9	89.5	88	3.2	730	50
100	4	114.3	115	113.1	3.6	730	50
125	5	139.7	140.8	138.5	4.5	730	50
150	6	165.1	166.5	163.9	4.5	730	50

Type L2

Nominal Size		Specified Outside Diameter (mm)	Outside Diameter		Wall Thickness T (mm)	Hydrostatic Test	
DN (mm)	Thread Size R		Max (mm)	Min (mm)		Psi	BAR
25	1	33.7	34.2	33.3	2.6	730	50
32	1 1/4	42.4	42.9	42	2.6	730	50
40	1 1/2	48.3	48.8	47.9	2.9	730	50
50	2	60.3	60.8	59.7	2.9	S	50
65	2 1/2	76.1	76.6	75.3	3.2	730	50
80	3	88.9	89.5	88	3.2	730	50
100	4	114.3	115	113.1	3.6	730	50

Type LI

Nominal Size		Specified Outside Diameter (mm)	Outside Diameter		Wall Thickness T (mm)	Hydrostatic Test	
DN (mm)	Thread Size R		Max (mm)	Min (mm)		Psi	BAR
25	1	33.7	34.2	33.3	2.9	730	50
32	1 1/4	42.4	42.9	42	2.9	730	50
40	1 1/2	48.3	48.8	47.9	2.9	730	50
50	2	60.3	60.8	59.7	3.2	730	50
65	2 1/2	76.1	76.6	75.3	3.2	730	50
80	3	88.9	89.5	88	3.6	730	50
100	4	114.3	115	113.1	4.0	730	50

Heavy Series (H)

Nominal Size		Specified Outside Diameter (mm)	Outside Diameter		Wall Thickness T (mm)	Hydrostatic Test	
DN (mm)	Thread Size R		Max (mm)	Min (mm)		Psi	BAR
50	2	60.3	60.8	59.7	4.5	730	50
65	2 1/2	76.1	76.6	75.3	4.5	730	50
80	3	88.9	89.5	88	5.0	730	50
100	4	114.3	115	113.1	5.4	730	50
125	5	139.7	140.8	138.5	5.4	730	50
150	6	165.1	166.5	163.9	5.4	730	50

BS EN 10255:2004 (E)

Medium Series (M)

Nominal Size		Specified Outside Diameter (mm)	Outside Diameter		Wall Thickness T (mm)	Hydrostatic Test	
DN (mm)	Thread Size R		Max (mm)	Min (mm)		Psi	Bar
25	1	33.7	34.2	33.3	3.2	730	50
32	1 1/4	42.4	42.9	42	3.2	730	50
40	1 1/2	48.3	48.8	47.9	3.2	730	50
50	2	60.3	60.8	59.7	3.6	730	50
65	2 1/2	76.1	76.6	75.3	3.6	730	50
80	3	88.9	89.5	88	4.0	730	50
100	4	114.3	115	113.1	4.5	730	50
125	5	139.7	140.8	138.5	5.0	730	50
150	6	165.1	166.5	163.9	5.0	730	50

JIS G 3444 STK 290

Outside Diameter (mm)	Thickness (mm)	Cros Sectional Area cm²
34	2,3	2,291
42,7	2,3	2,919
	2,5	3,157
48,6	2,3	3,345
	2,5	3,621
	2,8	4,029
	3,2	4,564
60,5	2,3	4,205
	3,2	5,760
	4,0	7,100
76,3	2,8	6,495
	3,2	7,349
	4,0	9,085
89,1	2,8	7,591
	3,2	8,636
114,3	3,2	11,17
	3,5	12,18
	4,5	15,52
139,8	3,6	15,4
	4,0	17,07
	4,5	19,13
	6,0	25,22
165,2	4,5	22,72
	5,0	25,16
	6,0	30,01
	7,1	35,26

NOTE : Non standard sizes are available upon request and subject to minimum quantity.

Chemical composition

Posphor (p) : 0.05 % max
Sulphur (s) : 0.05 % max

Mechanical properties

Tensile Strength : 290 N/mm² Min
Yield Strength : -
Elongation :
>1mm to 2mm : 21%
>2mm to 3mm : 22%
>3mm to 4mm : 24%
>4mm to 5mm : 26%
>5mm to 6mm : 27%
>6mm to 7mm : 28%

Tolerance

Thickness < 4 mm : + 0.6%
- 0.5 mm
4 mm to 12 mm : + 15 %
- 12.5 %
Length : + Not specified
- 0 mm
Outside Diameter :
OD < 50 mm : ± 0.5 mm
OD ≥ 50mm : ± 1 %

JIS G 3444 STK 400

Outside Diameter (mm)	Thickness (mm)	Cros Sectional Area cm²
48,6	2,3	3,345
	2,5	3,621
	2,8	4,029
60,5	2,3	4,205
	3,2	5,760
76,3	2,8	6,495
	3,2	7,349
89,1	2,8	7,591
	3,2	8,636
114,3	3,2	11,17
	3,5	12,18
	4,5	15,52
139,8	3,6	15,4
	4,0	17,07
	4,5	19,13
165,2	4,5	22,72
	5,0	25,16
	6,0	30,01

NOTE : Non standard sizes are available upon request and subject to minimum quantity.

