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2

New Possibilities,

New Paths.

Dagan Tubos de Aço is committed with marketing carbon steel pipes, tubular parts and labor to third parties, with high quality standard in its products.

In compliance with market requirements and national and international standards.

We provide a full range of structural pipes without seam, with 11- to 13-meter bars*. That can be transformed into parts cut on demand*, decreasing terms, expediting processes, associated to quality, which is assured by our development engineering, that relies on qualified professionals to project analysis.

**On demand*



4 Industrial, conducting and structural pipes

We service all range of Square, Round, Rectangular and Special Profiles

With quality technical requirements, providing materials in compliance with different manufacturing standards, cut within the size of your project*.

Main Applications and Purposes

Furniture, metal structures, civil construction, machines and equipment, mining, steelmaking, sand ports, elevators, scaffolds, tows, railings, grids, stairs, artesian wells, automated doors, sawmills, supports, canvases, tents and stands, highway signaling, among others.

Sizing serviced

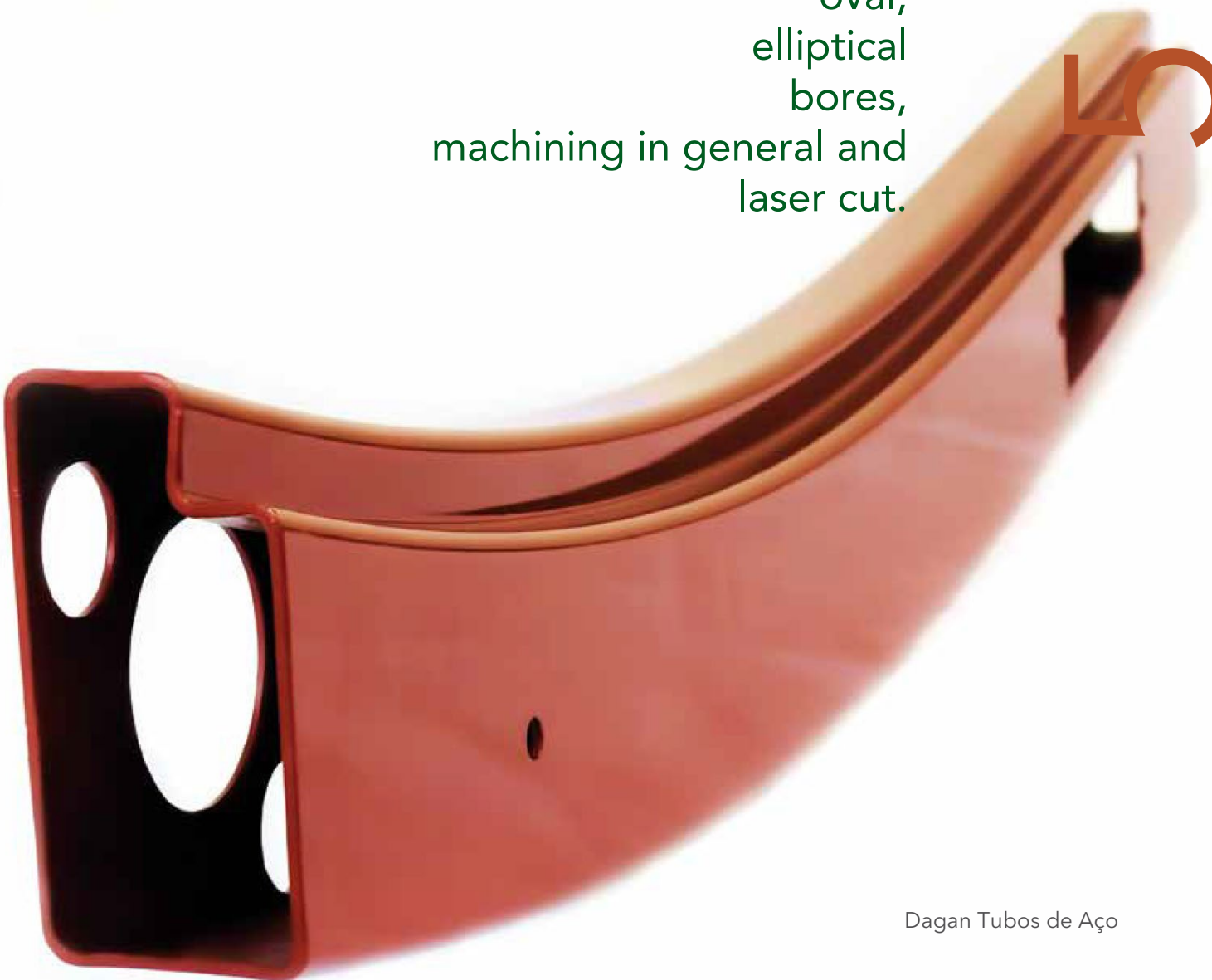
Section	Sizing	Thicknesses
Round	6.30mm to 1.016mm	
Square	16mm x 16mm to 500mm x 500mm	0.90mm to
Rectangular	16.00mm 15mm x 25mm to 300mm x 500mm	

**On demand*

Parts

We have a service team with highly qualified professionals to comply with your requirements concerning:

Straight
cut, angular cut,
milling, drilling,
threading,
tears,
oblong,
oval,
elliptical
bores,
machining in general and
laser cut.



Service Center

6



Wire drawer

Used to precision extruded pipes from 19.05 to 216.00 mm, with 2.00 to 12.70 mm wall thicknesses. With up to 14-meter bars.



Roll Former

For 50 x 50mm to 200 x 200 mm square pipes, in 40 x 60mm to 250 x 150mm, rectangle pipes, with 3.00 mm to 12.70mm thicknesses. With up to 14-meter bars.



Bender

We bend round, square, rectangular pipes and special profiles, with 9.52 to 88.90 mm dimensions, with 2.25 to 6.35 mm wall thicknesses.



ROMI Machining Center

With CNC Discovery 11250, 1500D and G280, we execute milling, drilling, threading and general machining services, including: tears, oblong, oval, elliptical bores, contact us for further information.



Disc and band saw

Up to 460 mm cut capacity in square pipes, 560 x 460 mm in rectangular pipes and up to 406.00 mm in round pipes. Available services: Straight and Angular Cut.



Heat Treatment Furnace

It enables continuous heat treatment for pipes with 9.52 to 219.10 mm dimensions, with any wall thickness. We can execute the following services: standardization, annealing and relief of tensions.



**Learn more about
what we can
provide.
Contact us!**





Structure

Our headquarters rely on our auditorium, where we perform technical qualification and motivational lectures to our employees and partners.

With more than three decades of experience in carbon steel pipe and tubular part field, Dagan complies with requirements according to each customer project.

Dagan Group grew and it currently relies on three work fronts: distribution plant, with 10,000m² area, tubular part industry and third party labor plant, with 10,000m² area, and one 100,000m² land in Guararema city.

We are certified by ISO 9001:2015 standard, assuring commitment with our process improvement.



Our stock is rotating and diversified.



Dagan Tubos de Aço

Lab

Dagan products have certified quality, so that your project is performed with utmost security. Our lab enables performing tensile and hardness mechanical trials, and it is equipped with a universal machine of trials (tensile machine), with up to 30-ton capacity, a Rockwell durometer.

Our lab is also equipped with Hexagon Three-Dimension Measurement Arm, for accurate measurements of our products.





Structural Pipes

Square and Rectangular

We provide a full range of structural pipes with and without seam, with 6- to 13-meter bars*. That can be transformed into customized cut parts*

*Special measures on demand

Sizing serviced

Section	Sizing	Thicknesses
Square	50mm x 50mm to 500mm x 500mm	3.6 mm to 16.00mm
Rectangular	40mm x 60mm to 300mm x 500mm	

Applications

Civil construction:
commercial, industrial,
infrastructure and
foundation works;

Capital Goods: machine and
equipment, railway and oil
(offshore, ship and platforms)
fields.



Wall (mm)	3.6	4	4.5	5	5.6	6.3	7.1	8	8.8	10	11	12.5	14.2	16
Dimensions														
50 x 50	5.03	5.55	6.19	6.82	7.55									
60 x 60	6.16	6.81	7.6	8.4	9.34	10.4	11.5							
70 x 70	7.58	8.4	9.34	10.4	11.5	12.8	14.3	15.9	17.3					
80 x 80	8.24	9.11	10.2	11.3	12.6	14.1	15.6	17.4	19	21.4				
90 x 90		10.3	11.5	12.7	14.1	15.8	17.7	19.7	21.5	24.2	26.3			
100 x 100			13	14.3	15.9	17.8	19.9	22.3	24.3	27.4	29.8	33.4		
110 x 110				20.1	22.4	19.7	22.1	24.6	26.9	30.3	33.1	37.1		
120 x 120				17.3	19.4	21.7	24.3	27.2	29.8	33.5	36.7	41.1	46.2	51.3
130 x 130				18.6	20.8	23.2	26.1	29.2	31.9	36	39.3	44.3	49.7	55.3
140 x 140				20.2	22.5	25.2	28.3	31.6	34.6	39	42.7	48	53.9	60.1
150 x 150						28.2	31.6	35.4	38.8	43.8	47.9	53.9	60.7	67.7
160 x 160						29.1	32.7	36.7	40.1	45.3	49.5	55.9	62.9	70.1
175 x 175						33	37.1	41.7	45.6	51.6	56.4	63.7	71.7	80.1
180 x 180						33	37.1	41.7	45.6	51.6	56.4	63.7	71.7	80.1
190 x 190						35.6	39.9	44.8	49.1	55.5	60.8	68.6	77.3	86.4
200 x 200						37	41.6	46.6	51.2	57.9	63.3	71.5	80.9	90.3
220 x 220						41.4	46.6	52.3	57.4	64.9	71.1	80.1	90.3	101
240 x 240							51	57.3	62.9	71.1	78	87.9	99.7	111
250 x 250							51	57.3	62.9	71.1	78	87.9	99.7	111
260 x 260							55.4	62.3	68.4	77.4	84.8	95.8	108	122
270 x 270									71.8	81.6	89.5	100	114	128
290 x 290									75.3	85.6	93.4	106	119	134
300 x 300						54.7		71.6		88.4		110	124	139
320 x 320						58.43		76.65		94.64		115.43		
350 x 350						64.08		84.2		104		127		
400 x 400								96.75		120		147		
500 x 500										151.16		186.08		

Gages highlighted with gray stripe are more frequently manufactured and shall be adopted preferably.

