

## Carbon Steel Tubes for General Structure

ท่อเหล็กกล้าคาร์บอนสำหรับงานโครงสร้างทั่วไป



### ส่วนประกอบทางเคมี / คุณสมบัติทางกล

Chemical Composition						Mechanical Properties				
Grade	C	Si	Mn	P	S	Tensile MPa	Yield MPa	Bending Angle	Inside Radius	Flattening
STK290	-	-	-	≤0.050	≤0.050	≥290		90°	6×OD	(2/3)×OD
STK400	≤0.25			≤0.040	≤0.040	≥400	≥235	90°	6×OD	(2/3)×OD
STK490	≤0.18	≤0.55	≤1.65	≤0.035	≤0.035	≥490	≥315	90°	6×OD	(7/8)×OD
STK500	≤0.24	≤0.35	0.30–1.30	≤0.040	≤0.040	≥500	≥355	90°	8×OD	(7/8)×OD
STK540	≤0.23	≤0.55	≤1.50	≤0.040	≤0.040	≥540	≥390	90°	6×OD	(7/8)×OD

**Note:**

1. OD คือ เส้นผ่านศูนย์กลางภายนอกท่อ

Chemical Composition						Mechanical Properties	
Grade	C	Si	Mn	P	S	Tensile MPa	Yield MPa
	%	%	%	%	%	Mpa	Mpa
STKR290				≤0.050	≤0.050	≥290	-
STKR400	≤0.25			≤0.040	≤0.040	≥400	≥245
STKR490	≤0.18	≤0.55	≤1.50	≤0.040	≤0.040	≥490	≥325

Elongation (%)			
OD	SL	ERW	
	for all	40 < OD ≤ 350 mm	OD > 350 mm
Test Piece No.	12	12	5
Grade	Tube axis	Tube axis	Perpendicular
STK290	≥30	≥30	≥25
STK400	≥23	≥23	≥18
STK490	≥23	≥23	≥18
STK500	≥15	≥15	≥10
STK540	≥20	≥20	≥6

**Note:**

1. ขึ้นทดสอบหมายเลข 5 ใช้กับท่อแบบกลมเส้นผ่านศูนย์กลางภายนอกมากกว่า 350 mm
2. ขึ้นทดสอบหมายเลข 12 ใช้กับท่อแบบกลมเส้นผ่านศูนย์กลางภายนอกมากกว่า 40 mm ถึง 350 mm

Elongation (%)									
Grade	Test Piece	t ≤ 1	1 < t ≤ 2	2 < t ≤ 3	3 < t ≤ 4	4 < t ≤ 5	5 < t ≤ 6	6 < t ≤ 7	7 < t ≤ 8
STK290	12	≥20	≥21	≥22	≥24	≥26	≥27	≥28	≥30
	5	≥14	≥16	≥18	≥19	≥20	≥22	≥24	≥25
STK400	12	≥12	≥14	≥16	≥17	≥18	≥20	≥22	≥23
	5	≥8	≥9	≥10	≥12	≥14	≥15	≥16	≥18
STK490	12	≥12	≥14	≥16	≥17	≥18	≥20	≥22	≥23
	5	≥8	≥9	≥10	≥12	≥14	≥15	≥16	≥18
STK500	12	≥4	≥6	≥8	≥9	≥10	≥12	≥14	≥15
	5	-	≥1	≥2	≥4	≥6	≥7	≥8	≥10
STK540	12	≥10	≥11	≥12	≥14	≥16	≥17	≥18	≥20
	5	≥6	≥7	≥8	≥10	≥12	≥13	≥14	≥16

**Note:**

1. ขึ้นทดสอบหมายเลข 12 ทดสอบตามแนวยาวของท่อ
2. ขึ้นทดสอบหมายเลข 5 ทดสอบตามแนวตั้งฉากกับแนวยาวของท่อ

Elongation (%)									
Grade	t ≤ 1	1 < t ≤ 2	2 < t ≤ 3	3 < t ≤ 4	4 < t ≤ 5	5 < t ≤ 6	6 < t ≤ 7	7 < t ≤ 8	t ≥ 8
STKR290	≥20	≥21	≥22	≥24	≥26	≥27	≥28	≥30	≥30
STKR400	≥12	≥14	≥16	≥17	≥18	≥20	≥22	≥23	≥23
STKR490	≥12	≥14	≥16	≥17	≥18	≥20	≥22	≥23	≥23

**Note:**

1. ท่อแบบสี่เหลี่ยมจัตุรัสที่มีด้านกว้างน้อยกว่า 40 × 40 มม. และท่อแบบสี่เหลี่ยมผืนผ้าที่มีด้านกว้างด้านสูง (H) น้อยกว่า 40 มม. ให้ใช้ขึ้นทดสอบหมายเลข 13B ทดสอบตามแนวยาวของท่อ
2. ท่อแบบสี่เหลี่ยมจัตุรัสที่มีด้านกว้าง 40 × 40 มม. ขึ้นไป และท่อแบบสี่เหลี่ยมผืนผ้าที่มีด้านกว้างด้านสูง (H) ตั้งแต่ 40 มม. ขึ้นไป ให้ใช้ขึ้นทดสอบหมายเลข 5 ทดสอบตามแนวยาวของท่อ