Chemical composition

Carbor (C)	: 0.25 % max
Posphor (p)	: 0.04 % max
Sulphur (s)	: 0.04 % max

Mechanical properties

Tensile Strength	: 400 N/mm² Min
Yield Strength	: 235 N/mm² Min
Elongation	:
>1mm to 2mm	: 14%
>2mm to 3mm	: 16%
>3mm to 4mm	: 17%
>4mm to 5mm	: 18%
>5mm to 6mm	: 20%
>6mm to 7mm	: 22%

Tolerance

Thickness <4mm	: + 0,6 mm
	- 0,5 mm
4 mm to 12 mm	: + 15 %
	- 12,5 %
Length	: + 50 mm
	-0 mm
Outside Diameter	
OD < 50 mm	: + Not specified ± 0,5 mm
OD ≥ 50mm	: ± 1 %

SNI 07-0068-1987 PKB 30

Nominal Size		Outside Diameter (mm)	Thickness (mm)	Cross Sectional Area cm²
A	B			
25	1"	34	2.3	2.291
32	1 1/4"	42.7	2.3	2.919
			2.8	3.157
40	1 1/2"	48.6	2.3	3.345
			2.8	4.029
			3.2	4.564
50	2"	60.5	2.3	4.205
			3.2	5.760
			4.0	7.100
65	2 1/2"	76.3	2.8	6.465
			3.2	7.439
			4.0	9.085
80	3"	89.1	2.8	7.591
			3.2	8.936
			4.0	10.690
100	4"	114.3	3.2	11.170
			3.6	12.520
			4.5	15.520
125	5"	139.8	3.6	15.400
			4.0	17.070
			4.5	19.130
			6.0	25.220
150	6"	165.2	4.5	22.720
			5.0	25.160
			6.0	30.010
			7.0	34.790

NOTE : Non standard sizes are available upon request and subject to minimum quantity.

Chemical Composition

• Phosphor (p)	: 0.05 % max
• Sulfur (s)	: 0.05 % max

Mechanical Properties

• Tensile Strength	: 294 N/mm² min
• Yield Strenth	: -
• Elongation	: 21 % min

Tolerance

• Thickness < 3 mm	: ± 0.3mm
3 mm s/d 12 mm	: ± 10 %
• Length	: ± 2 %
• Outside Diameter	
OD ≤ 50 mm	: ± 0.5 mm
OD ≥ 50 mm	: ± 1 %
Standard length of pipe	: 6000 mm

SNI 07-0039-1987 (Medium)

Galvanized Pipe

Nominal Size		Outside Diameter (mm)	Thickness (mm)	Cross Sectional Area cm²
A	B			
32	1 1/4"	42.7	2.8	3.510
40	1 1/2"	48.6	2.8	4.029
			3.2	4.564
50	2"	60.5	2.3	4.205
			3.2	5.760
65	2 1/2"	76.3	2.8	6.465
			3.2	7.349
80	3"	89.1	2.8	7.591
			3.2	8.936
100	4"	114.3	3.2	11.170
			3.6	12.520
125	5"	139.8	3.6	15.400
			4.0	17.070
			4.5	19.130
			6.0	23.600
150	6"	165.2	4.5	22.720
			5.0	25.160
			6.0	30.010
			7.0	34.790

Chemical Composition

- Carbon (C) : 0.25 % max
- Phosphor (p) : 0.04 % max
- Sulfur (s) : 0.04 % max

Mechanical Properties

- Tensile Strength : 402 N/mm² min
- Yield Strenth : 235 N/mm² min
- Elongation : 14 % min

Tolerance

- Thickness < 3 mm : ± 0.3mm
  3 mm s/d 12 mm : ± 10 %
- Length : ± 2 %
- Outside Diameter
  OD ≤ 50 mm : ± 0.5 mm
  OD ≥ 50 mm : ± 1 %
  Standard length of pipe : 6000 mm

SNI - 07 - 0039 - 1987 (Medium)

Galvanized Pipe

Nominal Size		Outside Diameter (mm)		Thickness (mm)	Test Pressure	
A	B	Max	Min		Psi	Kgf/cm²
25	1"	34.2	33.4	3.25	710	50
32	1 1/4"	42.9	42.1	3.25	710	50
40	1 1/2"	48.80	48.0	3.25	710	50
50	2"	60.8	59.8	3.65	710	50
65	2 1/2"	76.6	75.4	3.65	710	50
80	3"	89.5	88.1	4.05	710	50
100	4"	114.9	113.3	4.5	710	50
125	5"	140.6	138.7	4.85	710	50
250	6"	166.1	164.1	4.9	710	50

Chemical Composition

- Phosphor (p) : 0.05 % max
- Sulfur (s) : 0.05 % max

Mechanical Properties

- Tensile Strength : 33 Kgf/mm² min
- Elongation : 20 % min

Tolerance

- Thickness : + Unlimited
  : - 10%
- Length : ± 2 %
- Weight with zinc : 300 gr/m²
  Standard length of pipe : 6000 mm

JIS G3452 SGP

Black Galvanized Pipe

Normal Size		Outside Diameter (mm)	Thickness (mm)	Test Pressure	
A	B			Psi	Kgf/cm²
25	1"	34	3,2	365	25
32	1¼''	42,7	3,5	365	25
40	1½	48,6	3,5	365	25
50	2''	60,5	3,8	365	25
65	2½	76,3	4,2	365	25
80	3''	89,1	4,2	365	25
100	4''	114,3	4,5	365	25
125	5''	139,8	4,5	365	25
150	6''	165,2	5,0	365	25

NOTE : Non standard sizes are available upon request and subject to minimum quantity.