For other gages, ask about minimum manufacturing quantities and delivery term.



Wall (mm)	3.6	4	4.5	5	5.6	6.3	7.1	8	8.8	10	11	12.5	14.2	16
Dimensions														
60 x 40	5.03	5.55	6.19	6.82										
70 x 50	6.16	6.81	7.6	8.38	9.31									
80 x 50	6.43	7.1	7.93	8.75	9.72									
80 x 60	7.57	8.38	9.37	10.3	11.5	12.8	14.3							
90 x 50	7.57	8.38	9.37	10.3	11.5									
90 x 60	8.25	9.12	10.2	11.3	12.6	14	15.7							
100 x 60		9.12	10.2	11.3	12.6	14	15.7							
100 x 80		10.3	11.5	12.7	14.1	15.8	17.7	19.7	21.5	24.2				
102 x 52	8.25	9.12	10.2	11.3	12.6									
110 x 60		9.63	10.8	11.9	13.3	14.8	16.5							
110 x 80		10.9	12.2	13.5	15	16.8	18.8	21	29.2	25.7				
120 x 60			11.5	12.7	14.1	15.8	17.7	19.7						
120 x 80			12.9	14.3	15.9	17.8	19.9	22.3	24.3	27.4				
120 x 100			14.3	15.8	17.6	19.7	22	24.7	27	30.3	33.1	37.1		
130 x 80				15	16.8	18.8	21	23.5	25.7	28.9				
130 x 100				16.8	18.7	21	23.5	26.3	28.8	32.4	35.3	39.7		
140 x 70				15	16.8	18.8	21	23.5						
140 x 80				15.8	17.6	19.7	22	24.7	27	30.3				
140 x 110				18.6	20.8	23.3	26.1	29.2	31.9	36	39.3	44.2	49.7	
150 x 80				16.6	18.5	20.7	23.2	26	28.4	32				
150 x 100				18.2	20.4	22.8	25.5	28.6	31.3	35.3	38.5	43.3		
150 x 120				20.1	22.5	25.2	28.2	31.6	34.6	39	42.7	48	54	60.1
160 x 90				18.2	20.4	22.8	25.5	28.6						
160 x 110				20.1	22.5	25.2	28.2	31.6	34.6	39				
160 x 130					23.8	26.6	29.9	33.5	36.7	41.4	45.2	51		
170 x 100				20.1	22.5	25.2	28.2	31.6	34.6	39				
170 x 130						28.2	31.6	35.4	38.8	43.8	47.9	53.9		
180 x 100						26.6	29.9	33.5	36.7	41.4				
180 x 130						29.1	32.7	36.6	40.1	45.3	49.6	55.9		
200 x 100						28.2	31.6	35.4	38.8	43.8	47.9	53.9		
200 x 150						33.1	37.1	41.6	45.6	51.6	56.5	63.7	14.2	80.1
220 x 120								38.7	42.4	47.8	52.4			
220 x 180						37	41.6	46.7	51.2	57.8	63.3	71.5	80.6	90.2
230 x 150						35.5	39.9	44.8	49.1	55.5	60.8	68.6	77.3	86.4
230 x 170						37	41.6	46.7	51.2	57.8	11	71.5	80.6	90.2
240 x 140						35.5	39.9	44.8	49.1	55.5	60.8	68.6	77.3	
240 x 200						41.5	46.6	52.3	57.4	64.9	71.1	80.3	90.7	101
250 x 100						32.6	36.6	41	45	50.8	55.6	62.7		
250 x 150						37	41.6	46.7	51.2	57.8	63.3	71.5	80.6	90.2

Structural, Rectangular Pipes

Wall (mm)	3.6	4	4.5	5	5.6	6.3	7.1	8	8.8	10	11	12.5	14.2	16
250 x 190						41.5	46.6	52.3	57.4	64.9	71.1	80.3	90.7	101
260 x 180						41.5	46.6	52.3	57.4	64.9	71.1	80.3	90.7	101
260 x 220							51	57.3	62.9	71.1	78	88.2	99.6	111
280 x 160							46.6	52.3	57.4	64.9	71.1	80.3	90.7	101
280 x 200							51	57.3	62.9	71.1	78	88.2	99.6	111
280 x 240							55.3	62.1	68.2	77.2	84.6	95.7	108	121
290 x 150							46.6	52.3	57.4	64.9	71.1	80.3	90.7	101
290 x 190							51	57.3	62.9	71.1	78	88.2	99.6	111
300 x 150							46.6	52.3	57.4	64.9	71.1	80.3	90.7	101
300 x 180							51	57.3	62.9	71.1	78	88.2	99.6	111
300 x 200							51	57.3	62.9	71.1	78	88.2	99.6	111
300 x 240									71.8	81.3	89.2	101	114	128
310 x 170							65	73	80.1	90.6	99.4	88.2	99.6	
310 x 210							55.5	62.3	68.4	77.4	84.9	96	108	121
320 x 200							55.5	62.3	68.4	77.4	84.9	96	108	121
320 x 220									71.8	81.3	89.2	101	114	128
320 x 250									75.3	85.2	93.5	106	120	134
340 x 200									71.8	81.3	89.2	101	114	128
350 x 230									75.3	85.2	93.5	106	120	134
360 x 210									75.3	85.2	93.5	106	120	134
400 x 150						49.95			65.35	80.51		97.77		
400 x 200						54.7			71.6			110	124	139
500 x 200						64.08			84.2	104		127		
500 x 300									96.75	120		147		

Gages highlighted with gray stripe are more frequently manufactured and shall be adopted preferably.

For other gages, ask about minimum manufacturing quantities and delivery term.



Dagan Tubos de Aço

Chemical Composition

Specification			Chemical Composition (weight %)							
Standards / Similar ASTM Grades			C	Mn	Si	P	S	Cu	Cr	Other
Common	VMB250	A36GrB, A501	0.30 max.	0.50 to 1.50	0.15 to 0.40	0.03 max.	0.03 max.	0.35 max.	0.35 max.	Nb ≤ 0.10 Mo ≤ 0.15 Ni ≤ 0.40
	VMB300	A106GrC, A572Gr42								
	VMB350	A618GrIII, A572GR50								
Weathered (*)	VMB250 color	---	0.18 max.	0.50 to 1.30	0.15 to 0.40	0.03 max.	0.03 max.	0.25 to 0.50	0.40 to 0.65	Nb ≤ 0.10 Mo ≤ 0.15 Ni ≤ 0.40
	VMB300 color	A714								
	VMB350 color	A242, A618GrIb, A714GrVIII								

Mechanical Properties

VMB Structural Steels				ASTM Specifications Similar to VMB Steels	
	Commercial Designation	Strength to steel flow (fy)	Strength to tensile steel breaking (fu)	Standard	Grade
		(MPa)	(MPa)		
Laminate (Circular)	VMB 250	³ 250	³ 400	ASTM A 501	A
	VMB 300	³ 300	³ 415	EN10210	S275J2H
	VMB 350	³ 350	³ 485	ASTM A 501	B
	VMB 250cor	³ 250	³ 400	ASTM A 714	Grade IV
	VMB 300cor	³ 300	³ 415	-	-
	VMB 350cor	³ 350	³ 485	ASTM A 618	Ia, Ib and II** III
*Cold Form (Square and Rectangular)	VMB 250	³ 250	³ 400	ASTM A 500	D
	VMB 300	³ 300	³ 415	ASTM A 500	B
	VMB 350	³ 350	³ 485	ASTM A 500	C
	VMB 250cor	³ 250	³ 400	ASTM A 500	D (with copper)
	VMB 300cor	³ 300	³ 415	ASTM A 500	B (with copper)
	VMB 350cor	³ 350	³ 485	ASTM A 500	C (with copper)

* Cold form pipes are achieved from hot laminate pipes, thus applicable wall tolerance to them is set by hot laminate pipe standards.

Cold form pipes (square and rectangular) can be supplied with head treatments (standardization or tension relief). Other steels and supply conditions on demand.

Rated Tolerances

External Radius (R_o)

External curvature profile is calculated by measuring distance between flat side extension intersection points, by another one.

$$2t \leq C_1 \leq 3t$$

Wall Thickness (t)

Pipe without seam wall thickness hot tolerance is from -12.5% to +15%.