## วัตถุดิบที่ใช้ในการผลิตท่อเคลือบโลหะก่อนการขึ้นรูป

- เหล็กกล้าทรงแบนรีดเย็นเคลือบสังกะสีโดยวิธีการจุ่มร้อน (มอก. 50-2565)
- เหล็กกล้าทรงแบนรีดร้อนเคลือบสังกะสีโดยวิธีการจุ่มร้อน (มอก.3243-2564)

Coating Masses		
<b>TIS 50-2565</b>	<b>Hot-Dip Zinc-Coated Cold Reduced Flat Steel</b>	
<b>TIS 3243-2564</b>	<b>Hot-Dip Zinc-Coated Hot Rolled Flat Steel</b>	
Symbol for Coating Mass	Minimum Triple Spot Average Coating Mass (g/m <sup>2</sup> )	Minimum Single Spot Coating Mass (g/m <sup>2</sup> )
Z060	≥ 60	≥ 51
Z080	≥ 80	≥ 68
Z100	≥ 100	≥ 85
Z120	≥ 120	≥ 102
Z140	≥ 140	≥ 119
Z180	≥ 180	≥ 153
Z200	≥ 200	≥ 170
Z220	≥ 220	≥ 187
Z250	≥ 250	≥ 213
Z275	≥ 275	≥ 234
Z350	≥ 350	≥ 298
Z370	≥ 370	≥ 315
Z450	≥ 450	≥ 383
Z600	≥ 600	≥ 510

Coating Masses		
<b>TIS 2223-2558</b>	<b>Electrolytic Zinc-Coated Flat Steel</b>	
Symbol for One-Side Coating Mass	Equal Coating (g/m <sup>2</sup> )	Differential Coating (g/m <sup>2</sup> )
ES <sup>1)</sup>	–	–
EB	≥ 2.5	–
E8	≥ 8.5	≥ 8.0
E16	≥ 17.0	≥ 16.0
E24	≥ 25.5	≥ 24.0
E32	≥ 34.0	≥ 32.0

**Note:**

1. กรณีมีการเคลือบด้านเดียว สัญลักษณ์ ES หมายถึงด้านที่ไม่เคลือบสังกะสี (ferrous surface) เช่น ES/E40

2. มวลเคลือบต้องไม่เกิน 0.050 g/m<sup>2</sup> ยกเว้นที่บริเวณขอบแผ่นเหล็ก

- เหล็กกล้าทรงแบนเคลือบสังกะสี ผสมอะลูมิเนียม 5% ถึง 13% และแมกนีเซียม 2% ถึง 4% โดยกรรมวิธีจุ่มร้อน (มอก.2981-2562)

Coating Masses		
<b>TIS 2981-2567</b>	<b>Hot-Dip Zinc-Aluminium (5% and above) - Magnesium (2% - 4% and above) - Alloy-Coated Flat Steel</b>	
<b>Specifically</b>	<b>Aluminium (5% - 13%) - Magnesium (2% - 4%)</b>	
<b>Symbol for Coating Mass</b>	<b>Minimum Coating Mass for Both Sides</b>	
	<b>Triple Spot Test (g/m<sup>2</sup>)</b>	<b>Single Spot Test (g/m<sup>2</sup>)</b>
K06	≥ 60	≥ 51
K08	≥ 80	≥ 68
K10	≥ 100	≥ 85
K12	≥ 120	≥ 102
K14	≥ 140	≥ 119
K18	≥ 180	≥ 153
K20	≥ 200	≥ 170
K22	≥ 220	≥ 187
K25	≥ 250	≥ 213
K27	≥ 275	≥ 234
K35	≥ 350	≥ 298
K45	≥ 450	≥ 383

Coating Masses		
<b>TIS 3059-2567</b>	<b>Hot-Dip Zinc-Aluminium (0.5% and above) - Magnesium (0.4% and above) - Alloy-Coated Flat Steel</b>	
<b>Specifically</b>	<b>Aluminium (0.5% - 6%) Magnesium (0.4% - 4%)</b>	
<b>Symbol for Coating Mass</b>	<b>Minimum Coating Mass for Both Sides</b>	
	<b>Triple Spot Test (g/m<sup>2</sup>)</b>	<b>Single Spot Test (g/m<sup>2</sup>)</b>
K06	≥ 60	≥ 50
K09	≥ 90	≥ 75
K12	≥ 120	≥ 90
K15	≥ 150	≥ 120
K18	≥ 180	≥ 150
K21	≥ 210	≥ 180
K22	≥ 220	≥ 190
K27	≥ 275	≥ 235
K30	≥ 300	≥ 270
K35	≥ 350	≥ 300
K45	≥ 450	≥ 385
K50	≥ 500	≥ 425
K60	≥ 600	≥ 510