Chemical composition

Posphor (p) : 0.04 % max
Sulphur (s) : 0.04 % max

Mechanical properties

Tensile Strength : 290 N/mm² Min
Elongation :
Over 3mm up to and incl 4mm : 24%
Over 3mm up to and incl 4mm : 26%

Tolerance

Thickness : + Not specified
- 12.5%
Outside Diamenter :
OD < 50 mm : ± 0.5 mm
OD ≥ 50mm : ± 1 %
Weight with Zinc 400 gr/m²

JIS G 3445

Carbon Steel Tube For Machine Structural Purposes

Outside Diameter (mm)	STKM 11 A	STKM 13 A	STKM 14 A
	Tch (mm)	Tch (mm)	Tch (mm)
33,4	2 sd 3.2	2 sd 3.2	2 sd 2.2
42,2	2 sd 3.4	2 sd 3.4	2 sd 2.5
48,3	2 sd 3.6	2 sd 3.6	2 sd 2.8
60,3	2 sd 4.0	2 sd 4.0	2 sd 3.2
73	2 sd 4.85	2 sd 4.85	2 sd 3.4
76	2 sd 4.85	2 sd 4.85	2 sd 3.4
88,9	2 sd 5.2	2 sd 5.2	2 sd 3.6
114,3	2.5 sd 5.8	2.5 sd 5.8	2.5 sd 4.5
139,8	3.6 sd 6.5	3.6 sd 6.5	3.6 sd 6.0
165,2	3.6 sd 7.0	3.6 sd 7.0	3.6 sd 6.5

Note: Non standard sizes are available upen request and subject to minimum quatity.

Grade		Designation	Chemicsal composition %					Mechanical Property						
								Tensile test				Flatning test (D:Outside diameter)	Bending test	
			C Max	Si Max	Mn Max	P Max	S Max	Ts Min	Ys Min	El Min (%)			Bending angle	Inside radius
								N/mm²	N/mm²	Test no 12	Test no 5			
Grade 11	A	STKM 11 A	0,12	0,35	0,6	0,04	0,04	290	-	35	30	½ D	180°	4 D
Grade 13	A	STKM 13 A	0,25	0,35	0.3 to 0.9	0,04	0,04	370	215	30	25	⅔ D	90°	6 D
Grade 14	A	STKM 14 A	0,3	0,35	0.3 to 1.0	0,04	0,04	410	245	25	20	¾ D	90°	6 D

Elongation of tubes with a wall thickness under 8mm

Grade		Symbol of grade	Test piece	Wall Thickness					
				>1mm to 2mm	>2mm to 3mm	>3mm to 4mm	>4mm to 5mm	>5mm to 6mm	>6mm to 7mm
Grade 11	A	STKM 11 A	Test piece no.5	21 Min	22 Min	24 Min	26 Min	27 Min	28 Min
			Test piece no.12	26 Min	28 Min	29 Min	30 Min	32 Min	34 Min
Grade 13	A	STKM 13 A	Test piece no.5	16 Min	18 Min	19 Min	20 Min	22 Min	24 Min
			Test piece no.12	21 Min	22 Min	24 Min	26 Min	27 Min	28 Min
Grade 14	A	STKM 14 A	Test piece no.5	11 Min	12 Min	14 Min	16 Min	17 Min	18 Min
			Test piece no.12	16 Min	18 Min	19 Min	20 Min	22 Min	24 Min

Standar Tolerances

Division	Tolerances on outside diameter	
1	Under 50 mm	± 0.5 mm
	50 mm or ofer	± 1 %
2	Under 50 mm	± 0.25 mm
	50 mm or ofer	± 0.5 %
3	Under 25mm	± 0.12 mm
	25 mm or over to and excl. 40mm	± 0.15 mm
	40 mm or over to and excl. 50 mm	± 0.18 mm
	50 mm or over to and excl. 60 mm	± 0.2 mm
	60 mm or over to and excl. 70 mm	± 0.23 mm
	70 mm or over to and excl. 80 mm	± 0.25 mm
	80 mm or over to and excl. 90 mm	± 0.3 mm
	90 mm or over to and excl. 100 mm	± 0.4 mm
	100 mm or over	± 0.5 %
Tolerances		+50 / -0

Division	Tolerances on wall thickness	
1	Under 4 mm	+ 0.6 mm
		- 0.5 mm
	4 mm or over	+ 15 %
		- 12.5 %
2	Under 3 mm	± 0.3 mm
	3 mm or over	± 10 %
3	Under 2 mm	± 0.15 mm
	2 mm or over	± 8 %

* If there are no found special agreement between the order and manufacturer while processing the order, Then for the tolerance outside the diameter will be applied the rule no. 1, and the tolerance of wall thickness would be the rule no. 2.

SNI 0039 2013

Galvanized Pipe & Black Pipe (Tipis)

Diameter dalam Normal		Diameter luar (mm)			Thickness (mm)	Test Pressure	
(mm)	(inci)	Normal	Max	Min		Psi	Kgf/cm²
25	1"	33,6	34	33,2	2,6	710	50
32	1 1/4"	42,3	42,7	41,9	2,6	710	50
40	1 1/2"	48,20	48,60	47,8	2,9	710	50
50	2"	60,2	60,8	59,6	2,9	710	50
65	2 1/2"	76	76,7	75,2	3,2	710	50
80	3"	88,8	89,7	87,9	3,2	710	50
100	4"	114,1	115,3	113	3,6	710	50
125	5"	139,7	140,5	137,7	3,6	710	50
150	6"	165,1	166,8	163,4	3,6	710	50

SNI 0039 2013

Galvanized Pipe & Black Pipe (Medium)