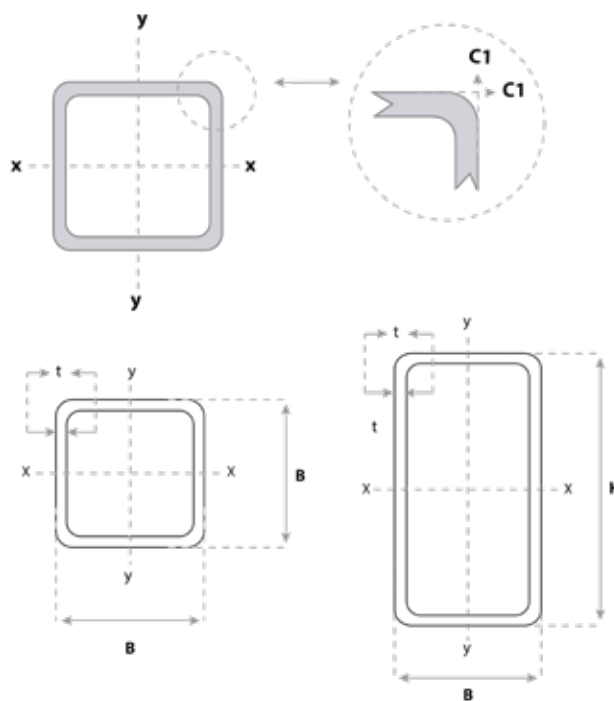
Flatness (e) and
 $\leq 2.08 \text{ mm/m}$

ASTM A500 Standard - Tolerances^a

H^* (mm)	Variation Allowed (mm)
$H \leq 63.5$	± 0.51
$63.5 < H \leq 88.9$	± 0.64
$88.9 < H \leq 139.7$	± 0.76
$139.7 \leq H$	$\pm 1\%H$

* External dimensions

External Radius (R_o)

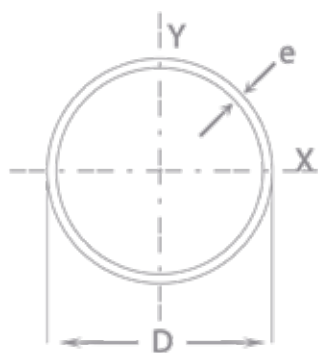


Industrial Round Pipes



Theoretical Calculation

Round pipes



$(D - e) \cdot e \cdot 0.02466$ – theoretical weight per meter

External Diameter		Wall Thickness mm	Bar theoretical weight 6m
mm	In.		
6.30	1/4"	0.90	0.712
		1.20	0.906
7.94	5/16"	0.75	0.798
		0.90	0.938
		1.20	1.197
		1.50	1.429
9.52	3/8"	0.75	0.973
		0.90	1.148
		1.20	1.477
10.00	13/32"	1.50	1.780
		0.90	1.212
		1.20	1.563
12.70	1/2"	1.50	1.887
		0.75	1.326
		0.90	1.571
		1.20	2.042
15.87	5/8"	1.50	2.486
		0.75	1.687
		0.90	1.994
		1.20	2.605
		1.50	3.189
		1.90	3.928
		2.00	4.105

Dagan Tubos de Aço

External Diameter		Wall Thickness mm	Bar theoretical weight 6m
mm	In.		
19.05	3/4"	0.75	2.031
		0.90	2.417
		1.20	3.169
		1.50	3.895
		1.90	4.822
		2.00	5.046
		2.25	5.593
		2.65	6.431
		3.00	7.125
20.70	13/16"	0.75	2.214
		0.90	2.637
		1.20	3.462
		1.50	4.262
		1.90	5.285
		2.00	5.534
		2.25	6.143
		2.65	7.078
21.30	27/32"	1.20	3.569
		1.50	4.395
		1.90	5.454
		2.00	6.431
		2.25	6.342
		2.65	7.313
		3.00	8.123
		3.35	8.898
22.22	7/8"	3.75	9.738
		0.75	2.383
		0.90	2.839
		1.20	3.732
		1.50	4.599
		1.90	5.713
		2.00	5.984
		2.25	6.649
		2.65	7.674
		3.00	8.532
25.40	1"	0.75	2.736
		0.90	3.263
		1.20	4.297
		1.50	5.305
		1.90	6.607
		2.00	6.925
		2.25	7.708
		2.65	8.921
		3.00	9.944
		3.35	10.930
		3.75	12.013

External Diameter		Wall Thickness mm	Bar theoretical weight 6m
mm	In.		
28.60	1 1/8"	0.75	3.091
		0.90	3.689
		1.20	4.865
		1.50	6.015
		1.90	7.506
		2.00	7.872
		2.25	8.773
		2.65	10.175
		3.00	11.364
		3.35	12.516
		3.75	13.789
31.75	1 1/4"	0.75	3.440
		0.90	4.108
		1.20	5.425
		1.50	6.714
		1.90	8.392
		2.00	8.804
		2.25	9.821
		2.65	11.411
		3.00	12.762
		3.35	14.078
		3.75	15.537



Industrial Round Pipes



External Diameter		Wall Thickness mm	Bar theoretical weight 6m
mm	In.		
33.40	1 5/16"	2.00	9.292
		2.25	10.371
		2.65	12.058
		3.00	13.495
		3.35	14.896
		3.75	16.452
		4.25	18.332
		4.75	20.137
		5.30	22.037
34.92	1 3/8"	0.90	4.531
		1.20	5.987
		1.50	7.418
		1.90	9.283
		2.00	9.742
		2.25	10.877
		2.65	12.654
		3.00	14.170
		3.35	15.649
38.10	1 1/2"	0.90	4.954
		1.20	6.552
		1.50	8.123
		1.90	10.177
		2.00	10.683
		2.25	11.936
		2.65	13.901
		3.00	15.581
		3.35	17.225
		3.75	19.060
		0.90	5.376
		1.20	7.115
41.27	1 5/8"	1.50	8.827
		1.90	11.069
		2.00	11.621
		2.25	12.991
		2.65	15.144
		3.00	16.988
		3.35	18.797
		3.75	20.819

External Diameter		Wall Thickness mm	Bar theoretical weight 6m
mm	In.		
44.45	1 3/4"	0.90	5.800
		1.20	7.680
		1.50	9.533
		1.90	11.963
		2.00	12.563
		2.25	14.050
		2.65	16.391
		3.00	18.400
		3.35	20.373
		3.75	22.584
		4.25	25.281
		4.75	27.903
47.60	1 7/8"	5.30	30.703
		0.90	6.219
		1.20	8.239
		1.50	10.232
		1.90	12.848
		2.00	13.495
		2.25	15.098
		2.65	17.626
		3.00	19.798

Industrial Round Pipes

External Diameter		Wall Thickness mm	Bar theoretical weight 6m
mm	In.		
50.80	2"	0.90	6.645
		1.20	8.807
		1.50	10.942
		1.90	13.748
		2.00	14.442
		2.25	16.164
		2.65	18.880
		3.00	21.219
		3.35	23.521
		3.75	26.107
		4.25	29.274
		4.75	32.366
57.15	2 1/4"	5.60	37.454
		6.30	41.483
		0.90	7.491
		1.20	9.935
		1.50	12.352
		1.90	15.533
		2.00	16.321
		2.25	18.278
		2.65	21.370
		3.00	24.038
		3.35	26.668
		3.75	29.631
		4.25	33.267

External Diameter		Wall Thickness mm	Bar theoretical weight 6m
mm	In.		
58.74	2 5/16"	0.90	7.703
		1.20	10.217
		1.50	12.705
		1.90	15.980
		2.00	16.792
		2.25	18.807
		2.65	21.990
		3.00	24.743
60.30	2 3/8"	3.35	27.457
		0.90	7.910
		1.20	10.494
		1.50	13.051
		1.90	16.419
		2.00	17.253
		2.25	19.327
		2.65	22.606
		3.00	25.436
		3.35	28.230
63.50	2 1/2"	3.75	31.379
		4.25	35.248
		4.75	39.043
		5.60	45.326
		6.30	50.339
		1.20	11.062
		1.50	13.761
		1.90	17.318
		2.00	18.200
		2.25	20.392
		2.65	23.860
		3.00	26.856
69.85	2 3/4"	3.35	29.816
		3.75	33.154
		4.25	37.260
		4.75	41.293
		6.30	53.322
		1.20	12.190
		1.50	15.171
		1.90	19.104
		2.00	20.079
		2.25	22.506
73.03	2 7/8"	2.65	26.350
		3.00	29.675
		3.35	32.964
		3.75	36.678
		4.25	41.254
		4.75	45.756
		6.30	59.242
		3.00	31.087
		3.35	34.540
		3.75	38.442
		4.25	43.254
		4.75	47.991
		6.30	62.206

Industrial Pipes Round

External Diameter		Wall Thickness mm	Bar theoretical weight 6m
mm	In.		
76.20	3"	0.90	10.028
		1.20	13.317
		1.50	16.580
		1.90	20.889
		2.00	21.959
		2.25	24.620
		2.65	28.840
		3.00	32.494
		3.35	36.111
		3.75	40.201
		4.25	45.247
		4.75	50.219
		6.30	65.161
82.55	3.1/4"	2.00	23.838
		2.25	26.734
		2.65	31.330
		3.00	35.313
		3.35	39.259
		3.75	43.725
		4.25	49.240
		4.75	54.682
88.90	3.1/2"	6.30	71.081
		1.20	15.272
		1.50	19.399
		1.90	24.459
		2.00	25.717
		2.25	28.848
		2.65	33.820
		3.00	38.132
		3.35	42.407
		3.75	47.248
		4.25	53.234
		4.75	59.145
		5.30	65.562
		6.30	77.000
95.25	3.3/4"	2.00	27.596
		2.65	36.310
		3.00	40.950
		3.75	50.772
		4.75	63.608
		6.30	82.920

External Diameter		Wall Thickness mm	Bar theoretical weight 6m
mm	In.		
101.60	4"	1.20	17.827
		1.50	22.218
		1.90	28.030
		2.00	29.475
		2.25	33.077
		2.65	38.800
		3.00	43.769
		3.35	48.702
		3.75	54.295
		4.25	61.220
		4.75	68.071
		5.30	75.522
		6.30	88.839
		7.30	101.860
114.30	4.1/2"	8.00	110.799
		1.50	25.036
		1.90	31.600
		2.00	33.234
		2.25	37.305
		2.65	43.780
		3.00	49.407
		3.35	54.997
		3.75	61.342
		4.25	69.207
		4.75	76.998
		5.30	85.482
		6.30	100.678
		7.30	115.579
		8.00	125.833



