

PRODUCT SPECIFICATIONS

Product specification

High Carbon Steel Wire Rods

These specifications covered High Carbon steel wire rods as per JIS G 3506 and equivalent to AISI/SAE specifications for the manufacture of spring wire, rope wire, ACSR wire, wire for umbrella rib & cycle spoke, pre-stressed concrete wire, etc.

Product range : 5.5, 6, 6.4, 7, 8, 9, 9.5, 10, 11, 12, 13, 14, 15, 16 mm, Tolerance ± 0.40 mm on diameter and out of round 0.64 mm max.

Controlled cooling : Stelmor type

Coil weight : 1.40 - 1.95 MT

Coil dimensions : ID : 850 mm, OD : 1250 mm

Company Standard as per JIS G 3506

Grade	% C	% Mn	% P max.	% S max.	% Si	Typical UTS (5.5 mm dia) N/mm ²	Elong % Approx	Typical end use
SWRH 27	0.24/0.31	0.30/0.60	0.030	0.030	0.15-0.35	565/695	16	Low Carbon PC wire
SWRH 32	0.29/0.36	0.30/0.60	0.030	0.030	0.15-0.35	600/715	15	
SWRH 37	0.34/0.41	0.30/0.60	0.030	0.030	0.15-0.35	620/745	15	
SWRH 42A	0.39/0.46	0.30/0.60	0.030	0.030	0.15-0.35	665/775	14	
SWRH 42B	0.39/0.46	0.60/0.90	0.030	0.030	0.15-0.35	685/815	14	
SWRH 47A	0.44/0.51	0.30/0.60	0.030	0.030	0.15-0.35	735/855	13	
SWRH 47B	0.44/0.51	0.60/0.90	0.030	0.030	0.15-0.35	755/875	13	
SWRH 52A	0.49/0.56	0.30/0.60	0.030	0.030	0.15-0.35	825/945	13	
SWRH 52B	0.49/0.56	0.60/0.90	0.030	0.030	0.15-0.35	845/965	13	
SWRH 57A	0.54/0.61	0.30/0.60	0.030	0.030	0.15-0.35	860/970	12	
SWRH 57B	0.54/0.61	0.60/0.90	0.030	0.030	0.15-0.35	880/980	12	
SWRH 62A	0.59/0.66	0.30/0.60	0.030	0.030	0.15-0.35	920/1040	11	Concrete nail Wire for umbrella rib, Cycle spoke, Motor cycle spoke Crimping wire for bed spring. Spring wire, rope wire, Tyre bead wire, ACSR wire, bale wire
SWRH 62B	0.59/0.66	0.60/0.90	0.030	0.030	0.15-0.35	950/1070	11	
SWRH 67A	0.64/0.71	0.30/0.60	0.030	0.030	0.15-0.35	960/1080	10	
SWRH 67B	0.64/0.71	0.60/0.90	0.030	0.030	0.15-0.35	970/1090	10	
SWRH 72A	0.69/0.76	0.30/0.60	0.030	0.030	0.15-0.35	1030/1150	9	
SWRH 72B	0.69/0.76	0.60/0.90	0.030	0.030	0.15-0.35	1050/1170	9	
SWRH 77A	0.74/0.81	0.30/0.60	0.030	0.030	0.15-0.35	1090/1210	9	
SWRH 77B	0.74/0.81	0.60/0.90	0.030	0.030	0.15-0.35	1120/1250	8	
SWRH 82A	0.79/0.86	0.30/0.60	0.030	0.030	0.15-0.35	1140/1270	8	
SWRH 82B	0.79/0.86	0.60/0.90	0.030	0.030	0.15-0.35	1170/1290	8	

Similar grades of equivalent to SAE / AISI 1026, 1030, 1040, 1050, 1055, 1060, 1065, 1070, 1080 are also delivered.

Tire Cord Steel Wire Rods (5.5 mm)

Grade	%C	% Min	% P max	% S max	% Si	% Cu max	UTS max N/mm ²	% RA min
70	0.70-0.75	0.46-0.60	0.025	0.025	0.15-0.30	0.10	1000-1110	40
80	0.80-0.85	0.46-0.60	0.025	0.025	0.15-0.30	0.10	1100-1220	38

PRODUCT SPECIFICATIONS

Grade	% C	% Mn	% P max.	% S max.	% Si	UTS N/mm ²	% RA min.
30MnSi	0.28-0.34	1.00-1.30	0.025	0.025	0.60-0.90	600-750	50
Grade	% C	% Mn	% P max.	% S max.	% Si	% Cr	UTS N/mm ²
SWRH 82BCr	0.79-0.86	0.60-0.90	0.030	0.030	0.15-0.35	0.25-0.35	1120-1260

Low Carbon Steel Wire Rods

These standards are described for wire rods as per JIS G 3505 and eq. with SAE/AISI and eq. with SNI 07-0053-2006.