Round Tubes (JIS G 3444)

ท่อเหล็กกลม สำหรับงานโครงสร้าง



Nominal Diameter (DN)	Nominal Pipe Size (NPS)	OD	Thickness	Unit Mass	
				kg/m	kg/6m
15	1/2"	21.7	2.00	0.97	5.82
20	3/4"	27.2	2.00	1.24	7.44
			2.30	1.41	8.46
25	1"	34	2.30	1.80	10.80
32	1 1/4"	42.7	2.30	2.29	13.74
			2.50	2.48	14.88
40	1 1/2"	48.6	2.30	2.63	15.78
			2.50	2.84	17.04
			2.80	3.16	18.96
			3.20	3.58	21.48
50	2"	60.5	2.30	3.30	19.80
			3.20	4.52	27.12
			4.00	5.57	33.42
65	2 1/2"	76.3	2.80	5.08	30.48
			3.20	5.77	34.62
			4.00	7.13	42.78
80	3"	89.1	2.80	5.96	35.76
			3.20	6.78	40.68
90	3 1/2"	101.6	3.20	7.76	46.56
			4.00	9.63	57.78
			5.00	11.90	71.40
100	4"	114.3	3.20	8.77	52.62
			3.50	9.56	57.36
			4.50	12.20	73.20
125	5"	139.8	3.60	12.10	72.60
			4.00	13.40	80.40
			4.50	15.00	90.00
			6.00	19.80	118.80
150	6"	165.2	4.50	17.80	106.80
			5.00	19.80	118.80
			6.00	23.60	141.60
			7.10	27.70	166.20
175	7"	190.7	4.50	20.70	124.20
			5.30	24.20	145.20
			6.00	27.30	163.80
			7.10	31.70	190.20
			8.20	36.90	221.40

Nominal Diameter (DN)	Nominal Pipe Size (NPS)	OD	Thickness	Unit Mass	
				kg/m	kg/6m
200	8"	216.3	4.50	23.50	141.00
			5.80	30.10	180.60
			6.00	31.10	186.60
			7.00	36.10	216.60
			8.00	41.10	246.60
			8.20	42.10	252.60
250	10"	267.4	6.00	38.70	232.20
			6.60	42.40	254.40
			7.00	45.00	270.00
			8.00	51.20	307.20
			9.00	57.30	343.80
			9.30	59.20	355.20
300	12"	318.5	6.00	46.20	277.20
			6.90	53.00	318.00
			8.00	61.30	367.80
			9.00	68.70	412.20
350	14"	355.6	10.30	78.30	469.80
			6.40	55.10	330.60
			7.90	67.70	406.20
			9.00	76.90	461.40
350	14"	355.6	9.50	81.10	486.60
			12.00	102.00	612.00
			12.70	107.00	642.00

Nominal Diameter (DN)	Nominal Pipe Size (NPS)	OD	Thickness	Unit Mass	
				kg/m	kg/6m
mm	in	mm	mm	kg/m	kg/6m
400	16"	406.4	7.90	77.60	465.60
			9.00	88.20	529.20
			9.50	93.00	558.00
			12.00	117.00	702.00
			12.70	123.00	738.00
			16.00	154.00	924.00
			19.00	182.00	1092.00
450	18"	457.2	9.00	99.50	597.00
			9.50	105.00	630.00
			12.00	132.00	792.00
			12.70	139.00	834.00
			16.00	174.00	1044.00
			19.00	205.00	1230.00
500	20"	500	9.00	109.00	654.00
			12.00	144.00	864.00
			14.00	168.00	1008.00
500A	20"	508	7.90	97.40	584.40
			9.00	111.00	666.00
			9.50	117.00	702.00
			12.00	147.00	882.00
			12.70	155.00	930.00
			14.00	171.00	1026.00
			16.00	194.00	1164.00
			19.00	229.00	1374.00
			22.00	264.00	1584.00
550	22"	558.8	9.00	122.00	732.00
			12.00	162.00	972.00
			16.00	214.00	1284.00
			19.00	253.00	1518.00
			22.00	291.00	1746.00
600	24"	600	9.00	131.00	786.00
			12.00	174.00	1044.00
			14.00	202.00	1212.00
			16.00	230.00	1380.00
600A	24"	609.6	9.00	133.00	798.00
			9.50	141.00	846.00
			12.00	177.00	1062.00
			12.70	187.00	1122.00
			14.00	206.00	1236.00
			16.00	234.00	1404.00
			19.00	277.00	1662.00
			22.00	319.00	1914.00



Round Tubes (ASTM A500)