Dagan Tubos de Aço

Industrial Pipes

Round

External Diameter		Wall Thickness mm	Bar theoretical weight 6m
mm	In.		
127.00	5"	2.00	36.992
		2.25	41.533
		2.65	48.760
		3.00	55.044
		3.35	61.293
		3.75	68.389
		4.25	77.194
		4.75	85.924
		5.30	95.441
		6.30	112.517
		7.30	129.297
		8.00	140.866
139.70	5.1/2"	2.25	45.761
		2.65	53.740
		3.00	60.682
		3.35	67.588
		3.75	75.436
		4.25	85.180
		4.75	94.850
		5.30	105.401
		6.30	124.356
		7.10	139.307
		8.00	155.900
		8.50	165.015
		9.00	174.056
		9.50	183.023
		10.00	191.916
		10.60	202.490
		11.20	212.957
		12.00	226.748
		12.70	238.659
		13.20	247.079
		14.00	260.396
		15.00	276.776
		16.00	292.860

External Diameter		Wall Thickness mm	Bar theoretical weight 6m
mm	In.		
141.30	5. 9/16"	2.25	45.761
		2.65	54.740
		3.00	60.682
		3.35	67.588
		3.75	75.436
		4.25	85.180
		4.75	94.850
		5.30	105.401
		6.30	124.356
		7.10	139.307
		8.00	155.900
		8.50	165.015
		9.00	174.056
		9.50	183.023
		10.00	191.916
		10.60	202.490
152.40	6"	11.20	215.957
		12.00	226.748
		12.70	238.659
		13.20	247.079
		14.00	260.396
		15.00	276.776
		16.00	292.860
		2.25	49.989
		2.65	58.720
		3.00	66.320
		3.35	73.884
		3.75	82.483
		4.25	93.167
		4.75	103.776
		6.30	136.195
		7.10	152.649
		8.00	170.934
		8.50	180.988
		9.00	190.969
		9.50	200.875
		10.00	210.708
		10.60	222.409
		11.20	234.004
		12.00	249.298
		12.70	262.525
		13.20	271.884
		14.00	286.705
		15.00	304.964
		16.00	322.928

Industrial Pipes

Round

External Diameter		Wall Thickness mm	Bar theoretical weight 6m
mm	In.		
158.75	6.1/4"	3.75	86.007
		4.25	97.160
		4.50	102.709
		4.75	108.239
		5.00	113.751
		5.30	120.341
		5.60	126.904
		6.30	142.115
		7.10	159.320
		8.00	178.451
		8.50	188.975
		9.00	199.425
		9.50	209.802
		10.00	220.104
		10.60	232.369
		11.20	244.528
		12.00	260.573
		12.70	274.458
		13.20	284.287
		14.00	299.859
		15.00	319.058
		16.00	337.961
165.10	6.1/2"	2.25	54.218
		2.65	63.700
		3.00	71.957
		3.35	80.179
		3.75	89.530
		4.25	101.153
		4.75	112.702
		5.30	125.321
		6.30	148.034
		7.10	165.992
		8.00	185.967
		8.50	196.962
		9.00	207.882
		9.50	218.728
		10.00	229.500
		10.60	242.329
		11.20	255.051
		12.00	271.849
		12.70	286.391
		13.20	296.690
		14.00	313.014
		15.00	333.152
		16.00	352.995

External Diameter		Wall Thickness mm	Bar theoretical weight 6m
mm	In.		
168.30	6.5/8"	2.65	64.955
		3.00	73.378
		3.35	81.765
		3.75	91.306
		4.25	103.166
		4.75	114.952
		5.30	127.830
		6.30	150.017
		7.10	169.353
		8.00	189.755
		8.50	200.986
		9.00	212.143
		9.50	223.226
		10.00	234.235
		10.60	247.348
		11.20	260.354
		12.00	277.531
		12.70	292.405
		13.20	302.940
		14.00	319.643
		15.00	340.255
		16.00	360.571
177.80	7"	2.25	58.446
		2.65	68.679
		3.00	77.595
		3.35	86.474
		3.75	96.578
		4.25	109.140
		4.75	121.629
		5.30	135.281
		6.30	159.873
		7.10	179.334
		8.00	201.001
		8.50	212.935
		9.00	224.795
		9.50	236.580
		10.00	248.292
		10.60	262.248
		11.20	276.098
		12.00	294.399
		12.70	310.257
		13.20	321.495
		14.00	339.323
		15.00	361.340
		16.00	383.062

Industrial Pipes Round

External Diameter		Wall Thickness mm	Bar theoretical weight 6m
mm	In.		
193.70	7.5/8"	4.25	119.139
		4.50	125.981
		4.75	132.804
		5.00	139.609
		5.30	147.750
		5.60	155.865
		6.30	174.695
		7.10	196.038
		8.00	219.823
		8.50	232.933
		9.00	245.969
		9.50	258.931
		10.00	271.819
		10.60	287.187
		11.20	302.449
		12.00	322.632
		12.70	340.136
		13.20	352.551
		14.00	372.260
203.20	8"	15.00	396.631
		16.00	420.680
		2.25	66.902
		2.65	78.639
		3.00	88.870
		3.35	99.065
		3.75	110.672
		4.25	125.113
		4.75	139.481
		6.30	183.551
		7.10	206.019
		8.00	231.068
		8.50	244.881
		9.00	258.620
		9.50	272.285
		10.00	285.876
		10.60	302.088
		11.20	318.193
		12.00	339.500
		12.70	357.989
		13.20	371.106
		14.00	391.940
		15.00	417.716
		16.00	443.197

External Diameter		Wall Thickness mm	Bar theoretical weight 6m
mm	In.		
219.10	8.5/8"	2.25	72.196
		2.65	84.874
		3.00	95.928
		3.35	106.946
		3.75	119.494
		4.25	135.112
		4.75	150.656
		6.30	198.373
		7.10	222.723
		8.00	249.890
		8.50	264.879
		9.00	279.795
		9.50	294.636
		10.00	309.403
		10.60	327.026
		11.20	344.543
		12.00	367.733
		12.70	387.868
		13.20	402.162
254.00	10"	14.00	424.878
		15.00	453.007
		16.00	480.840
		3.00	111.421
		3.35	124.246
		3.75	138.860
		4.25	157.060
		4.75	175.186
		5.30	195.039
		5.60	205.831
		6.30	230.907
		7.10	259.388
		8.00	291.203
		8.50	308.774
		9.00	326.272
		9.50	343.695
		10.00	361.044
		10.60	381.766
		11.20	402.381
		12.00	429.708
		12.70	453.452
		13.20	470.328
		14.00	497.176
		15.00	530.469
		16.00	563.466

Industrial Round Pipes

External Diameter		Wall Thickness mm	Bar theoretical weight 6m
mm	In.		
273.05	10.3/4"	5.30	209.979
		5.60	221.616
		6.30	248.666
		7.10	279.402
		8.00	313.753
		8.50	332.734
		9.00	351.641
		9.50	370.474
		10.00	389.232
		10.60	411.645
		11.20	433.952
		12.00	463.528
		12.70	489.251
		13.20	507.537
		14.00	536.639
		15.00	572.751
		16.00	608.567

External Diameter		Wall Thickness mm	Bar theoretical weight 6m
mm	In.		
323.80	12.3/4"	6.30	295.975
		7.10	332.719
		8.00	373.829
		8.50	396.564
		9.00	419.226
		9.50	441.813
		10.00	464.327
		10.60	491.245
		11.20	518.057
		12.00	553.641
		12.70	584.621
		13.20	606.661
		14.00	641.771
		15.00	685.392
		16.00	728.718
339.70	13.3/8"	6.30	310.797
		7.10	349.423
		8.00	392.651
		8.50	416.562
		9.00	440.400
		9.50	464.164
		10.00	487.854
		10.60	516.184
		11.20	544.408
		12.00	581.873
		12.70	614.500
		13.20	637.717
		14.00	674.709
		15.00	720.683
		16.00	766.361



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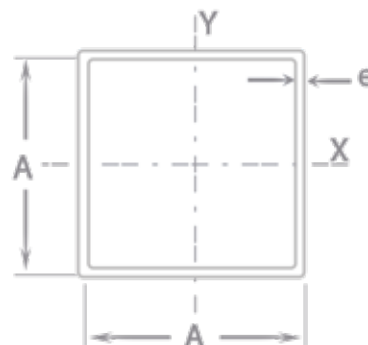
Pipes Industrial Square



External Diameter	Wall Thickness mm	Bar theoretical weight 6mts
MM		
16X16	0.90	2.586
	1.20	3.021
	1.50	4.177
	1.90	5.178
20X20	0.90	3.262
	1.20	4.296
	1.50	5.304
	1.90	6.606
	2.00	6.924
25X25	0.90	4.108
	1.20	5.411
	1.50	6.714
	1.90	8.394
	2.00	8.803
	2.25	9.828
	2.65	11.424
30X30	3.00	12.761
	0.90	4.953
	1.20	6.552
	1.50	8.124
	1.90	10.176
	2.00	10.683
	2.25	11.935
	2.65	13.899
35X35	3.00	15.580
	0.90	5.799
	1.20	7.680
	1.50	9.534
	1.90	11.964
	2.00	12.561
	2.25	14.049
	2.65	16.389
	3.00	18.402
40X40	0.90	6.664
	1.20	8.808
	1.50	10.944
	1.90	13.746
	2.00	14.441
	2.25	16.163
	2.65	18.879
	3.00	21.216
	3.35	25.007
	3.75	26.105
	4.25	29.272
	4.75	32.364