Diameter dalam Normal		Diameter luar (mm)			Thickness (mm)	Test Pressure	
(mm)	(inci)	Normal	Max	Min		Psi	Kgf/cm²
25	1"	33,7	34,2	33,3	3,2	710	50
32	1 1/4"	42,4	42,9	42	3,2	710	50
40	1 1/2"	48,30	48,80	47,9	3,2	710	50
50	2"	60,3	60,8	59,7	3,6	710	50
65	2 1/2"	76,1	76,6	75,3	3,6	710	50
80	3"	88,9	89,5	88	4	710	50
100	4"	114,3	115	113,1	4,5	710	50
125	5"	139,7	140,8	138,5	5	710	50
150	6"	165,1	166,5	163,9	5	710	50

SNI 0039 2013

Galvanized Pipe & Black Pipe (Tebal)

Diameter dalam Normal		Diameter luar (mm)			Thickness (mm)	Test Pressure	
(mm)	(inci)	Normal	Max	Min		Psi	Kgf/cm²
65	2 1/2"	76	76,6	75,4	4,5	710	50
80	3"	88,8	89,5	88,1	5	710	50
100	4"	114,1	114,9	113,3	6,0	710	50
125	5"	139,7	142,7	138,7	6,6	710	50

Chemical Composition

Carbon (C)	: 0.2 % max
Mangan (Mn)	: 1.4 % max
Posphor (p)	: 0.035 % max
Belerang (s)	: 0.03 % max

Mechanical properties

Tensile Strength	: 33 sd 47 kgf/mm²
Yield Strength	: 20 kgf/mm² min
Elongation	: 20% min

Tolerance

Pipe Standard Length		: 6000 mm
		: 12000 mm
Length 6 m		: + 100
		: - 0
Length 12 m		: + 100
		: - 0
Weight with Zinc 300 gr/m²		:

Pipa Tipis		
• Tebal	:	+ 10%
		- 8%
Pipa Medium		
• Tebal	:	+ 15%
		- 10%
Pipa Medium		
• Tebal	:	+ 15%
		- 12.5%

SNI 0068 : 2013 PKB (STK) - 290

Outside Diameter (mm)	Thickness (mm)	Cros Sectional Area cm²
34	2,3	2,291
42,7	2,3	2,919
	2,5	3,157
48,6	2,3	3,345
	2,8	4,029
	3,2	4,564
60,5	2,3	4,205
	3,2	5,760
	4,0	7,100
76,3	2,8	6,465
	3,2	7,349
	4,0	9,085
89,1	2,8	7,591
	3,2	8,636
	4,0	10,690
114,3	3,2	11,170
	3,6	12,520
	4,5	15,520
	5,6	19,120
139,8	3,6	15,400
	4,0	17,070
	4,5	19,130
	6,0	25,220
165,2	4,5	22,720
	5,0	25,160
	6,0	30,010
	7,0	34,790

Chemical Composition

Posphor (p) : 0.05 % max
Belerang (s) : 0.05 % max

Mechanical properties

Tensile Strength : 294 n/mm² Min
Yield Strength : -
Elongation : 30 % Min

Uji tarik untuk pipa dengan tebal kurang dari 8mm di lakukan dengan batang uji No.12 atau No.5, nilai minimum elongasi dapat di hitung dengan mengurangi elongasi tersebut dengan laju pengurangan 1.5% per 1mm

Tolerance

Thickness < 4 mm : ± 0.6 mm
- 0.5 mm
4 mm s/d 12 mm : + 15 %
- 12.5 %
Length : + 50 mm
- 0 mm
Outside Diamenter :
OD < 50 mm : ± 0.5 mm
OD ≥ 50mm : ± 1 %

Panjang Standard Pipa = 6000 mm dan 12000 mm

SNI 0068 : 2013 PKB (STK) - 400

Outside Diameter (mm)	Thickness (mm)	Cros Sectional Area cm²
48,6	2,3	3,345
	2,8	4,029
60,5	2,3	4,205
	3,2	5,760
76,3	2,8	6,465
	3,2	7,349
89,1	2,8	7,591
	3,2	8,636
114,3	3,2	11,170
	3,6	12,520
	4,5	15,520
139,8	3,6	15,400
	4,0	17,070
	4,5	19,130
165,2	4,5	22,720
	5,0	25,160
	6,0	30,010

Chemical Composition

Posphor (p) : 0.05 % max
Belerang (s) : 0.05 % max

Mechanical properties

Tensile Strength : 294 n/mm² Min
Yield Strength : -
Elongation : 30 % Min

Uji tarik untuk pipa dengan tebal kurang dari 8mm di lakukan dengan batang uji No.12 atau No.5, nilai minimum elongasi dapat di hitung dengan mengurangi elongasi tersebut dengan laju pengurangan 1.5% per 1mm

Tolerance

Thickness < 4 mm : ± 0.6 mm
- 0.5 mm
4 mm s/d 12 mm : + 15 %
- 12.5 %
Length : + 50 mm
- 0 mm
Outside Diamenter :
OD < 50 mm : ± 0.5 mm
OD ≥ 50mm : ± 1 %

Panjang Standard Pipa = 6000 mm
12000 mm

Sprial Pipe

Spiral Pipe Our products are developed with advanced technology. We developed this product specifically for use on air systems with high speed and pressure. In addition, our Spiral Pipe is resistant to any wind pressure, either from the top or from the bottom. Our products have grain, crush, carbon monoxide drainage, and double wall for sound and heat insulation.

GRP produces our pipe with the automatic double-sided Submerged Arc Welding (S.A.W) technology to ensure the great consistency of our wielding and the quality of our final product.

For a specific work project, we are able produce the spiral-welded steel pipes to suit different thickness and the diameter of up to 120" OD. In addition, we are able to provide additional coating services with different type of material to the pipe depending on the project's requirement.