ท่อเหล็กกลม สำหรับงานโครงสร้าง

Nominal Diameter (DN)	Nominal Pipe Size (NPS)	OD	Thickness	Unit Mass	
				kg/m	kg/6m
mm	in	mm	mm	kg/m	kg/6m
15.00	1/2"	21.30	2.77	1.27	7.62
			3.73	1.62	9.72
20.00	3/4"	26.70	2.87	1.69	10.14
			3.91	2.20	13.20
25.00	1"	33.40	2.64	2.00	12.00
			3.38	2.50	15.00
32.00	1 1/4"	42.20	2.79	2.71	16.26
			3.56	3.39	20.34
			4.85	4.47	26.82
40.00	1 1/2"	48.30	2.90	3.25	19.50
			3.68	4.01	24.06
			5.08	5.41	32.46
50.00	2"	60.30	3.07	4.33	25.98
			3.91	5.44	32.64
			5.54	7.48	44.88
65.00	2 1/2"	73.00	3.96	6.74	40.44
			4.78	8.04	48.24
			5.16	8.63	51.78
			7.01	11.41	68.46
80.00	3"	88.90	3.96	8.29	49.74
			4.78	9.92	59.52
			5.49	11.29	67.74
			7.62	15.27	91.62
90.00	3 1/2"	101.60	3.96	9.53	57.18
			4.78	11.41	68.46
			5.74	13.57	81.42
			8.08	18.63	111.78
100.00	4"	114.30	3.96	10.78	64.68
			4.78	12.91	77.46
			5.56	14.91	89.46
			6.02	16.07	96.42
			8.56	22.32	133.92

Nominal Diameter (DN)	Nominal Pipe Size (NPS)	OD	Thickness	Unit Mass	
				kg/m	kg/6m
mm	in	mm	mm	kg/m	kg/6m
125	5"	141.3	6.55	21.77	130.62
	5"	141.3	9.53	30.97	185.82
	5"	141.3	19.05	57.43	344.58
150	6"	168.3	7.11	28.26	169.56
	6"	168.3	10.97	42.56	255.36
	6"	168.3	21.95	79.22	475.32
200	8"	219.1	8.18	42.55	255.30
	8"	219.1	22.23	107.92	647.52
250	10"	273	9.27	60.31	361.86
	10"	273	12.70	81.55	489.30
300	12"	323.8	9.53	73.88	443.28
	12"	323.8	12.70	97.46	584.76
	12"	323.8	25.40	155.15	930.90
350	14"	355.6	9.53	81.33	487.98
	14"	355.6	12.70	107.39	644.34
	14"	355.6	12.70	123.30	739.80
400	16"	406.4	9.53	93.27	559.62
	16"	406.4	12.70	123.30	739.80
450	18"	457.2	9.53	105.16	630.96
	18"	457.2	12.70	139.15	834.90
500	20"	508	9.53	117.15	702.90
	20"	508	12.70	155.00	930.00
600	24"	609.6	9.00	133.00	798.00
	24"	609.6	9.50	141.00	846.00
	24"	609.6	12.00	177.00	1062.00
	24"	609.6	12.70	187.00	1122.00
	24"	609.6	14.00	206.00	1236.00
	24"	609.6	16.00	234.00	1404.00
	24"	609.6	19.00	277.00	1662.00
	24"	609.6	22.00	319.00	1914.00



Round Tubes (BS EN 10219)

ท่อเหล็กกลม สำหรับงานโครงสร้าง

Nominal Diameter (DN)	Nominal Pipe Size (NPS)	OD	Thickness	Unit Mass	
				kg/m	kg/6m
mm	in	mm	mm	kg/m	kg/6m
15.00	1/2"	21.30	2.00	0.95	5.70
			2.50	1.16	6.96
			3.00	1.35	8.10
20.00	3/4"	26.90	2.00	1.23	7.38
			2.50	1.50	9.00
			3.00	1.77	10.62
25.00	1"	33.70	2.00	1.56	9.36
			2.50	1.92	11.52
			3.00	2.27	13.62
32.00	1 1/4"	42.40	2.00	1.99	11.94
			2.50	2.46	14.76
			3.00	2.91	17.46
			4.00	3.79	22.74
40.00	1 1/2"	48.30	2.00	2.28	13.68
			2.50	2.82	16.92
			3.00	3.35	20.10
			4.00	4.37	26.22
			5.00	5.41	32.46
50.00	2"	60.30	2.00	2.88	17.28
			2.50	3.56	21.36
			3.00	4.24	25.44
			4.00	5.55	33.30
65.00	2 1/2"	76.10	2.00	3.65	21.90
			2.50	4.54	27.24
			3.00	5.41	32.46
			4.00	7.11	42.66
			5.00	8.77	52.62
			6.30	10.80	64.80
80.00	3"	88.90	2.00	4.29	25.74
			2.50	5.33	31.98
			3.00	6.36	38.16
			4.00	8.38	50.28
			6.00	12.30	73.80
			6.30	12.80	76.80