Theoretical Calculation

Round pipes



$[(A.1.27)-e].e.0.02466 = \text{theoretical weight per meter}$

External Diameter	Wall Thickness mm	Bar theoretical weight 6mts
MM		
50X50	1.20	11.061
	1.50	13.764
	1.90	17.316
	2.00	18.198
	2.25	20.390
	2.65	23.859
	3.00	28.856
	3.35	29.814
	3.75	33.152
	4.25	37.258
	4.75	41.290
	5.30	45.640
	6.30	53.319

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External Diameter	Wall Thickness mm	Bar theoretical weight 6mts
MM		
60X60	1.20	13.316
	1.50	16.578
	1.90	20.886
	2.00	21.958
	2.25	24.619
	2.65	28.838
	3.00	32.492
	3.35	36.109
	3.75	40.200
	4.25	45.244
	4.75	50.216
	5.30	55.599
	6.30	65.157
63.5X63.5	1.50	17.565
	1.90	22.137
	2.00	23.271
	2.25	26.097
	2.65	30.581
	3.00	34.463
	3.35	38.310
	3.75	42.663
	4.25	48.037
	4.75	53.337
	5.30	59.085
	6.30	69.296
70X70	1.20	15.571
	1.50	19.398
	1.90	24.458
	2.00	25.715
	2.25	28.847
	2.65	33.818
	3.00	38.129
	3.35	42.404
	3.75	47.245
	4.25	53.230
	4.75	59.141
	5.30	65.558
	6.30	76.995
75X75	3.35	45.552
	3.75	50.769
	4.25	57.224
	4.75	63.604
	5.30	70.538
	6.30	82.915
76.20 X 76.20	3.00	41.623
	3.35	46.305
	3.75	51.612
	4.25	58.181
	4.75	64.675
	5.30	71.733
	6.30	84.335

External Diameter	Wall Thickness mm	Bar theoretical weight 6mts
MM		
80X80	1.50	22.218
	1.90	28.028
	2.00	29.474
	2.25	33.075
	2.65	39.798
	3.00	43.767
	3.35	48.699
	3.75	54.292
	4.25	61.217
	4.75	68.068
	5.30	75.517
	6.30	88.833
90X90	2.00	33.231
	2.25	37.302
	2.65	43.777
	3.00	49.403
	3.35	54.994
	3.75	61.338
	4.25	69.202
	4.75	76.992
	5.30	85.476
	6.30	100.671
100X100	2.00	36.990
	2.25	41.530
	2.65	48.756
	3.00	55.041
	3.35	61.290
	3.75	68.385
	4.25	77.188
	4.75	85.918
120X120	5.30	95.436
	6.30	112.510
	3.00	66.316
	3.35	73.879
	3.75	82.478
	4.25	93.161
	4.75	103.770
	5.30	115.354
	6.30	136.187
	7.10	152.640
	8.00	170.923
	8.50	180.977
	9.50	200.863
	10.60	222.396
	11.20	233.990
	12.50	258.745
	14.00	286.687
	15.00	304.946
	16.00	322.908

External Diameter	Wall Thickness	Bar theoretical weight
MM	mm	6mts
125X125	4.75	108.233
	5.30	120.334
	6.30	142.106
	7.10	159.311
	8.00	178.440
	8.50	188.960
	9.50	209.789
	10.60	232.355
	11.20	244.513
	12.50	270.489
130X130	3.00	71.952
	3.35	80.174
	3.75	89.525
	4.25	101.147
	4.75	112.696
	5.30	125.313
	6.30	148.025
	7.10	165.982
	8.00	185.956
	8.50	196.950
	9.50	218.714
	10.60	242.314
	11.20	255.036
	12.50	282.234
	14.00	312.995
	15.00	333.132
	16.00	352.973
140X140	3.00	77.590
	3.35	86.469
	3.75	96.572
	4.25	109.133
	4.75	121.621
	5.30	135.272
	6.30	159.863
	7.10	179.323
	8.00	200.989
	8.50	212.922
	9.50	236.566
	10.60	262.232
	11.20	276.082
	12.50	305.722
	14.00	339.302
	15.00	361.318
	16.00	383.039



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Industrial Square Pipes

External Diameter	Wall Thickness mm	Bar theoretical weight 6mts
MM		
150X150	3.00	83.228
	3.35	92.764
	3.75	103.618
	4.25	117.120
	4.75	130.547
	5.30	145.232
	6.30	171.702
	7.10	192.665
	8.00	216.022
	8.50	228.894
	9.50	254.417
	10.60	282.151
	11.20	297.127
	12.50	297.127
	14.00	365.609
	15.00	389.505
	16.00	413.104
160X160	4.75	139.173
	5.30	152.520
	6.30	183.540
	7.10	206.006
	8.00	231.054
	8.50	244.866
	9.50	272.269
	10.60	302.069
	11.20	318.173
	12.50	352.700
	14.00	391.916
	15.00	417.691
	16.00	443.170

External Diameter	Wall Thickness mm	Bar theoretical weight 6mts
MM		
175X175	4.25	137.085
	4.75	152.861
	5.30	170.130
	6.30	201.298
	7.10	226.010
	8.00	253.603
	8.50	268.825
	9.50	299.046
	10.60	331.947
	11.20	349.742
	12.50	387.933
	14.00	431.377
	15.00	459.971
	16.00	488.268
	4.75	157.324
	5.30	175.109
180X180	6.30	207.217
	7.10	232.689
	8.00	261.120
	8.50	276.811
	9.50	307.971
	10.60	341.906
	11.20	360.265
	12.50	399.677
	14.00	444.531
	15.00	474.064
	16.00	503.301
190X190	4.75	166.250
	5.30	185.068
	6.30	219.055
	7.10	246.031
	8.00	276.153
	8.50	292.783
	9.50	325.823
	10.60	361.824
	11.20	381.311
	12.50	423.166
	14.00	470.838
	15.00	502.250
	16.00	533.366

Industrial Square Pipes

External Diameter	Wall Thickness mm	Bar theoretical weight 6mts
MM		
200X200	4.75	175.175
	5.30	195.028
	6.30	230.893
	7.10	259.372
	8.00	291.185
	8.50	308.756
	9.50	343.674
	10.60	381.743
	11.20	402.357
	12.50	446.654
	14.00	497.146
	15.00	530.437
220X220	16.00	563.432
	5.30	214.946
	6.30	254.570
	7.10	286.056
	8.00	321.251
	8.50	340.700
	9.50	379.377
	10.60	421.579
	11.20	444.480
	12.50	493.632
250X250	14.00	549.760
	15.00	586.810
	16.00	623.563
260X260	6.30	290.084
	7.10	326.080
	8.00	366.349
	6.30	301.923
	7.10	339.422
	8.00	381.382
	8.50	404.589
	9.50	450.782
	10.60	501.253
	11.20	528.631
	12.50	587.586
	14.00	654.989
	15.00	699.555
	16.00	743.825



34 Industrial Rectangular Pipes



Diameter External	Wall Thickness	Bar theoretical weight
MM	mm	6mts
25X15	0.90	3.263
	1.20	4.297
	1.50	5.304
	1.90	6.606
	2.00	6.924
30X20	0.90	4.108
	1.20	5.424
	1.50	6.714
	1.90	8.392
	2.00	8.804
	2.25	9.821
	2.65	11.410
35X15	0.90	4.108
	1.20	5.424
	1.50	6.714
	1.90	8.392
	2.00	8.804
35X20	0.90	4.531
	1.20	5.988
	1.50	7.418
	1.90	9.284
	2.00	9.743
35X25	0.90	4.954
	1.20	6.552
	1.50	8.123
	1.90	10.177
	2.00	10.683
40X20	0.90	4.954
	1.20	6.552
	1.50	8.123
	1.90	10.177
	2.00	10.683
	2.25	11.935
	2.65	13.900
40X30	0.90	5.799
	1.20	7.679
	1.50	9.532
	1.90	11.962
	2.00	12.562
	2.25	14.049
	2.65	16.390
	3.00	18.399

External Diameter	Wall Thickness	Bar theoretical weight
MM	mm	6mts
50X20	0.90	5.799
	1.20	7.679
	1.50	9.532
	1.90	11.962
	2.00	12.562
	2.25	14.049
50X25	2.65	16.390
	3.00	18.399
	0.90	6.222
	1.20	8.243
	1.50	10.237
	1.90	12.854
	2.00	13.501
	2.25	15.106
50X30	2.65	17.634
	3.00	19.808
	0.90	6.645
	1.20	8.807
	1.50	10.942
	1.90	13.747
	2.00	14.441
	2.25	16.163
	2.65	18.879
	3.00	21.217
50X40	3.35	23.519
	3.75	26.106
	4.25	29.272
	0.90	7.490
	1.20	9.934
	1.50	12.351
	1.90	15.532
	2.00	16.320
60X30	2.25	18.277
	2.65	21.369
	3.00	24.036
	3.35	26.667
	3.75	29.629
	4.25	33.265
	0.90	7.744
	1.20	9.934
60X30	1.50	12.351
	1.90	15.532
	2.00	16.320
	2.25	18.277
	2.65	21.369
	3.00	24.036
	3.35	26.667
	3.75	29.629

Diameter External	Wall Thickness	Bar theoretical weight
MM	mm	6mts
60X33	0.90	7.744
	1.20	10.272
	1.50	12.774
	1.90	16.068
	2.00	16.884
	2.65	22.116
	3.00	24.882
	3.35	27.611
	3.75	30.686
60X40	1.20	11.061
	1.50	13.760
	1.90	17.317
	2.00	18.199
	2.25	20.391
	2.65	23.859
	3.00	26.855
	3.35	29.814
	3.75	33.152
	4.25	37.258
	4.75	41.290
	6.30	53.319
70X25	1.20	10.498
	1.50	13.056
	1.90	16.425
	2.00	17.260
	2.25	19.334
	2.65	22.614
70X30	3.00	25.445
	1.20	11.061
	1.50	13.760
	1.90	17.317
	2.00	18.199
	2.25	20.391
	2.65	23.859
	3.00	26.855
	3.35	29.814
	3.75	33.152
	4.25	37.258
	4.75	41.290
	6.30	53.319