These may be used for fine wire, annealed wire, galvanized wire, nail wire, barbed wire, staple wire, rivet wire, etc.

Product range : 5.5, 6, 6.4, 7, 8, 9, 9.5, 10, 11, 12, 13, 14, 15, 16 mm, Tolerance \pm 0.40 mm on diameter
and out of round 0.64 mm max.

Controlled cooling : Stelmor type

Coil weight : 1.40 - 1.95 MT

Coil dimensions : ID : 850 mm, OD : 1250 mm

Company Standard as per JIS G 3505 and eq. with SNI 07-0053-2006

Grade / Equivalent	% C	% Mn	% P max.	% S max.	UTS (Max) N/mm ²	Elong min. %	Typical End Use
SWRM 6/1006	0.08-max	0.60-max	0.040	0.040	420	30	Binding wire, Annealed wire
SWRM 8/1008	0.10-max	0.60-max	0.040	0.040	440	25	Telegraph wire, nails
SWRM 10/1010	0.08/0.13	0.30/0.60	0.040	0.040	460	23	Galvanized wire, Barbed wire
SWRM 12/1012	0.10/0.15	0.30/0.60	0.040	0.040	510	22	Nail wire, Staple wire, wire mesh
SWRM 15/1015	0.13/0.18	0.30/0.60	0.040	0.040	520	21	Rivet wire
SWRM 17/1017	0.15/0.20	0.30/0.60	0.040	0.040	530	21	Rivet wire
SWRM 20/1020	0.18/0.23	0.30/0.60	0.040	0.040	550	21	Rivet wire
SWRM 22/1022	0.20/0.25	0.30/0.60	0.040	0.040	600	20	Concrete Reinforcement

Commercial grade :

Product range : 4.5, 4.7, 4.9, 5.1, 5.2, 5.4, 5.5, 5.65, 6.0, 6.2 up to 22, mm

Coil weight : 1.40 - 1.95 MT

Coil dimensions : ID : 850 mm, OD : 1250 mm

1012B	0.3 max.	1.50 max.	0.040	0.040	1.00	-	-	Miscellaneous
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SAE Grade (5.5 - 22.0 mm)

Grade	% C	% Mn	% P max	% S max	UTS (max) N/mn ²	Elongation % min
1005 / SAE 1005	0.06 max	0.35 max	0.040	0.040	400	35
1006 / SAE 1006	0.08 max	0.25 / 0.40	0.040	0.040	420	30
1008 / SAE 1008	0.10 max	0.30 / 0.50	0.040	0.040	440	25
1012 / SAE 1012	0.10 / 0.15	0.30 / 0.60	0.040	0.040	510	22
1015 / SAE 1015	0.13 / 0.18	0.30 / 0.60	0.040	0.040	520	21
1018 / SAE 1018	0.15 / 0.20	0.60 / 0.90	0.040	0.040	540	21
1020 / SAE 1020	0.18 / 0.23	0.30 / 0.60	0.040	0.040	550	21

PRODUCT SPECIFICATIONS

General purpose wire rods

These standards are described for wire rods as per Malaysian Standard MS ISO 16120-2. These specifications for the manufacture used for fine wire, annealed wire, galvanized wire, nail wire, barbed wire, staple wire, rivet wire, spring wire rope wire, ACSR wire, cycle spoke, prestressed concrete wire, etc.

Product range : 5.5, 6, 6.4, 7, 8, 9, 9.5, 10, 11, 12 mm, Tolerance + 0.40 mm on diameter and out of round 0.64 mm max.