Nominal Diameter (DN)	Nominal Pipe Size (NPS)	OD	Thickness	Unit Mass	
				kg/m	kg/6m
mm	in	mm	mm	kg/m	kg/6m
90.00	3 1/2"	101.60	2.00	4.91	29.46
			2.50	6.11	36.66
			3.00	7.29	43.74
			4.00	9.63	57.78
			5.00	11.90	71.40
100.00	4"	114.30	2.00	6.89	41.34
			2.50	8.23	49.38
			3.00	10.90	65.40
			4.00	12.91	77.46
			5.00	13.50	81.00
100.00	4"	114.30	6.30	16.00	96.00
			8.00	21.00	126.00
			3.00	10.10	60.60
			4.00	13.40	80.40
			5.00	16.60	99.60
125.00	5"	139.70	6.00	19.80	118.80
			6.30	20.70	124.20
			8.00	26.00	156.00
			10.00	32.00	192.00
			3.00	12.20	73.20
150.00	6"	168.30	4.00	16.20	97.20
			5.00	20.10	120.60
			6.00	24.00	144.00
			6.30	25.20	151.20
			8.00	31.60	189.60
150.00	6"	168.30	10.00	39.00	234.00
			4.00	17.10	102.60
			5.00	21.30	127.80
			6.00	25.40	152.40
			6.30	26.60	159.60
160.00	6 1/2"	177.80	8.00	33.50	201.00
			10.00	41.40	248.40
			12.00	49.10	294.60
			12.50	51.00	306.00

Nominal Diameter (DN)	Nominal Pipe Size (NPS)	OD	Thickness	Unit Mass	
				kg/m	kg/6m
mm	in	mm	mm	kg/m	kg/6m
175.00	7"	193.70	4.00	18.70	112.20
			5.00	23.30	139.80
			6.00	27.80	166.80
			6.30	29.10	174.60
			8.00	36.60	219.60
			10.00	45.30	271.80
			12.00	53.80	322.80
			12.50	55.90	335.40
200.00	8"	219.10	4.00	21.20	127.20
			5.00	26.40	158.40
			6.00	31.50	189.00
			6.30	33.10	198.60
			8.00	41.60	249.60
			10.00	51.60	309.60
			12.00	61.30	367.80
			12.50	63.70	382.20
225.00	9"	244.50	5.00	29.50	177.00
			6.30	37.00	222.00
			8.00	46.70	280.20
			10.00	57.80	346.80
			12.50	71.50	429.00
250.00	10"	273.00	5.00	33.00	198.00
			6.00	39.50	237.00
			6.30	41.40	248.40
			8.00	52.30	313.80
			10.00	64.90	389.40
			12.00	77.20	463.20
			12.50	80.30	481.80
300.00	12"	323.90	5.00	39.30	235.80
			6.00	47.00	282.00
			6.30	49.30	295.80
			8.00	62.30	373.80
			10.00	77.40	464.40
			12.50	96.00	576.00
350.00	14"	355.60	5.00	43.20	259.20
			6.00	51.70	310.20
			6.30	54.30	325.80
			8.00	68.60	411.60
			10.00	85.20	511.20
			12.00	102.00	612.00
			12.50	106.00	636.00
			16.00	134.00	804.00
			20.00	166.00	996.00

Nominal Diameter (DN)	Nominal Pipe Size (NPS)	OD	Thickness	Unit Mass	
				kg/m	kg/6m
mm	in	mm	mm	kg/m	kg/6m
400.00	16"	406.40	6.00	59.20	355.20
			6.30	62.20	373.20
			8.00	78.60	471.60
			10.00	97.80	586.80
			12.00	117.00	702.00
			12.50	121.00	726.00
			16.00	154.00	924.00
450.00	18"	457.00	20.00	191.00	1146.00
			25.00	235.00	1410.00
			6.00	66.70	400.20
			6.30	70.00	420.00
			8.00	88.60	531.60
			10.00	110.00	660.00
450.00	18"	457.00	12.00	132.00	792.00
			12.50	137.00	822.00
			16.00	174.00	1044.00
			20.00	216.00	1296.00
			25.00	266.00	1596.00
			30.00	316.00	1896.00
			500.00	20"	508.00
6.30	77.90	467.40			
8.00	98.60	591.60			
10.00	123.00	738.00			
12.00	147.00	882.00			
12.50	153.00	918.00			
16.00	194.00	1164.00			
25.00	298.00	1788.00			
600.00	24"	610.00	30.00	354.00	2124.00
			6.00	89.40	536.40
			6.30	93.80	562.80
			8.00	119.00	714.00
			10.00	153.00	918.00
			12.00	177.00	1062.00
600.00	24"	610.00	16.00	234.00	1404.00
			25.00	361.00	2166.00
			30.00	429.00	2574.00