Standard & Specification:
ASTM A-252 Gr.2

Available Size:
Ø 8" - Ø 120"
(Outside Diameter)
Thickness 6 - 22 mm

Annual Capacity:
89,400 MT/Year

Standard & Specification:

ASTM A-252 Gr.2

Outside Diameter		Thickness														
inch	mm	6	8	9	10	11	12	12.7	13	14	15	16	17	18	19	20
8	203.2	29.18	38.51	43.10	47.64	52.14	56.58	59.66	60.97	65.32	69.62	73.86	78.06	82.21	86.31	90.35
10	254	36.69	48.53	54.38	60.17	65.92	71.61	75.57	77.26	82.86	88.41	93.91	99.36	104.21	110.11	115.41
12	304.8	44.21	58.55	65.65	72.70	79.70	86.61	91.48	93.55	100.40	107.2	113.95	120.65	127.30	133.91	140.46
14	355.6	51.73	68.57	76.92	85.22	93.48	101.68	107.39	109.83	117.93	125.99	133.99	141.95	149.85	157.71	165.52
16	406.4	59.24	78.60	88.20	97.75	107.26	116.71	123.30	126.12	135.47	144.78	154.04	163.24	172.40	181.51	190.57
18	457.2	66.76	88.62	99.47	110.28	121.04	131.74	139.21	142.40	153.01	163.57	174.08	184.54	194.95	205.31	215.63
20	508	74.28	98.64	110.75	122.81	134.82	146.78	155.12	158.69	170.55	182.36	194.12	205.84	217.50	229.12	240.68
22	558.8	81.79	108.66	122.02	135.33	148.60	161.81	171.03	174.97	188.09	201.15	214.17	227.13	240.05	252.92	265.74
24	609.6	89.31	118.68	133.30	147.86	162.38	176.84	186.94	191.26	205.62	219.94	234.21	248.43	262.60	276.72	290.79
26	660.4	96.83	128.71	144.57	160.39	176.16	191.87	202.85	207.54	223.16	238.73	254.25	269.73	285.15	300.52	315.85
28	711.2	104.34	138.73	155.85	172.92	189.94	206.91	218.76	223.83	240.70	257.52	274.30	291.02	307.70	324.32	340.90
30	762	111.86	148.75	167.12	185.44	203.72	221.94	234.67	240.11	258.24	276.32	294.34	312.32	330.25	348.13	365.95
32	812.8	119.37	158.77	178.40	197.97	217.50	236.97	250.58	256.40	275.78	295.11	314.39	333.62	352.80	371.93	391.01
34	863.6	126.89	168.79	189.67	210.50	231.28	252.01	266.49	272.69	293.32	313.90	334.43	354.91	375.34	395.73	416.06
36	914.4	134.41	178.81	200.94	223.03	245.06	267.04	282.40	288.97	310.85	332.69	354.44	376.21	397.89	419.53	441.12
38	965.2	141.92	188.84	212.22	235.55	258.84	282.07	298.31	305.26	328.38	351.48	374.52	397.50	420.44	443.33	466.17
40	10116	149.44	198.86	223.49	248.08	272.62	297.10	314.22	321.54	345.93	370.27	394.56	418.80	442.99	467.13	491.23
42	1066.8	156.96	208.88	234.77	260.61	286.40	312.15	330.13	337.83	363.47	389.06	414.60	440.10	465.54	490.94	516.28
44	1117.6	164.47	218.9	246.04	273.13	300.18	327.17	346.03	354.11	381.01	407.85	434.65	461.39	488.09	514.74	541.34
46	1168.4	171.99	228.92	257.32	285.66	313.96	342.2	361.94	370.40	398.55	426.64	454.69	482.69	510.64	538.54	566.39
48	1219.2	179.51	238.95	268.59	298.19	327.74	357.23	377.85	386.68	416.08	445.43	474.74	503.99	533.19	562.34	591.45

With our ability to process materials that are assisted by the latest technology machines and qualified employees, proving that we can do all your requests.

Plate Services Center (PSC)

Forming Services Center (FSC)

Coil Services Center (CSC)

Service Center

With facilities spanning over 51.428 sqm, the Plate Service Center (PSC) brings to you the highest quality of service in steel manufacturing and fabrication with the an advanced and precise computerized machines such as CNC sawing machines, CNC drilling, cutting, punching, bending machines, machines for galvanizing & shotblasting etc.

Together with Gunung Raja Paksi's mainstream products and experienced engineers of EFC, our customers are able to buy cut-to-length / cut-to-shape or custom steel fabrication to their requirement and international quality standards.

Products Serviced:

King Cross,
Queen Cross,
Welded Beam,
Box Beam

Service Provided:

Angle Line :
Cutting, Punching,
Stamping Angle Line

Special Operations : Bending, Chamfering, Nothing

Beam Line : Bending, Cutting (90o&45o), Drilling Copying (Honey Comb) Painting
Shot Blasting

Welded Beam Line : Build Up Beam, Tackling, Welding

Straightening Plate Service Center (PSC)

Forming Service Center (FSC)

Coil Service Center (CSC).