Controlled cooling : Stelmor type

Coil weight : 1.40 - 1.95 MT

Coil dimensions : ID : 850 mm, OD : 1250 mm

No.	Steel Grade	%C	%Mn	%P max.	%S max.	%Si	%Cr max.	%Cu max.	%Ni max.
1	C4D	0.06 max.	0.30 - 0.60	0.035	0.035	0.30 max.	0.20	0.30	0.25
2	C7D	0.05 - 0.09	0.30 - 0.60	0.035	0.035	0.30 max.	0.20	0.30	0.25
3	C9D	0.10 max.	0.60 max.	0.035	0.035	0.30 max.	0.25	0.30	0.25
4	C10D	0.08 - 0.13	0.30 - 0.60	0.035	0.035	0.30 max.	0.20	0.30	0.25
5	C12D	0.10 - 0.15	0.30 - 0.60	0.035	0.035	0.30 max.	0.20	0.30	0.25
6	C15D	0.12 - 0.17	0.30 - 0.60	0.035	0.035	0.30 max.	0.20	0.30	0.25
7	C18D	0.15 - 0.20	0.30 - 0.60	0.035	0.035	0.30 max.	0.20	0.30	0.25
8	C20D	0.18 - 0.23	0.30 - 0.60	0.035	0.035	0.30 max.	0.20	0.30	0.25
9	C26D	0.24 - 0.29	0.50 - 0.80	0.030	0.030	0.10 - 0.30	0.20	0.30	0.25
10	C32D	0.30 - 0.35	0.50 - 0.80	0.030	0.030	0.10 - 0.30	0.20	0.30	0.25
11	C38D	0.35 - 0.40	0.50 - 0.80	0.030	0.030	0.10 - 0.30	0.20	0.30	0.25
12	C42D	0.40 - 0.45	0.50 - 0.80	0.030	0.030	0.10 - 0.30	0.20	0.30	0.25
13	C48D	0.45 - 0.50	0.50 - 0.80	0.030	0.030	0.10 - 0.30	0.15	0.25	0.20
14	C50D	0.48 - 0.53	0.50 - 0.80	0.030	0.030	0.10 - 0.30	0.15	0.25	0.20
15	C52D	0.50 - 0.55	0.50 - 0.80	0.030	0.030	0.10 - 0.30	0.15	0.25	0.20
16	C56D	0.53 - 0.58	0.50 - 0.80	0.030	0.030	0.10 - 0.30	0.15	0.25	0.20
17	C58D	0.55 - 0.60	0.50 - 0.80	0.030	0.030	0.10 - 0.30	0.15	0.25	0.20
18	C60D	0.58 - 0.63	0.50 - 0.80	0.030	0.030	0.10 - 0.30	0.15	0.25	0.20
19	C62D	0.60 - 0.65	0.50 - 0.80	0.030	0.030	0.10 - 0.30	0.15	0.25	0.20
20	C66D	0.63 - 0.68	0.50 - 0.80	0.030	0.030	0.10 - 0.30	0.15	0.25	0.20
21	C68D	0.65 - 0.70	0.50 - 0.80	0.030	0.030	0.10 - 0.30	0.15	0.25	0.20
22	C70D	0.68 - 0.73	0.50 - 0.80	0.030	0.030	0.10 - 0.30	0.15	0.25	0.20
23	C72D	0.70 - 0.75	0.50 - 0.80	0.030	0.030	0.10 - 0.30	0.15	0.25	0.20
24	C76D	0.73 - 0.78	0.50 - 0.80	0.030	0.030	0.10 - 0.30	0.15	0.25	0.20
25	C78D	0.75 - 0.80	0.50 - 0.80	0.030	0.030	0.10 - 0.30	0.15	0.25	0.20
26	C80D	0.78 - 0.83	0.50 - 0.80	0.030	0.030	0.10 - 0.30	0.15	0.25	0.20
27	C82D	0.80 - 0.85	0.50 - 0.80	0.030	0.030	0.10 - 0.30	0.15	0.25	0.20

Welding Electrode Grades Steel Wire Rods

These specifications are described for wire rods as per JIS G 3503 and used for core wire covered lectrodemild steel electrodes for arc welding of structural steels and AWS standards used Copper coated CO welding wire (MIG).

Product range : 5.5, 6.0, 6.4, 7, 8, 9, 9.5 mm (or any other agreed diameter) & tolerance + 0.40 mm of diameter

Controlled cooling : Retarded / Stelmor type of cooling

Coil weight : 1.40 - 1.95 MT

Coil dimensions : ID : 850 mm, OD : 1250 mm

PRODUCT SPECIFICATIONS

Grade	%C	% Min	% P max	% S max	% Si	% B min	UTS max	% RA min
							N/mm ²	
10B35	0.32-0.37	0.75-0.90	0.030	0.030	0.15-0.30	0.002	720	50

Straight Bars for Concrete Reinforcement

These specifications are described for bar in coil and bars as per SNI 07-2052-2017, SNI 07-0954-2005 and equivalent to JIS G 3112 Plain Rounds (in mm) : P6, P8, P10, P12 and P14 (polos)