External Diameter	Wall Thickness	Bar theoretical weight
MM	mm	6mts
70X40	1.20	12.189
	1.50	15.170
	1.90	19.102
	2.00	20.078
	2.25	22.505
	2.65	26.349
	3.00	29.673
	3.35	32.962
	3.75	36.676
	4.25	41.251
	4.75	45.753
	6.30	59.238
70X50	1.20	13.316
	1.50	16.579
	1.90	20.888
	2.00	21.957
	2.25	24.619
	2.65	28.839
	3.00	32.492
	3.35	36.109
	3.75	40.199
	4.25	45.244
80X40	4.75	50.216
	6.30	65.157
	1.20	13.316
	1.50	16.579
	1.90	20.888
	2.00	21.957
	2.25	24.619
	2.65	28.839
	3.00	32.492
	3.35	36.109
	3.75	40.199
	4.25	45.244
80X50	4.75	50.216
	6.30	65.157
	2.00	23.836
	2.25	26.733
	2.65	31.328
	3.00	35.311
	3.75	43.722
	4.25	49.237
80X60	4.75	54.679
	6.30	71.076
	1.50	19.398
	1.90	24.458
	2.00	25.715
	2.25	28.847
	2.65	33.818
	3.00	38.129
	3.35	42.404
	3.75	47.245
80X75	4.25	53.230
	4.75	59.141
	6.30	49.995

Diameter External	Wall Thickness	Bar theoretical weight
MM	mm	6mts
90X30	1.50	16.579
	1.90	20.888
	2.00	21.957
	2.25	24.619
	2.65	28.839
	3.00	32.492
90X50	3.00	38.129
	3.35	42.404
	3.75	47.245
	4.25	53.230
	4.75	59.141
100X40	4.75	59.141
	6.30	76.995
	1.50	19.398
	1.90	24.458
	2.00	25.715
	2.25	28.847
	2.65	33.318
	3.00	38.129
	3.35	42.404
	3.75	47.245
100X50	4.25	53.230
	4.75	59.141
	6.30	76.995
	1.50	20.807
	1.90	26.243
	2.00	27.595
	2.25	30.961
	2.65	36.308
	3.00	40.948
	3.35	45.552
	3.75	50.769
	4.25	57.224
100X60	4.75	63.604
	5.60	74.282
	6.30	82.915
	1.50	22.216
	1.90	28.028
	2.00	29.474
	2.25	33.075
	2.65	38.798
	3.00	43.767
	3.75	54.262
100X70	4.25	61.217
	4.75	68.067
	6.30	88.834
	4.25	65.210
	4.75	72.530
100X75	6.30	94.753
	2.25	36.246
	2.65	42.532
	3.00	47.995
	3.35	53.420
	3.75	59.577
	4.25	67.206
	4.75	74.761
100X80	6.30	97.712

Diameter External	Wall Thickness	Bar theoretical weight
MM	mm	6mts
100X80	2.00	33.232
	2.25	37.303
	2.65	43.777
	3.00	49.404
	3.35	54.994
	3.75	61.339
	4.25	69.203
	4.75	76.993
120X40	6.30	100.672
	1.50	22.216
	1.90	28.028
	2.00	29.474
	2.25	33.075
	2.65	38.798
	3.00	43.767
	3.35	48.699
120X60	4.25	61.217
	4.75	68.067
	2.00	33.232
	2.25	37.303
	2.65	43.777
	3.00	49.404
	3.35	54.994
	3.75	61.339
120X80	4.25	69.203
	4.75	76.993
	6.30	100.672
	2.00	36.990
	2.25	41.530
	2.65	48.756
	3.00	55.041
	3.35	61.290
120X100	3.75	68.385
	4.25	77.188
	4.75	85.919
	6.30	112.510
	3.75	75.436
	4.25	85.180
	4.75	94.850
	6.30	124.356
140X60	4.75	85.924
	6.30	112.517
140X80	4.75	94.844
	6.30	124.349

External Diameter	Wall Thickness	Bar theoretical weight
MM	mm	6mts
140X120	3.75	89.530
	4.25	101.153
	4.50	106.937
	4.75	112.702
	5.30	125.321
	6.30	148.034
	7.10	165.992
	8.00	185.967
	8.50	196.962
	9.50	218.728
	10.60	242.329
	11.20	255.051
	12.50	282.251
	14.00	313.014
	16.00	411.827

Diameter External	Wall Thickness	Bar theoretical weight
MM	mm	6mts
140X220	3.75	124.766
	4.25	141.087
	4.50	149.219
	4.75	157.334
	5.30	175.120
	6.30	207.229
	7.10	232.703
	8.00	261.136
	8.50	276.828
	9.50	307.990
	10.60	341.927
	11.20	360.287
	12.50	399.701
	14.00	444.558
	16.00	587.200
150X50	2.00	36.990
	2.25	41.530
	2.65	48.756
	3.00	55.041
	3.35	61.290
	4.25	77.188
	4.75	85.919
	6.30	112.510
150X80	3.00	63.497
	4.75	99.307
	6.30	130.268

External Diameter	Wall Thickness	Bar theoretical weight
MM	mm	6mts
150X90	4.25	93.161
	4.50	98.475
	4.75	103.770
	5.30	115.354
	6.30	136.187
	7.10	152.640
	8.00	170.923
	8.50	177.134
150X100	3.00	69.134
	3.35	77.026
	3.75	86.002
	4.25	97.154
	4.75	108.233
	6.30	142.106
	7.10	159.311
	8.00	178.440
	8.50	188.963
	9.50	209.789
	10.60	232.355
	11.20	244.513
150X110	12.50	270.489
	14.00	299.841
	16.00	337.941
	3.75	89.525
	4.25	101.147
	4.50	106.931
	4.75	112.696
	5.30	125.313
	6.30	148.025
	7.10	165.982
	8.00	185.956
	8.50	196.950
	9.50	218.714
	10.60	242.314
	11.20	255.036
	12.50	282.234
	14.00	312.995
	16.00	352.973



External Diameter	Wall Thickness mm	Bar theoretical weight 6mts
MM		
160X80	3.75	82.478
	4.25	93.161
	4.50	98.475
	4.75	103.770
	5.30	115.354
	6.30	136.187
	7.10	152.640
	8.00	170.923
	8.50	180.977
	9.50	200.863
	10.60	222.396
	11.20	233.990
	12.50	258.745
	14.00	286.687
	16.00	322.908
160X90	3.75	86.002
	4.25	97.154
	4.50	102.703
	4.75	108.233
	5.30	120.334
	6.30	142.106
	7.10	159.311
	8.00	178.440
	8.50	188.963
	9.50	209.789
	10.60	232.355
	11.20	244.513
	12.50	270.489
	14.00	299.841
	16.00	337.941
160X100	3.75	89.525
	4.25	101.147
	4.50	106.931
	4.75	112.696
	5.30	125.313
	6.30	148.025
	7.10	165.982
	8.00	185.956
	8.50	196.950
	9.50	218.714
	10.60	242.314
	11.20	255.036
	12.50	282.234
	14.00	312.995
	16.00	352.973
160X120	4.25	109.133
	4.50	115.387
	4.75	121.621
	5.30	135.272
	6.30	159.863
	7.10	179.323
	8.00	200.989
	8.50	212.922
	9.50	236.566
	10.60	262.232
	11.20	276.082
	12.50	305.722
	14.00	339.302
	16.00	383.039

External Diameter	Wall Thickness mm	Bar theoretical weight 6mts
MM		
180X60	3.75	82.478
	4.25	93.161
	4.50	98.475
	4.75	103.770
	5.30	115.354
	6.30	136.187
	7.10	152.640
	8.00	170.923
	8.50	180.977
	9.50	200.863
	10.60	222.396
	11.20	233.990
	12.50	258.745
	14.00	286.687
	16.00	322.908
180X80	3.75	89.525
	4.25	101.147
	4.50	106.931
	4.75	112.696
	5.30	125.313
	6.30	148.025
	7.10	165.982
	8.00	185.956
	8.50	196.950
	9.50	218.714
	10.60	242.314
	11.20	255.036
	12.50	282.234
	14.00	312.995
	16.00	352.973
180X100	4.25	109.133
	4.50	115.387
	4.75	121.621
	5.30	135.272
	6.30	159.863
	7.10	179.323
	8.00	200.989
	8.50	212.922
	9.50	236.566
	10.60	262.232
	11.20	276.082
	12.50	305.722
	14.00	339.302
	16.00	383.039
180X120	4.25	117.12
	4.50	123.84
	4.75	130.547
	5.30	145.232
	6.30	171.702
	7.10	192.665
	8.00	216.022
	8.50	228.894
	9.50	254.417
	10.60	282.151
	11.20	297.127
	12.50	329.211
	14.00	365.609
	16.00	413.104

External Diameter	Wall Thickness mm	Bar theoretical weight 6mts
MM		
180X260	4.25	173.02
	4.50	183.03
	4.75	193.027
	5.30	214.946
	6.30	254.570
	7.10	286.056
	8.00	321.251
	8.50	340.700
	9.50	379.377
	10.60	421.579
	11.20	444.448
	12.50	493.632
	14.00	549.760
	16.00	623.563
200X80	4.25	109.133
	4.50	115.387
	4.75	121.621
	5.30	135.272
	6.30	159.863
	7.10	179.323
	8.00	200.989
	8.50	212.922
	9.50	236.566
	10.60	262.232
	11.20	276.082
	12.50	305.722
	14.00	339.302
	16.00	383.039
200X100	4.25	117.120
	4.50	123.843
	4.75	130.547
	5.30	145.232
	6.30	171.702
	7.10	192.665
	8.00	216.022
	8.50	228.894
	9.50	254.417
	10.60	282.151
	11.20	297.127
	12.50	329.211
	14.00	365.609
	16.00	413.104
200x120	4.25	125.106
	4.50	132.298
	4.75	139.473
	5.30	155.191
	6.30	183.540
	7.10	206.006
	8.00	231.054
	8.50	244.866
	9.50	272.269
	10.60	302.069
	11.20	318.173
	12.50	352.700
	14.00	391.916
	16.00	443.170