Coil Services Center

Forming Services Center

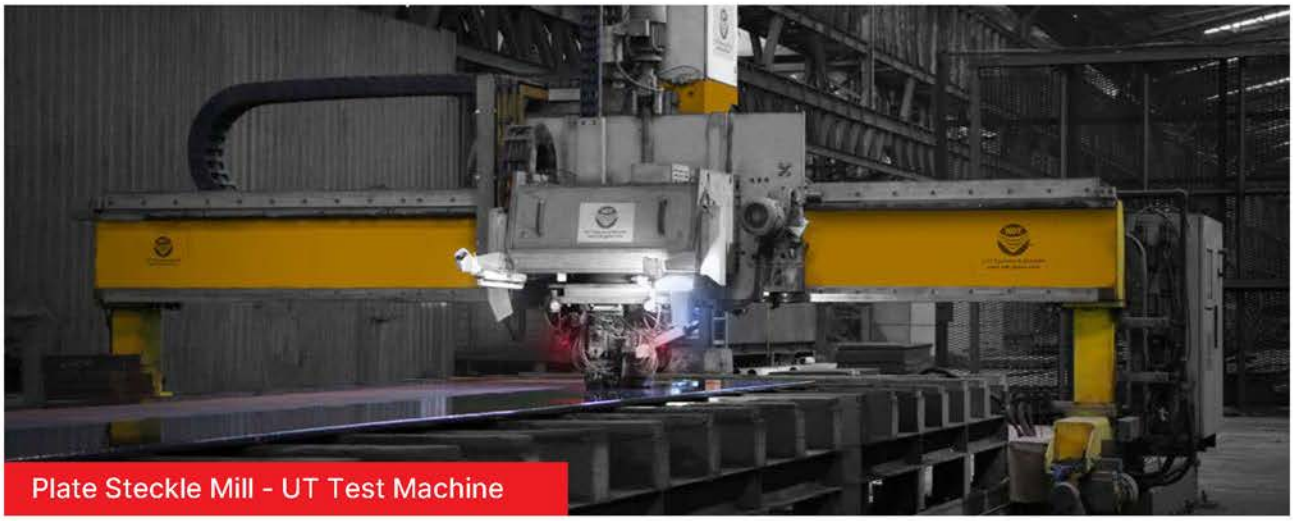


Plate Steckle Mill - UT Test Machine

Plate Services Center

Steel Applications

Industrial Buildings:
Air Pollution Control Equipment
Cement Plants
Chemical & Petrochemical Plants
Factory
Iron & Steel Mills & Wood Process
Warehouse
Workshop

Towers:
Pole Tower
Monumental Tower
Billboard
Monitoring Tower
Wtertank Tower

High Rise Buildings:
Apartment
Hotel
Office Building
Landmark
Gas Processing & Distribution Terminal & Cargo Handling System

Bridges:
Girdes Bridging
Truss Bridging
Cantilever Bridging
Arch Bridging
Suspension Bridging
Cable-stayed Bridging
Railway Bridging

Low Rise Buildings:
Housing / Residence
Hospital
Office Building
Airport / Hangar
School

Commercial Buildings:
Show Room
Supermarket & Hypermarket


1
2

GRP is very concerned about the quality of products and management system. This is evident from the many international certifications obtained such as **ISO 9001, ISO 14001, OHSAS 18001, SNI, ABS, JIS Marking, Lloyd Register (LR), BKI, Germanischer Lloyd (GL), Det Norske Veritas (DNV), Nippon Kaiji Kyokai (NK)**, and others.

Certifications


BIRO KLASIFIKASI INDONESIA
SERTIFIKAT PERSETUJUAN PROSES PEMBUATAN
Approval Certificate for Manufacturing Process
PT. GUNUNG RAJA PAKSI
Jl. Perjuangan No. 6 Kp. Tangsi RT 004/008 Ds. Sukadanau, Cikarang Barat, Bekasi, Jawa Barat
Pelat Baja Konstruksi Kapal
Hull Structural Steel Plates


Approved Manufacturer of Steel Plates, Strip, Sections & Bars
Manufacturer PT. GUNUNG RAJA PAKSI Tbk


FABRICATOR CERTIFICATE OF APPROVAL


LRQA
CERTIFICATE OF APPROVAL
PT. Gunung Raja Paksi Tbk
JALAN PERJUANGAN NOMOR 15, KAMPUNG TANGSI ,
Desa/Kelurahan Sukadanau, Kec. Cikarang Barat, Kab. Bekasi,
Provinsi Jawa Barat, Kode Pos: 17530


LRQA
Certificate of Approval
PT. GUNUNG RAJA PAKSI Tbk
ISO 9001:2015


LRQA
Certificate of Conformity of Factory Production Control


LRQA
CERTIFICATE OF CONFORMITY OF FACTORY PRODUCTION CONTROL


LRQA
CERTIFICATE OF CONFORMITY OF FACTORY PRODUCTION CONTROL


LRQA
Certificate of Conformity of Factory Production Control


LRQA
FACTORY PRODUCTION CONTROL CERTIFICATE to BCI 2023


ABS


JQA
JISマーク表示制度
認証書


Certificate of Conformity of Factory Production Control


LESEN PENSIJILAN BARANGAN
Product Certification Licence


INTERNATIONAL INSTITUTE OF WELDING
Having satisfied the requirements of the IIW Manufacturer Certification Scheme according to ISO 3834
AS/NZS ISO 3834 Part 2


AMERICAN INSTITUTE OF STEEL CONSTRUCTION
CERTIFICATION PROGRAMS
PT Gunung Raja Paksi Tbk


2025
CERTIFICATE OF APPROVAL
Product Conformity Certification
GRP
JAS-ANZ


2025
CERTIFICATE OF APPROVAL
Product Conformity Certification
GRP
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Product Conformity Certification
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Technical Approval
GRP
JAS-ANZ


LESEN PENSIJILAN BARANGAN
Product Certification Licence


LESEN PENSIJILAN BARANGAN
Product Certification Licence


LESEN PENSIJILAN BARANGAN
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CERTIFICATE OF APPROVAL
Technical Approval
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Certificate
TÜVRheinland


bsi.
Certificate of Registration
ENVIRONMENTAL MANAGEMENT SYSTEM - ISO 14001:2015
making excellence a habit.


bsi.
Certificate of Registration
OCCUPATIONAL HEALTH & SAFETY MANAGEMENT SYSTEM - ISO 45001:2018
making excellence a habit.