Mechanical Properties as per SNI 07-0954-2005

Steel Grade	Tensile Test			Bend Test	
	Yield Kgf / mm ² (N/mm ²)	Tensile Kgf / mm ² (N/mm ²)	Elongation (%)	Rounded Corner	Arch Diameter
BjTP 24	Minimum 24 (235)	Minimum 39 (380)	20	180°	3 x d
BjTP 30	Minimum 30 (295)	Minimum 45 (440)	18	180°	3 x d

Note :

- 1. Bend test result should not be located on the outer side f the arch.
- 2. 1 Kgf/mm² = 9.8 N/mm²

Chemical composition of continuous cast steel billets

Class of concrete reinforcement	Maximum Element Content (%)					
	C	Si	Mn	P	S	C _{eq*}
BjTP 280	-	-	-	0,050	0,050	-
BjTS 280	-	-	-	0,050	0,050	-
BjTS 420A	0,32	0,55	1,65	0,050	0,050	0,60
BjTS 420B	0,32	0,55	1,65	0,050	0,050	0,60
BjTS 520	0,35	0,55	1,65	0,050	0,050	0,60
BjTS 550	0,35	0,55	1,65	0,050	0,050	0,60
BjTS 700**	0,35	0,55	1,65	0,050	0,050	0,60

Note : - The value of Carbon tolerance is allowed to be more 0.03%

- * Carbon Equivalent, $C_{eq} = C + \frac{Mn}{6} + \frac{Si}{24} + \frac{Ni}{40} + \frac{Cr}{5} + \frac{Mo}{4} + \frac{V}{14}$

- **BjTS 700 needs to be added other alloy element according to the needs apart from the table above and included into the group of alloy steel

PRODUCT SPECIFICATIONS

Company Standard as per JIS G 3503 / MS 2319 : 2010

Grade	% C max.	% Mn	% P max.	% S max.	% Si max.	% Cu max.	Mechanical Properties	Typical End Use
SWRY 11	0.09	0.35/0.65	0.020	0.023	0.03	0.20	UTS-430 N/mm ² max. %EL = 30 min.	Stick electrodes

Co2 Gas Welding Rod for MIG & TIG Wire (ASME / AWS A5.18)

Grade	% C	% Mn	% P max.	% S max.	% Si	% Cu max.	Tensile Strength N/mm ² or Mpa	Elongation Min %
ER70S-4	0.06/0.15	1.00/1.50	0.025	0.035	0.65/0.85	0.20	480 min.	22
ER70S-6	0.06/0.15	1.40/1.85	0.025	0.035	0.80/1.10	0.20	480 min.	22
EM 12K	0.06/0.15	0.80/1.25	0.030	0.030	0.10/0.35	0.20	415 min.	22
EM 12	0.06/0.15	0.80/1.25	0.030	0.030	0.10	0.20	415 min.	22

Cold Heading Quality Steel Wire Rod

These specifications are described for wire rods equivalent to JIS G 3507

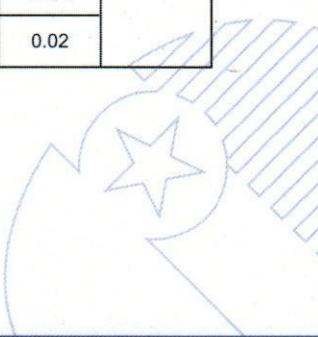
Product range : 5.5 to 22 mm, tolerance ± 0.40 mm on diameter (typcal for 5.5 mm) as per all international standards.

Controlled cooling : Retarded / Stelmor type of cooling

Coil weight : 1.40 - 1.95 MT

Coil dimensions : ID : 850 mm, OD : 1250 mm

Grade	% C	% Mn	% P max.	% S max.	% Si max.	% Al min.	Typical End Use
SWRCH 6A	0.08 max	0.60 max	0.030	0.035	0.10	0.02	Fasteners
SWRCH 8A	0.10 max	0.60 max	0.030	0.035	0.10	0.02	
SWRCH 18A	0.15/0.20	0.60/0.90	0.030	0.035	0.10	0.02	
SWRCH 22A	0.18/0.23	0.70/1.00	0.030	0.035	0.10	0.02	



PT. ISPAT WIRE PRODUCT

NILE, WIRE & KAWAT POTONG

Facilities

Capacity Nails 24,000 TPA
Capacity Nail Wire 42,000 TPA



Strengths

The product certificates and management system awarded are below :

- Quality Management System ISO 9001:2015
- Management System SMK3
- Zero accident Certification

Product specification

Supplied in cartons weighing 30 kg, 25 kg, 20 kg, 50 lbs.

Flexible packaging available in smaller weights as per customer requirement and specification.