External Diameter	Wall Thickness	Bar theoretical weight
MM	mm	6mts
200X150	4.25	137.085
	4.50	144.982
	4.75	152.861
	5.30	170.130
	6.30	201.297
	7.10	226.019
	8.00	253.603
	8.50	268.825
	9.50	299.046
	10.60	331.947
	11.20	349.742
	12.50	387.933
	14.00	431.377
	16.00	488.268
200X240	5.30	214.946
	6.30	254.570
	7.10	286.056
	8.00	321.251
	8.50	340.700
	9.50	379.377
	10.60	421.579
	11.20	444.448
	12.50	493.632
	14.00	549.760
200X250	5.30	219.926
	6.30	260.489
	7.10	292.726
	8.00	328.767
	8.50	348.686
	9.50	388.303
	10.60	431.539
	11.20	454.971
	12.50	505.376
	14.00	562.914
200X300	16.00	638.595
	6.30	290.084
	7.10	326.080
	8.00	366.349
200X320	6.30	301.923
	7.10	339.422
	8.00	381.382
	8.50	404.589
	9.50	450.782
	10.60	501.253
	11.20	528.631
	12.50	587.586
	14.00	654.989
	16.00	743.825

External Diameter	Wall Thickness	Bar theoretical weight
MM	mm	6mts
250X100	4.25	137.085
	4.50	144.982
	4.75	152.861
	5.30	170.130
	6.30	201.297
	7.10	226.019
	8.00	253.603
	8.50	268.825
	9.50	299.046
	10.60	331.947
	11.20	349.742
	12.50	387.933
	14.00	431.377
	16.00	488.268
250X150	4.25	157.050
	4.50	166.122
	4.75	175.175
	5.30	195.028
	6.30	230.893
	7.10	259.372
	8.00	291.185
	8.50	308.756
	9.50	343.674
	10.60	381.743
	11.20	402.357
	12.50	446.654
	14.00	497.146
	16.00	563.432
300X100	4.75	175.175
	5.30	195.028
	6.30	230.893
	7.10	259.372
	8.00	291.185
	8.50	308.756
	9.50	343.674
	10.60	381.743
	11.20	402.357
	12.50	446.654
	14.00	497.146
	16.00	563.432

External Diameter	Wall Thickness	Bar theoretical weight
MM	mm	6mts
300X150	4.75	197.490
	5.30	219.926
	6.30	260.489
	7.10	292.726
	8.00	328.767
	8.50	348.686
	9.50	388.303
	10.60	431.539
	11.20	454.971
	12.50	505.376
	14.00	562.914
	16.00	638.595
300X250	4.75	242.118
	5.30	269.721
	6.30	319.680
	7.10	359.434
	8.00	403.931
	8.50	428.548
	9.50	477.559
	10.60	531.131
	11.20	560.200
	12.50	622.819
	14.00	694.450
	16.00	788.923
350X200	8.00	403.931
	8.50	428.548
	9.50	477.559
	10.60	531.131
	11.20	560.200
	12.50	622.819
	14.00	694.450
	16.00	788.923

Carbon steel conducting pipes, with and without seam

Carbon steel pipes to conduct gaseous, liquid, solid and pasty materials, can be provided with and without seam, black, galvanized and coated, with different standards, including ASTM A-106 grade B, API 5L grade B to grade X80, NBR 5580 and NBR 5590

Conducting pipes with and without seam

Applications to different purposes:

Oil & Gas, Civil Construction, Engineering (EPC), Naval, Automotive, Power, Equipment, Agriculture, Steelmaking, Sugar & Ethanol.

Sizing serviced

Sizing	Thicknesses
1/4" to 60"	0.90 mm to 50.00mm



Dagan Tubos de Aço

Rated Diameter	External Diameter	Wall Thickness mm	Class SCH	Weight KG/M
In.	mm			
1/4"	13.70	2.24	40	0.63
		3.02	80	0.80
3/8"	17.10	2.31	40	0.84
		3.2	80	1.10
1/2"	21.30	2.77	40	1.27
		3.73	80	1.62
		4.78	160	1.95
		7.47	XXS	2.55
3/4"	26.70	2.87	40	1.69
		3.91	80	2.20
		5.56	160	2.90
		7.82	XXS	3.64
1"	33.40	3.38	40	2.50
		4.55	80	3.24
		6.35	160	4.24
		9.09	XXS	5.25
1.1/4"	42.20	3.39	40	3.39
		4.85	80	4.47
		6.35	160	5.61
		9.7	XXS	7.77
1.1/2"	48.30	3.68	40	4.05
		5.08	80	5.41
		7.14	160	7.25
		10.15	XXS	9.55
2"	60.30	3.91	40	5.44
		5.54	80	7.78
		8.74	160	11.11
		11.07	XXS	13.44
2.1/2"	73.00	5.16	40	8.63
		7.01	80	11.41
		9.53	160	14.92
		14.02	XXS	20.39
3"	88.90	5.49	40	11.29
		7.62	80	15.27
		11.13	160	21.35
		15.24	XXS	27.68

Rated Diameter	External Diameter	Wall Thickness mm	Class SCH	Weight KG/M
In.	mm			
3.1/2"	101.60	5.74	40	13.57
		8.08	80	18.64
4"	114.30	6.02	40	16.07
		8.56	80	22.32
		11.13	120	28.32
		13.49	160	33.54
5"	141.30	17.12	XXS	41.03
		6.55	40	21.77
		9.53	80	30.97
		12.7	120	40.28
6"	168.30	15.88	160	49.12
		19.05	XXS	57.43
		7.11	40	28.26
		10.97	80	42.56
8"	219.10	14.27	120	54.20
		18.26	160	67.56
		21.95	XXS	79.22
		6.35	20	33.31
10"	273.00	7.04	30	36.81
		8.18	40	42.55
		10.31	60	53.08
		12.7	80	64.64
		15.09	100	75.92
		18.26	120	90.44
		20.62	140	100.92
		22.23	XXS	107.92
		23.01	160	111.27
		6.35	20	41.77
		7.8	30	51.00
		9.27	40	60.30
		12.7	60	81.55
		15.09	80	96.01
		18.26	100	114.75
		21.44	120	133.06
		25.4	140	155.15
		28.58	160	172.33



Rated Diameter	External Diameter	Wall Thickness	Class	Weight
In.	mm	mm	SCH	KG/M
12"	323.80	6.35	20	49.73
		8.38	30	65.20
		9.53	STD	73.88
		10.31	40	79.73
		12.7	XS	97.48
		14.27	60	108.93
		17.48	80	132.08
		21.44	100	159.91
		25.4	120	186.97
		28.58	140	208.08
		33.32	160	238.76
14"	355.60	6.35	10	54.69
		7.92	20	67.90
		9.53	30	81.33
		11.13	40	94.55
		12.7	XS	107.39
		15.09	60	126.71
		19.05	80	158.10
		23.83	100	194.96
		27.79	120	224.65
		31.75	140	253.56
		35.71	160	281.70
16"	406.40	6.35	10	63.12
		7.92	20	77.83
		9.53	30	93.27
		12.7	40	123.31
		16.66	60	160.13
		21.44	80	203.54
		26.19	100	245.57
		30.96	120	286.66
		36.53	140	333.21
		40.49	160	365.38

Conducting pipes with and without seam

Rated Diameter	External Diameter	Wall Thickness	Class SCH	Weight KG/M
In.	mm	mm		
18"	457.00	6.35	10	71.11
		7.92	20	87.71
		9.53	STD	105.17
		11.13	30	122.38
		12.7	XS	139.16
		14.27	40	155.81
		19.05	60	205.75
		23.83	80	254.57
		29.36	100	309.64
		34.93	120	363.58
		39.67	140	408.28
		45.24	160	459.39
20"	508.00	6.35	10	79.16
		9.53	20	117.15
		12.7	30	155.13
		15.09	40	183.43
		20.62	60	247.84
		26.19	80	311.19
		50.01	160	564.85
22"	559.00	6.35	10	86.55
		9.53	20	129.14
		12.7	30	171.10
		15.88	-	212.61
		22.23	60	294.27
		28.58	80	373.85
		34.93	100	451.45
		41.28	120	527.05
		47.63	140	600.67
24"	610.00	53.98	160	672.30
		6.35	10	95.26
		9.53	20	141.12
		12.7	XS	187.07
		14.27	30	209.65
		17.48	40	255.43
		24.61	60	355.28
		30.96	80	442.11
		38.89	100	547.74
		46.02	120	640.07
		52.37	140	720.19