Square Tubes (JIS G 3466)

ท่อเหลี่ยมสี่เหลี่ยมจัตุรัส สำหรับงานโครงสร้าง



Side Length	Thickness	Unit Mass	
		kg/m	kg/6m
mm	mm	kg/m	kg/6m
19×19	1.20	0.65	3.90
	1.40	0.74	4.46
	1.50	0.79	4.74
	1.60	0.84	5.01
	2.00	1.01	6.06
25×25	1.20	0.88	5.26
	1.40	1.01	6.06
	1.50	1.07	6.42
	1.60	1.14	6.84
	2.00	1.38	8.28
	2.30	1.56	9.36
32×32	1.20	1.14	6.84
	1.40	1.31	7.86
	1.50	1.40	8.40
	1.60	1.49	8.94
	2.00	1.82	10.92
	2.30	2.06	12.36
38×38	1.20	1.37	8.22
	1.40	1.58	9.48
	1.50	1.68	10.08
	1.60	1.79	10.74
	2.00	2.20	13.20
	2.30	2.50	15.00
50×50	1.60	2.38	14.28
	2.00	2.94	17.64
	2.30	3.34	20.04
	3.20	4.50	27.00
75×75	1.60	3.64	4.63
	2.30	5.14	6.55
	3.20	7.01	8.93
	4.50	9.55	12.17

Side Length	Thickness	Unit Mass	
		kg/m	kg/6m
mm	mm	kg/m	kg/6m
100X100	2.30	6.95	41.70
	3.20	9.52	57.12
	4.00	11.70	70.20
	4.50	13.10	78.60
	6.00	17.00	102.00
	9.00	24.10	144.60
	12.00	30.20	181.20
125X125	3.20	12.00	72.00
	4.50	16.60	99.60
	5.00	18.30	109.80
	6.00	21.70	130.20
	9.00	31.10	186.60
	12.00	39.70	238.20
150X150	4.50	20.10	120.60
	5.00	22.30	133.80
	6.00	26.40	158.40
	9.00	38.20	229.20
200X200	4.50	27.20	163.20
	6.00	35.80	214.80
	8.00	46.90	281.40
	9.00	52.30	313.80
	12.00	67.90	407.40
250X250	5.00	38.00	228.00
	6.00	45.20	271.20
	8.00	59.50	357.00
	9.00	66.50	399.00
	12.00	86.80	520.80
300X300	4.50	41.30	247.80
	6.00	54.70	328.20
	9.00	80.60	483.60
	12.00	106.00	636.00
350X350	9.00	94.70	568.20
	12.00	124.00	744.00



**Square Tubes (ASTM A500)**

ท่อเหล็กสี่เหลี่ยมจัตุรัส สำหรับงานโครงสร้าง

Side Length	Thickness	Unit Mass	
		kg/m	kg/6m
mm	mm	kg/m	kg/6m
25.4×25.4	2.41	1.62	14.58
	3.38	2.10	18.90
50.8×50.8	2.79	4.00	36.00
	3.18	4.52	40.68
	3.91	5.44	48.96
	4.78	6.41	57.69
63.5×63.5	3.58	6.43	57.87
	4.78	8.32	74.88
	6.35	10.56	95.04
76.2×76.2	3.96	8.60	77.40
	4.78	10.21	91.89
	6.35	13.09	117.81
88.9×88.9	3.96	10.24	92.16
	4.78	12.11	108.99
	6.35	15.62	140.58
	7.92	18.88	169.92
101.6×101.6	4.78	13.85	124.65
	6.35	17.89	161.01
	7.92	21.61	194.49
	9.52	25.06	225.54
	12.70	31.07	279.63
127.0×127.0	4.78	17.65	158.85
	6.35	22.94	206.46
	7.92	27.93	251.37
	9.52	32.65	293.85
152.4×152.4	12.70	41.19	370.71
	4.78	21.44	192.96
	6.35	28.00	252.00
	7.92	34.25	308.25
	9.52	40.28	362.52
177.8×177.8	12.70	51.31	461.79
	4.78	25.07	225.63
	6.35	32.80	295.20
	7.92	39.16	352.44
177.8×177.8	9.52	47.21	424.89
	12.70	60.34	543.06

Side Length	Thickness	Unit Mass	
		kg/m	kg/6m
mm	mm	kg/m	kg/6m
203.2×203.2	6.35	37.85	340.65
	7.92	46.49	418.41
	9.52	54.80	493.20
	12.70	70.46	634.14
	16.00	89.57	806.13
254.0×254.0	19.05	97.81	880.29
	6.35	47.96	431.64
	7.92	59.13	532.17
	9.52	69.98	629.82
	12.70	90.69	816.21
	16.00	110.08	990.72
304.8×304.8	19.05	128.16	1153.44
	25.40	160.39	1443.51
	12.70	113.66	1022.94
	16.00	140.62	1265.58
355.6×355.6	19.05	164.58	1481.22
	12.70	133.92	1205.28
	16.00	166.14	1495.26
	19.05	194.97	1754.73
	20.57	209.03	1881.27
	22.00	216.35	1947.15
	25.00	241.31	2171.79
406.4×406.4	12.70	154.18	1387.62
	16.00	191.66	1724.94
	20.57	241.81	2176.29
	22.00	251.44	2262.96
	25.00	281.19	2530.71
	28.00	309.84	2788.56
457.2×457.2	32.00	397.40	3576.60
	36.00	438.36	3945.24
	40.00	477.38	4296.42