Commons Nails (Focused for domestic sale)

Size (Length)		Dia (mm)	
Inches	mm	Shank	Head
1	25.4	1.65	3,60
1 1/4	31.7	1,85	4
1 1/2	38.1	2.1	4.8
1 3/4	44.4	2.41	5
2	50.8	2.87	6.2
2 1/2	63.5	3.05	6.5
2	76.2	3.41	7.2
3 1/2	88.9	3.77	8.5
4	101.6	4.11	9
5	127	5.15	9.5
6	152.4	5.58	10.5



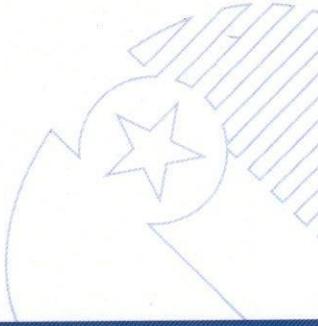
PRODUCT SPECIFICATIONS

Mechanical Properties as per SNI 2052 : 2017

Class of concrete reinforcement	Tensile Test			Bend test		TS/YS Ratio (Test Result)
	Yield Strength	Tensile Strength	Elongation in 200 mm, min	Bend Angle	Diameter of Bender	
BjTP 280	Min. 280 Maks. 405	Min., 350	11 ($d \leq 10$ mm)	180	3,5d ($d \leq 16$ mm)	-
			12 ($d \geq 12$ mm)	180	5d ($d \geq 19$ mm)	
BjTS 280	Min. 280 Maks. 405	Min. 350	11 ($d \leq 10$ mm)	180	3,5d ($d \leq 16$ mm)	Min. 1,25
			12 ($d \geq 13$ mm)	180	5d ($d \geq 19$ mm)	
BjTS 420A	Min. 420 Maks. 545	Min. 525	9 ($d \leq 19$ mm)	180	3,5d ($d \leq 16$ mm)	Min. 1,25
			8 ($22 \leq d \leq 25$ mm)	180	5d ($19 \leq d \leq 25$ mm)	
			7 ($d \geq 29$ mm)	180 90	7d ($29 \leq d \leq 36$ mm) 9d ($d \geq 36$ mm)	
BjTS 420B	Min. 420 Maks. 545	Min. 525	14 ($d \leq 19$ mm)	180	3,5d ($d \leq 16$ mm)	Min. 1,25
			12 ($22 \leq d \leq 36$ mm)	180	5d ($19 \leq d \leq 25$ mm)	
			10 ($d \geq 36$ mm)	180 90	7d ($29 \leq d \leq 36$ mm) 9d ($d \geq 36$ mm)	
BjTS 520	Min. 520 Maks. 645	Min. 650	7 ($d \leq 25$ mm)	180	5d ($d \leq 25$ mm)	Min. 1,25
			6 ($d \geq 29$ mm)	180 90	7d ($29 \leq d \leq 36$ mm) 9d ($d \geq 36$ mm)	
BjTS 550	Min. 550 Maks. 675	Min. 687,5	7 ($d \leq 25$ mm)	180	5d ($d \leq 25$ mm)	Min. 1,25
			6 ($d \geq 29$ mm)	180 90	7d ($29 \leq d \leq 36$ mm) 9d ($d \geq 36$ mm)	
BjTS 700	Min. 700 Maks. 825	Min. 805	7 ($d \leq 25$ mm)	180	5d ($d \leq 25$ mm)	Min. 1,15
			6 ($d \geq 29$ mm)	180 90	7d ($29 \leq d \leq 36$ mm) 9d ($d \geq 36$ mm)	

Remark :

1. d is the nominal diameter of concrete reinforcing steel
2. The bend test results may not show cracks on the outside of the arch of the bend test object