SERTIFIKAT KESESUAIAN
PT. GUNUNG RAJA PAKSI


SERTIFIKAT PRODUK PENGGUNAAN TANDA SNI
(SPPT SNI)
PT. GUNUNG RAJA PAKSI


SERTIFIKAT PRODUK PENGGUNAAN TANDA SNI
(SPPT SNI)
PT. GUNUNG RAJA PAKSI, Tbk.


SERTIFIKAT KESESUAIAN
PT. GUNUNG RAJA PAKSI, Tbk.


SERTIFIKAT PRODUK PENGGUNAAN TANDA SNI
(SPPT SNI)
PT. GUNUNG RAJA PAKSI, Tbk.


EPD
Environmental Product Declaration
HOT ROLLED PLATE
(Meeting AS/NZS 3678:2016)
GRP
PT Gunung Raja Paksi Tbk


EPD
Environmental Product Declaration
HOT ROLLED SHEET
COIL PLATE
(Meeting: AS/NZS 1594:2002)
GRP
PT Gunung Raja Paksi Tbk


EPD
Environmental Product Declaration
STRUCTURAL STEEL WELDED
I-SECTION
(Meeting: AS/NZS 3679.2:2016)
GRP
PT Gunung Raja Paksi Tbk


MENTERI LINGKUNGAN HIDUP /
KEPALA BADAN PENGENDALIAN LINGKUNGAN HIDUP
REPUBLIK INDONESIA
MENGANUGERAHKAN PENGHARGAAN
PROGRAM PENILAIAN PERINGKAT KINERJA PERUSAHAAN
DALAM PENGELOLAAN LINGKUNGAN HIDUP
PROPER
PERINGKAT
BIRU
KEPADA
PT Gunung Raja Paksi Tbk


worldsteel
ASSOCIATION
5-year recognition
PT Gunung Raja Paksi, Tbk
Climate Action
DATA PROVIDER
worldsteel
2023
In recognition of your participation in the worldsteel Climate Action data collection programme.
Edwin BASSON
Director General
Jeong-Woo CHOI
worldsteel Chair
*Valid from September 2023 to September 2024


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KAN
Komite Akreditasi Nasional
SERTIFIKAT AKREDITASI
LP-786-IDN
Ditetapkan tanggal : 22 Desember 2021
Berlaku hingga : 19 Desember 2026
Diberikan kepada
PT Gunung Raja Paksi, Tbk
Jl. Perjuangan Kp. Tangsi No. 8, RT.004/006, Kel. Sukadanau
Kec. Cikarang Barat, Kab. Bekasi, Jawa Barat
yang telah memenuhkan kompetensinya sebagai
LABORATORIUM PENGUJI
dengan menerapkan secara konsisten
SNI ISO/IEC 17025:2017 (ISO/IEC 17025:2017)
Persyaratan Umum Untuk Kompetensi Laboratorium Pengujian dan Laboratorium Kalibrasi
untuk ruang lingkup seperti dalam lampiran
KOMITE AKREDITASI NASIONAL
Drs. KUKUH S. ACHMAD, M.Sc

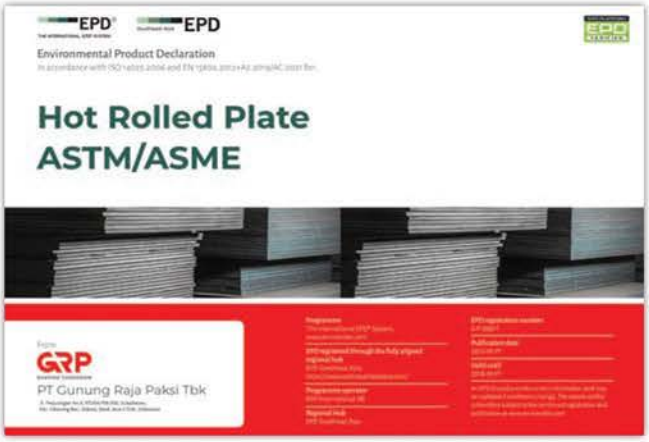

GOLD
Green Label Indonesia
CERTIFICATE of
GREEN LABEL INDONESIA
029/GPCI - GLI/BK/I/2024
AWARDED TO :
PT GUNUNG RAJA PAKSI Tbk
FOR THE PRODUCT :
GP
Baja Karbon
PLANT ADDRESS :
Jl. Perjuangan No. 8, Kp.Tangsi RT. 004/006 Sukadanau, Cikarang Barat, Bekasi 17530
Jawa Barat, Indonesia
VALIDITY :
05 JANUARI 2024 - 05 JANUARI 2025
YUDIONO - CHAIRMAN
GREEN PRODUCT COUNCIL INDONESIA
Associate Member