Side Length	Thickness	Unit Mass	
		kg/m	kg/6m
mm	mm		
508.0×508.0	12.70	194.70	1752.30
	16.00	242.70	2184.30
	19.05	286.13	2575.17
	20.57	307.49	2767.41
	22.00	319.42	2874.78
	25.00	358.10	3222.90
	28.00	395.60	3560.40
	32.00	443.78	3994.02
	36.00	489.88	4408.92
	40.00	533.90	4805.10
	45.00	585.99	5273.91
	50.00	634.83	5713.47
558.8×558.8	16.00	264.08	2376.72
	19.00	309.88	2788.92
	22.00	354.51	3190.59
	25.00	397.98	3581.82
	28.00	440.26	3962.34
	32.00	494.83	4453.47
	36.00	547.31	4925.79
	40.00	597.70	5379.30
	45.00	657.77	5919.93
	50.00	714.58	6431.22
609.6×609.6	16.00	289.60	2606.40
	19.00	340.19	3061.71
	22.00	389.61	3506.49
	25.00	437.85	3940.65
	28.00	484.93	4364.37
	32.00	545.87	4912.83
	36.00	604.73	5442.57
	40.00	661.51	5953.59
	45.00	729.55	6565.95
	50.00	794.34	7149.06
	55.00	855.87	7702.83
	60.00	914.15	8227.35



Square Tubes (BS EN 10219)

ท่อเหลี่ยมสี่เหลี่ยมจัตุรัส สำหรับงานโครงสร้าง

Side Length	Thickness	Unit Mass	
		kg/m	kg/6m
20×20	2.00	1.05	6.30
25×25	2.00	1.36	8.16
	2.50	1.64	9.84
	3.00	1.89	11.34
30×30	2.00	1.68	10.08
	2.50	2.03	12.18
	3.00	2.36	14.16
40×40	2.00	2.31	13.86
	2.50	2.82	16.92
	3.00	3.30	19.80
	4.00	4.20	25.20
50×50	2.00	2.93	17.58
	2.50	3.60	21.60
	3.00	4.25	25.50
	4.00	5.45	32.70
	5.00	6.56	39.36
60×60	2.00	3.56	21.36
	2.50	4.39	26.34
	3.00	5.19	31.14
	4.00	6.71	40.26
	5.00	8.13	48.78
	6.00	9.45	56.70
	6.30	9.55	57.30
70×70	2.50	5.17	31.02
	3.00	6.13	36.78
	4.00	7.97	47.82
	5.00	9.70	58.20
	6.00	11.30	67.80
	6.30	11.50	69.00
80×80	3.00	7.07	42.42
	4.00	9.22	55.32
	5.00	11.30	67.80
	6.00	13.20	79.20
	6.30	13.50	81.00
	8.00	16.40	98.40

Side Length	Thickness	Unit Mass	
		kg/m	kg/6m
90×90	3.00	8.01	48.06
	4.00	10.50	63.00
	5.00	12.80	76.80
	6.00	15.10	90.60
	6.30	15.50	93.00
	8.00	18.90	113.40
100×100	3.00	8.96	53.76
	4.00	11.70	70.20
	5.00	14.40	86.40
	6.00	17.00	102.00
	6.30	17.50	105.00
	8.00	21.40	128.40
	10.00	25.60	153.60
120×120	12.00	28.30	169.80
	12.50	29.10	174.60
	3.00	10.80	64.80
	4.00	14.20	85.20
	5.00	17.50	105.00
	6.00	20.70	124.20
140×140	6.30	21.40	128.40
	8.00	26.40	158.40
	10.00	31.80	190.80
	12.00	35.80	214.80
	12.50	36.90	221.40
	4.00	16.80	100.80
	5.00	20.70	124.20
	6.00	24.50	147.00
80×80	6.30	25.40	152.40
	8.00	31.40	188.40
	10.00	38.10	228.60
	12.00	43.40	260.40
	12.50	44.80	268.80