PRODUCT SPECIFICATIONS



Wire Gauges

Gauge	ASWG		BWG		SWG	
	Dia(mm)	Weight (mm)	Dia (mm)	Weight (mm)	Dia (mm)	Weight (mm)
4	5.723	20.1	6.045	22.5	5.892	21.4
4 - 1/4	5.613	19.4	5.944	21.8	5.766	20.5
4 - 1/2	5.486	18.5	5.817	20.9	5.639	19.6
4 - 3/4	5.385	17.9	5.715	20.1	5.512	18.7
5	5.258	17	5.588	19.3	5.384	17.9
5 - 1/4	5.156	16.4	5.486	18.5	5.258	17
5 - 1/2	5.08	15.9	5.385	17.9	5.131	16.2
5 - 3/4	4.978	15.3	5.258	17	5.004	15.4
6	4.877	14.7	5.156	16.4	4.877	14.7
6 - 1/4	4.775	14	5.004	15.4	4.775	14
6 - 1/2	4.699	13.6	4.877	14.7	4.674	13.5
6 - 3/4	4.597	13	4.724	13.8	4.572	12.9
7	4.496	12.5	4.572	12.9	4.47	12.3
7 - 1/4	4.394	11.9	4.47	12.3	4.369	11.8
7 - 1/2	4.318	11.5	4.394	11.9	4.267	11.2
7 - 3/4	4.216	11	4.293	11.4	4.166	10.7
8	4.115	10.4	4.191	10.8	4.064	10.2
8 - 1/4	4.039	10.1	4.086	10.3	3.962	9.67
8 - 1/2	3.937	9.55	3.988	9.8	3.861	9.19
8 - 3/4	3.861	9.19	3.861	9.19	3.759	8.71
9	3.767	8.74	3.759	8.71	3.657	8.24
9 - 1/4	3.683	8.36	3.683	8.36	3.556	7.79
9 - 1/2	3.607	8.02	3.581	7.9	3.454	7.35
9 - 3/4	3.505	7.57	3.505	7.57	3.353	6.93
10	3.429	7.25	3.404	7.14	3.251	6.51
10 - 1/4	3.327	6.82	3.327	6.82	3.175	6.21
10 - 1/2	3.251	6.51	3.226	6.41	3.099	5.93
10 - 3/4	3.15	6.11	3.15	6.11	3.023	5.63
11	3.061	5.77	3.048	5.73	2.946	5.35
11 - 1/4	2.972	5.44	2.972	5.44	2.87	5.08
11 - 1/2	2.87	5.08	2.921	5.26	2.794	4.81
11 - 3/4	2.769	4.72	2.845	4.99	2.718	4.55
12	2.68	4.43	2.769	4.73	2.641	4.3
12 - 1/4	2.591	4.14	2.692	4.47	2.565	4.05
12 - 1/2	2.515	3.9	2.591	4.14	2.489	3.82
12 - 3/4	2.413	3.59	2.515	3.9	2.413	3.59
13	2.324	3.33	2.413	3.59	2.336	3.36
13 - 1/4	2.261	3.15	2.337	3.37	2.261	3.15
13 - 1/2	2.184	2.94	2.261	3.15	2.184	2.94
13 - 3/4	2.108	2.74	2.184	2.94	2.108	2.74
14	2.032	2.54	2.108	2.74	2.032	2.54
14 - 1/4	1.981	2.42	2.032	2.54	1.981	2.42
14 - 1/2	1.93	2.3	1.981	2.42	1.93	2.3
14 - 3/4	1.88	2.18	1.905	2.24	1.88	2.18
15	1.829	2.06	1.829	2.06	1.829	2.06
15 - 1/4	1.778	1.95	1.778	1.95	1.778	1.95
15 - 1/2	1.702	1.79	1.753	1.89	1.727	1.84
15 - 3/4	1.651	1.68	1.702	1.79	1.676	1.73

PRODUCT SPECIFICATIONS

Bright Common Nails (Focused for export sale)

Size	Size (Length)		Dia (mm)		Approx Number per Lb
	Inches	mm	Shank	Head	
2D	1	25.4	1.82	4.36	847
3D	1.25	31.7	2.1	5.15	543
4D	1.5	38.1	2.59	6.37	294
5D	1.75	44.4	2.59	6.37	254
6D	2	50.8	2.87	6.74	167
7D	2.25	57.2	2.92	6.74	150
8D	2.5	63.5	3.33	7.14	101
9D	2.75	69.8	3.33	7.14	92
10D	3	76.2	3.75	7.93	66
12D	3.25	82.5	3.75	7.93	61
16D	3.5	88.9	4.11	8.73	47
20D	4	101.6	4.87	10	29
30D	4.5	114.3	5.25	10.1	22
40D	5	127	5.72	10.2	17



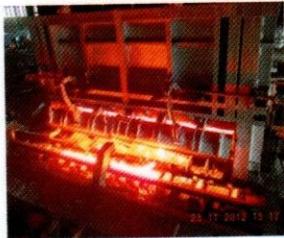
Green Vinyl Sinkers

Size	Size (Length)		Dia (mm)		Approx Number per Lb
	Inches	mm	Shank	Head	
2D	1	25.4	1.59	3.95	1084
3D	1.12	28.5	1.7	4.36	923
4D	1.37	34.9	2.03	5.15	527
5D	1.62	41.2	2.18	5.55	387
6D	1.87	47.6	2.32	5.95	293
7D	2.12	53.9	2.51	6.35	223
8D	2.37	60.3	2.87	6.7	153
10D	2.87	73	3.05	7.14	111
12D	3.12	79.3	3.42	7.9	81
16D	3.25	82.6	3.77	8.73	64
20D	3.75	95.2	4.49	9.52	40
30D	4.28	108.7	4.87	10.32	30