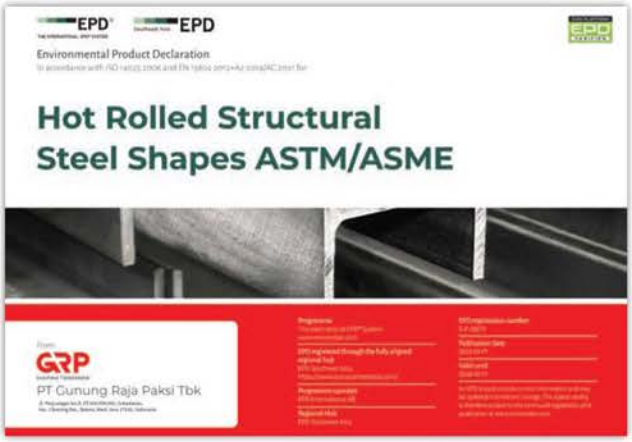

GOLD
Green Label Indonesia
CERTIFICATE of
GREEN LABEL INDONESIA
027/GPCI - GLI/BK/I/2024
AWARDED TO :
PT GUNUNG RAJA PAKSI Tbk
FOR THE PRODUCT :
GRP
Baja Karbon
PLANT ADDRESS :
Jl. Perjuangan No. 8, Kp.Tangsi RT. 004/006 Sukadanau, Cikarang Barat, Bekasi 17530
Jawa Barat, Indonesia
VALIDITY :
05 JANUARI 2024 - 05 JANUARI 2025
YUDIONO - CHAIRMAN
GREEN PRODUCT COUNCIL INDONESIA
Associate Member


GOLD
Green Label Indonesia
CERTIFICATE of
GREEN LABEL INDONESIA
030/GPCI - GLI/BK/I/2024
AWARDED TO :
PT GUNUNG RAJA PAKSI Tbk
FOR THE PRODUCT :
RSI
Baja Karbon
PLANT ADDRESS :
Jl. Perjuangan No. 8, Kp.Tangsi RT. 004/006 Sukadanau, Cikarang Barat, Bekasi 17530
Jawa Barat, Indonesia
VALIDITY :
05 JANUARI 2024 - 05 JANUARI 2025
YUDIONO - CHAIRMAN
GREEN PRODUCT COUNCIL INDONESIA
Associate Member


GOLD
Green Label Indonesia
CERTIFICATE of
GREEN LABEL INDONESIA
028/GPCI - GLI/BK/I/2024
AWARDED TO :
PT GUNUNG RAJA PAKSI Tbk
FOR THE PRODUCT :
GD
Baja Karbon
PLANT ADDRESS :
Jl. Perjuangan No. 8, Kp.Tangsi RT. 004/006 Sukadanau, Cikarang Barat, Bekasi 17530
Jawa Barat, Indonesia
VALIDITY :
05 JANUARI 2024 - 05 JANUARI 2025
YUDIONO - CHAIRMAN
GREEN PRODUCT COUNCIL INDONESIA
Associate Member


EPD
EPD
Environmental Product Declaration
HOT ROLLED COIL &
SHEET ASTM/ASME
GRP
PT Gunung Raja Paksi Tbk


EPD
EPD
Environmental Product Declaration
Hot Rolled Plate
ASTM/ASME
GRP
PT Gunung Raja Paksi Tbk


EPD
EPD
Environmental Product Declaration
Hot Rolled Structural
Steel Shapes ASTM/ASME
GRP
PT Gunung Raja Paksi Tbk


SERTIFIKAT
Kementerian Perindustrian
Lembaga Sertifikasi Industri Hijau
Balai Besar Standardisasi dan Pelayanan Jasa Industri Logam dan Mesin
Nomor : 04.24/24101.01.2024/LSIH-BBSPJILMX0I/2024
Dengan ini Lembaga Sertifikasi Industri Hijau - LSIH Balai Besar Standardisasi dan Pelayanan Jasa Industri Logam dan Mesin memberikan sertifikat kepada
PT Gunung Raja Paksi, Tbk
JALAN PERJUANGAN NOMOR 15, KAMPUNG TANGSI, Desa/Kelurahan Sukadanau, Kec. Cikarang Barat, Kab. Bekasi, Provinsi Jawa Barat
Sebagai Perusahaan yang dalam proses produksinya telah memenuhi Standar Industri Hijau
No. SIH 24101.01:2024 Industri Baja Lembaran Produk Slab
Gunawan
Ketua
Diterbitkan pada tanggal : 31 Desember 2024
Berakhir pada tanggal : 30 Desember 2026


SERTIFIKAT
Kementerian Perindustrian
Lembaga Sertifikasi Industri Hijau
Balai Besar Standardisasi dan Pelayanan Jasa Industri Logam dan Mesin
Nomor : 05.24/24102.04.2024/LSIH-BBSPJILMX0I/2024
Dengan ini Lembaga Sertifikasi Industri Hijau - LSIH Balai Besar Standardisasi dan Pelayanan Jasa Industri Logam dan Mesin memberikan sertifikat kepada
PT Gunung Raja Paksi, Tbk
JALAN PERJUANGAN NOMOR 15, KAMPUNG TANGSI, Desa/Kelurahan Sukadanau, Kec. Cikarang Barat, Kab. Bekasi, Provinsi Jawa Barat
Sebagai Perusahaan yang dalam proses produksinya telah memenuhi Standar Industri Hijau
No. SIH 24102.04:2024 Industri Baja Lembaran Produk Hot Rolled Coil
Gunawan
Ketua
Diterbitkan pada tanggal : 31 Desember 2024
Berakhir pada tanggal : 30 Desember 2026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PT. Gunung Raja Paksi (Tbk)

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PT Gunung Raja Paksi Tbk

Jl. Perjuangan No.15
Sukadanau, Cikarang Barat
Bekasi 17530
West Java, Indonesia

Phone: +62 21 890-0111
Fax: +62 21 890-0555
Email: gsg@gunungsteel.com

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