Side Length	Thickness	Unit Mass	
		kg/m	kg/6m
mm	mm	kg/m	kg/6m
150×150	4.00	18.00	108.00
	5.00	22.30	133.80
	6.00	26.40	158.40
	6.30	27.40	164.40
	8.00	33.90	203.40
	10.00	41.30	247.80
	12.00	47.10	282.60
	12.50	48.70	292.20
	16.00	58.70	352.20
160×160	4.00	19.30	115.80
	5.00	23.80	142.80
	6.00	28.30	169.80
	6.30	29.30	175.80
	8.00	36.50	219.00
	10.00	44.40	266.40
	12.00	50.90	305.40
	12.50	52.60	315.60
	16.00	63.70	382.20
180×180	4.00	21.80	130.80
	5.00	27.00	162.00
	6.00	32.10	192.60
	6.30	33.30	199.80
	8.00	41.50	249.00
	10.00	50.70	304.20
	12.00	58.50	351.00
	12.50	60.50	363.00
	16.00	73.80	442.80
200×200	4.00	24.30	145.80
	5.00	30.10	180.60
	6.00	35.80	214.80
	6.30	37.20	223.20
	8.00	46.50	279.00
	10.00	57.00	342.00
	12.00	66.00	396.00
	12.50	68.30	409.80
	16.00	83.80	502.80

Side Length	Thickness	Unit Mass	
		kg/m	kg/6m
mm	mm	kg/m	kg/6m
220×220	5.00	33.20	199.20
	6.00	39.60	237.60
	6.30	41.20	247.20
	8.00	51.50	309.00
	10.00	63.20	379.20
	12.00	73.50	441.00
	12.50	76.20	457.20
	16.00	93.90	563.40
	250×250	5.00	38.00
6.00		45.20	271.20
6.30		47.10	282.60
8.00		59.10	354.60
10.00		72.70	436.20
12.00		84.80	508.80
12.50		88.00	528.00
260×260	6.00	47.10	282.60
	6.30	49.10	294.60
	8.00	61.60	369.60
	10.00	75.80	454.80
	12.00	88.60	531.60
300×300	6.00	54.70	328.20
	6.30	57.00	342.00
	8.00	71.60	429.60
	10.00	88.40	530.40
	12.00	104.00	624.00
350×350	8.00	84.20	505.20
	10.00	104.00	624.00
	12.00	123.00	738.00
	12.50	127.00	762.00
	16.00	159.00	954.00
400×400	10.00	120.00	720.00
	12.00	141.00	846.00
	12.50	147.00	882.00
	16.00	184.00	1104.00

# TIS 107-2566



## Rectangular Tubes (JIS G 3466)

ท่อเหล็กสี่เหลี่ยมผืนผ้า สำหรับงานโครงสร้าง



Side Length	Thickness	Unit Mass	
		kg/m	kg/6m
mm	mm	kg/m	kg/6m
40×20	1.40	1.24	7.44
	1.60	1.40	8.40
	2.00	1.72	10.32
	2.30	1.95	11.70
50×25	1.40	1.51	9.06
	1.60	1.71	10.26
	2.00	2.10	12.60
	2.30	2.39	14.34
60×30	1.60	2.13	12.78
	2.30	2.98	17.88
	3.20	3.99	23.94
75×38	1.40	2.34	14.04
	1.60	2.66	15.96
	2.00	3.29	19.74
	2.30	3.75	22.50
	3.20	5.10	30.60
	4.00	6.24	37.44
75×45	1.60	2.88	17.28
	2.30	4.06	24.36
	3.20	5.50	33.00
80×40	1.60	2.88	17.28
	2.30	4.06	24.36
	3.20	5.50	33.00
90×45	2.30	4.60	27.60
	3.20	6.25	37.50
100×20	1.60	2.88	17.28
	2.30	4.06	24.36
100×40	1.60	3.38	20.28
	2.30	4.78	28.68
	4.20	8.32	49.92

Side Length	Thickness	Unit Mass	
		kg/m	kg/6m
mm	mm	kg/m	kg/6m
100×50	1.60	3.64	21.84
	2.30	5.14	30.84
	3.20	7.01	42.06
	4.50	9.55	57.30
	1.80	4.78	28.68
125×50	2.00	5.29	31.74
	2.30	6.05	36.30
	2.50	6.55	39.30
	2.80	7.29	43.74
	3.20	8.26	49.56
	4.00	10.16	60.96
	4.50	11.32	67.92
	5.00	12.45	74.70
	6.00	14.63	87.78
	7.00	16.70	100.20
125×75	8.00	18.68	112.08
	2.30	6.95	41.70
	3.20	9.52	57.12
	4.00	11.70	70.20
	4.50	13.10	78.60
150×50	6.00	17.00	102.00
	1.60	4.08	24.48
	2.00	6.06	36.36
	2.30	6.94	41.64
150×75	3.20	9.52	57.12
	4.00	11.75	70.50
	3.20	10.80	64.80
	4.50	15.20	91.20
150×80	5.00	16.80	100.80
	6.00	19.80	118.80
	3.20	12.00	72.00
150×100	4.50	16.60	99.60
	6.00	21.70	130.20
	9.00	31.10	186.60