Facilities

- Capacity 180,000 TPA
- Producing Steel Angle Bars and Steel Channels
- Billet Reheating Furnace - Bendoti Italy
- Mill Automation & Drive system from ABB & SIEMENS
- Intermediate Mill
- Straightener HITACHI
- Straightener Russia (CKM3)



Strengths

The product certificates and management system awarded are below :

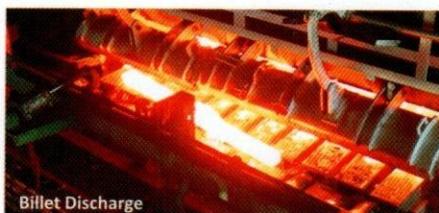
- Steel profiles or Baja profil siku sama khaki SNI-07-2054-2006
- Quality Management System ISO 9001:2015
- Environmental Management system ISO 14001:2015
- Occupational Health and Safety Management System ISO 45001:2018
- Management System SMK3
- Zero accident Certification
- TKDN Certificate
- Grade KI-A Hull Structural Steel Angles
- BKI Certificate (Biro Klasifikasi Indonesia - Persero)
- Laboratory Tensile testing with capacity 300 kN



PRODUCT SPECIFICATIONS



Billet Charging



Billet Discharge



Rolling Process



Cooling Bed



Rolling Process



Storage for Despatch

EQUAL & UNEQUAL ANGLES

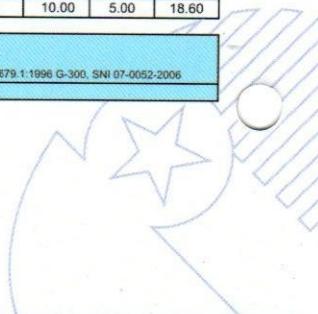
Standart Sectional Dimension (mm)				Unit Mass
Leg Length $a \times b$	Thickness t	Radius		Kg/m
		$r1$	$r2$	
150 x 150***	12	14.00	7.00	27.30
	15	14.00	10.00	33.60
100 x 75 Unequal	7	10.00	5.00	9.32
	8	10.00	5.00	10.57
	9	10.00	5.00	11.81
	10	10.00	7.00	12.96
	7	10.00	5.00	10.69
125 x 75 Unequal	8	10.00	5.00	12.14
	9	10.00	5.00	13.60
	10	10.00	7.00	14.90
	12	10.00	7.00	17.75
	7	12.00	6.00	16.40
150 x 90*** Unequal	8	12.00	7.00	18.20
	9	12.00	8.50	21.50
	10	12.00	8.50	26.50
	12	12.00	8.50	

Note :
Length : 6m, 9m, 12m
Standard : JIS G 3101 / G 3192, AS/NZS3679.1:1996 G-300, SNI 07-0052-2006
*** : Under Development

U Channel

Sizes	Standart Sectional Dimension (mm)				Unit Mass Kg/m
	Thickness	$r1$	$r2$	$r1$	
U80, 80x45	6	8	8.00	4.00	8.80
U100, 100x50	5	7.5	8.00	4.00	9.36
U120, 120x55	7	9	9.00	4.50	13.40
U125, 125x65	6	8	8.00	4.00	13.40
U150, 150x75**	7	10	10.00	5.00	18.60

Note :
Length : 6m, 12m
Standard : JIS G 3101 / G 3192, AS/NZS3679.1:1996 G-300, SNI 07-0052-2006
** : Under Development



PRODUCT SPECIFICATIONS

Product certificates & management :

SNI - 07-2054-2006; SNI - 07-0052-2006; ISO 9001-2015; ISO 14001-2015; ISO 45001:2018; SMK3.

TKDN Certificate, BKI Certificate, Laboratory tensile testing cap 300KN

These specification for used all Transmission & communication Tower, Shipyard Building, construction etc.

Detail of Sizes :

- * Equal Angle Bars (SNI 07-2054-2006 Equivalent to JIS G 3101 and JIS G 3192), Size L40 mm up to 150 mm. angle 130 mm & L150 mm trial. Sizes of thickness 3 mm up to 15 mm.
- * Unequal Angle Bar : L100 x 75 mm; L125 x 75 mm; L150 x 90 mm (Under Development).
- * U-Channel (SNI-07-0052-2006 Equivalent to JIS G 3101 and JIS G 3192), size 80 mm, 100 mm, 120 mm & 125 mm under development.

Led Lengt : 40 mm x 40 mm, 100 mm x 100 mm, 120 mm x 120 mm

Thickness : 3 mm - 12 mm

General structure properties SNI eq. with JIS G 3101

Grade	Chemical Composition (%)				Tensile Test								
	C (max.)	Mn (max.)	P (max.)	S (max.)	Yield Strength (N/mm ²)				Tensile Strength (N/mm ²)	Elongation			
					Thickness (mm)					Thickness (mm)	Test Piece	% (min.)	
					t≤16	16< t≤40	40< t≤100	>100					
SS400 (bjp 55)	-	-	0.05	0.05	245 min.	235 min.	215 min.	205 min.	400 - 510	6≤t≤16	No. 1A	17	
										16< t≤50	No. 1A	21	
										40< t	No.4	23	
SS540 (bjp 55)	0.30	1.60	0.04	0.04	400 min.	390 min.	-	-	540 min.	6≤t≤16	No. 1A	13	
										16< t≤40	No. 1A	17	

General Structure properties as per SNI 07-2054-2006

Grade	Chemical Composition (%)				Tensile Test										
	C (max.)	Mn (max.)	P (max.)	S (max.)	Yield Strength min. (N/mm ²)		Tensile Strength (N/mm ²)	Elongation			Thickness (mm)	% (min.)			
					Thickness (mm)			Thickness (mm)	Test Piece	% (min.)					
					t≤16	16< t≤20									
Bj P 34 (SS41)	-	-	-	-	205	195	330 - 430	t≤15	No. 5	26					
								5< t≤16	No. 1A	21					
								16≤t≤20	No.1A	26					
Bj P 34 (SS41)	-	-	0.05	0.05	245	235	400 - 510	t≤15	No. 5	21					
								5< t≤16	No. 1A	17					
								16≤t≤20	No.1A	21					
Bj P 50 (SS50)	-	-	0.05	0.05	285	275	490 - 610	t≤15	No. 5	19					
								5< t≤16	No. 1A	15					
								16≤t≤20	No.1A	19					
Bj P 55 (SS55)	0.30	1.60	0.04	0.04	400	390	540 min.	t≤15	No. 5	16					
								5< t≤16	No. 1A	13					
								16≤t≤20	No.1A	17					

PRODUCT SPECIFICATIONS

Size Standard sectional dimension

EQUAL ANGLES				
Leg Length <i>a x b</i>	Standard Sectional Dimension (mm)			Unit Mass Kg/m
	Thickness <i>t</i>	Radius <i>r1</i>	Radius <i>r2</i>	
40X40	3	4.5	2	1.82
	4	4.5	3	2.39
	5	4.5	3	2.95
45X45	3	6.5	3	2.04
	4	6.5	3	2.74
	5	6.5	3	3.38
50X50	3	6.5	3	2.27
	4	6.5	3	3.06
	5	6.5	3	3.77
	6	6.5	3	4.43
	8	6.5	4.5	5.68
55x55	4	6.5	4.5	3.33
	5	6.5	4.5	4.16
60X60	4	6.5	3	3.68
	5	6.5	3	4.55
	6	6.5	3	5.41
	8	8	2.4	7.09
	10	8	2.4	8.69
65X65	4	8.5	3	3.94
	5	8.5	3	5.00
	6	8.5	4	5.91
	8	8.5	6	7.66
	10	6	3	9.02
70X70	5	8.5	4	5.29
	6	8.5	4	6.38
	7	8.5	4	7.38
75X75	5	8.5	4	5.67
	6	8.5	4	6.85
	7	8.5	4	7.94
	8	8.5	6	9.00
	9	8.5	6	9.96
	10	8	5	10.50
	12	8.5	6	13.00
80X80	5	8.5	4	6.05
	6	8.5	4	7.32
	7	9	4.5	8.48
	8	9	4.5	9.61
90X90	6	10	5	8.28
	7	10	5	9.59
	8	10	5	10.89
	9	10	5	12.17
100X100	6	10	5	9.16
	7	10	5	10.58
	8	10	7	12.06
	10	10	7	14.90
	12	10	7	18.14
120X120	10	13	6.5	18.20
	11	13	6.5	19.90
	12	13	6.5	21.60

Note :

Length : 6 m, 9 m and 12 m
 Standard : SNI 07-2054-2006, G 3101 and G 3192, AS/NZS3679.1 and BS EN 10025