Rated Diameter	External Diameter	Wall Thickness	Class SCH	Weight KG/M
In.	mm	mm		
26"	660.40	6.35		102.30
		9.53	STD	152.71
		12.7	20	202.62
		15.88		252.04
		17.48		276.75
		19.5		300.95
28"	711.20	6.35		110.25
		9.53	STD	164.63
		12.7	20	218.51
		15.88	30	271.90
		17.48		298.61
		19.05		324.79
30"	762.00	6.35		118.19
		9.53	STD	176.55
		12.7	20	234.40
		15.88		291.77
		17.48	30	320.49
		19.05		350.62
32"	812.80	6.35		126.14
		9.53	STD	188.47
		12.7	20	250.30
		15.88	30	311.63
		17.48	40	342.36
34"	863.60	19.05		372.46
		6.35		134.08
		9.53	20	200.39
		12.7	30	266.16
		15.88	40	331.50
		17.48		364.22
36"	914.40	19.05		396.74
		6.35		142.03
		9.53	STD	212.31
		12.7	20	282.08
		15.88	30	351.36
		17.48		386.09
38"	965.20	19.05		420.14
		6.35		151.29
		9.53	STD	224.23
		12.7	XS	297.97
		15.88		371.23
40"	1,016.00	17.48		407.95
		19.05		443.97
		6.35		159.34
		9.53	STD	236.15
		12.7	XS	313.86
		15.88		391.09
		17.48		429.82
		19.05		467.81

NBR 5580/2007 Conducting Pipes

Rated Diameter		External Diameter	Thickness (mm)			Theoretical Weight (kg/pc)					
						Black			Galvanized		
DN	in.	mm	Light Class	Medium Class	Heavy Class	Light Class	Medium Class	Heavy Class	Light Class	Medium Class	Heavy Class
15*	1/2"	21.3	2.25	2.65		6.342	7.313		6.647	7.601	
20	3/4"	26.9	2.25	2.65	3	8.206	9.508	10.609	8.592	9.846	10.98
25	1"	33.7	2.65	3.35	3.75	12.175	15.043	16.618	12.648	15.518	17.072
32	1.1/4"	42.4	2.65	3.35	3.75	15.586	19.356	21.445	16.199	19.969	22.003
40	1.1/2"	48.3	3	3.35	3.75	20.108	22.28	24.719	20.783	22.783	25.392
50	2"	60.3	3	3.75	4.5	25.434	31.377	37.153	26.304	32.233	37.981
65	2.1/2"	76.1	3.35	3.75	4.5	36.06	40.143	47.673	37.157	41.231	48.78
80	3"	88.9	3.35	4	4.5	42.404	50.247	56.195	43.71	51.56	57.493
90	3.1/2"	101.6	3.75	4.25	5	54.292	61.217	71.465	55.776	62.668	72.917
100	4"	114.3	3.75	4.5	5.6	61.339	73.107	90.066	62.987	74.736	91.699
125	5"	139.7		4.75	5.6		94.86	111.12		96.954	113.197
150	6"	165.1		5	5.6		118.44	132.18		120.918	134.65

Conducting pipes are supplied with 6000mm length
Zinc coating 400 g/m² minimum to galvanized pipes.

NBR 5590/2012

Rated Diameter (in.)		Rated Diameter	Thickness (mm)	Series	Black		Galvanized	
NPS	DN				kg/pc	Bars	kg/pc	Bars
1/2"	15*	21.3	1.65	SCH 5	4.8	135	5.244	79
			2.11	SCH 10	6	135	6.437	79
			2.41	SCH 30	6.72	135	7.151	79
			2.77	SCH 40	7.62	135	8.042	79
3/4"	20	26.7	1.65	SCH 5	6.18	124	6.747	70
			2.11	SCH 10	7.68	124	8.239	70
			2.41	SCH 30	8.64	124	9.193	61
			2.87	SCH 40	10.14	124	10.684	61
			3.91	SCH 80	13.2	124	13.719	44
1"	25	33.4	1.65	SCH 5	7.74	61	8.458	44
			2.77	SCH 10	12.54	61	13.236	44
			2.9	SCH 30	13.08	61	13.768	44
			3.38	SCH 40	15	61	15.68	37
			4.55	SCH 80	19.44	61	20.099	24
1.1/4"	32	42.2	1.65	SCH 5	9.9	44	10.817	44
			2.77	SCH 10	16.14	44	17.035	37
			2.97	SCH 30	17.22	44	18.107	37
			3.56	SCH 40	20.34	44	21.219	24
			4.85	SCH 80	26.82	44	27.667	19

NBR 5590/2012

Rated Diameter (in.)		Rated Diameter	Thickness (mm)	Series	Black		Galvanized	
NPS	DN	mm	Rated		kg/pc	Bars	kg/pc	Bars
1.1/2"	40	48.3	1.65	SCH 5	11.4	37	12.455	37
			2.77	SCH 10	18.66	37	19.693	24
			3.18	SCH 30	21.18	37	22.205	24
			3.68	SCH 40	24.3	37	25.308	24
			5.08	SCH 80	32.46	37	33.445	19
2"	50	60.3	1.65	SCH 5	14.34	29	15.667	24
			2.77	SCH 10	23.58	29	24.884	24
			3.18	SCH 30	26.88	29	28.176	24
			3.91	SCH 40	32.64	29	33.919	19
2.1/2"	65	73	2.11	SCH 5	22.14	19	23.746	24
			3.05	SCH 10	31.56	19	33.143	19
			4.78	SCH 30	48.24	19	49.784	10
			5.16	SCH 40	51.78	19	53.324	10
3"	80	88.9	2.11	SCH 5	27.12	19	29.086	19
			3.05	SCH 10	38.76	19	40.703	19
			3.18	...	40.32	19	42.259	19
			3.96	...	49.74	19	51.661	10
			4.78	SCH 30	59.52	19	61.423	10
			5.49	SCH 40	67.74	19	69.624	10
			6.35	...	77.58	19	79.447	7
3.1/2"	90	101.6	2.11	SCH 5	31.08	13	33.333	19
			3.05	SCH 10	44.46	13	46.69	10
			3.18	...	46.32	13	48.546	10
			3.96	...	57.18	13	59.389	10
			4.78	SCH 30	68.46	13	70.651	10
			5.74	SCH 40	81.42	13	83.591	7
			6.35	...	89.52	13	91.675	7
4"	100	114.3	2.11	SCH 5	35.04	13	37.58	19
			3.05	SCH 10	50.22	13	52.738	10
			3.18	...	52.26	13	54.773	10
			3.96	...	64.68	13	67.176	10
			4.78	SCH 30	77.46	13	79.938	7
			5.56	...	89.46	13	94.38	7
			6.02	SCH 40	96.42	13	98.879	7
			6.35	...	101.4	13	103.842	7
5"	125	141.3	3.96	...	80.46	19	83.567	19
			4.78	...	96.54	19	99.628	19
			5.56	...	111.66	19	114.73	19
			6.55	SCH 40	130.62	19	133.674	19
			7.14	...	141.72	13	144.755	13
			7.92	...	156.3	19	159.317	19
			8.74	...	171.42	13	174.418	13
			9.52	SCH 80	185.64	13	188.621	13
			12.7	SCH 120	241.68	10	244.593	10
			15.88	SCH 160	294.72	10	297.554	10

Rated Diameter (in.)		Rated Diameter	Thickness (mm)	Series	Black		Galvanized	
NPS	DN	mm	Rated		kg/pc	Bars	kg/pc	Bars
6"	150	168.3	4.78	...	115.62	10	119.319	10
			5.56	...	133.86	10	137.541	10
			6.35	...	152.16	10	155.823	10
			7.11	SCH 40	169.56	10	173.206	10
			7.92	...	187.92	10	191.548	10
			8.74	...	206.34	10	209.949	10
			9.52	...	223.68	10	227.272	10
			10.97	SCH 80	255.36	7	258.927	7
			14.27	SCH 120	325.26	7	328.75	7
8"	200	219.1	4.78	...	151.56	7	156.408	7
			5.16	...	163.32	7	168.159	7
			5.56	...	175.68	7	180.51	7
			6.35	SCH 20	199.92	7	204.733	7
			7.04	SCH 30	220.92	7	225.715	7
			7.92	...	247.44	7	252.217	7
			8.18	SCH 40	255.279	7	260.054	7
			8.74	...	272.04	7	276.798	7
			9.52	...	295.2	7	299.941	7
			10.31	SCH 60	318.54	7	323.27	7
			11.13	...	342.48	7	347.184	7
			12.7	SCH 80	387.845	7	392.518	7
			15.09	SCH 100	455.52	7	460.137	7
10"	250	273	5.56	...	220.02	7	226.069	7
			6.35	SCH 20	250.56	7	256.593	7
			7.09	...	278.94	7	284.955	7
			7.8	SCH 30	306.06	7	312.065	7
			8.74	...	341.76	7	347.737	7
			9.27	SCH 40	361.729	7	367.701	7
			11.13	...	431.22	7	437.143	7
			12.7	SCH 60	489.128	7	495.02	7
			15.09	SCH80	575.88	5	581.716	5
12"	300	323.8	6.35	SCH 20	298.26	4	305.442	4
			7.14	...	334.5	4	341.663	4
			7.92	...	370.14	4	377.285	4
			8.38	SCH 30	391.14	4	398.283	4
			8.74	...	407.4	4	414.526	4
			9.52	...	442.68	4	449.789	4
			10.31	SCH 40	478.219	4	485.317	4
			11.13	...	514.92	4	521.992	4
			12.7	...	584.52	4	591.557	4
			14.27	SCH 60	653.538	4	660.546	4

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Standard		Manufacturing Process	Main Purpose	Similar Standard	
NBR	5580	with seam	Fluid conduction	DIN	2440/2441
	5581	without seam	Refinery furnaces	ASTM	A161
	5582	without seam	Refinery furnaces	ASTM	A200
	5583	without seam	Condensers and heat exchangers	ASTM	A179
	5584	without seam	Condensers and heat exchangers	ASTM	A199
	5585	with seam	Condensers and heat exchangers	ASTM	A214
	5590	with or without seam	Fluid conductors with quality requirements	ASTM	A53
	5592	without seam	Boilers and Superheaters	ASTM	A210
	5593	without seam	Boilers and Superheaters	ASTM	A209
	5594	without seam	High Pressure Boilers and Superheaters	ASTM	A192
	5595	with seam	Boilers	ASTM	A178
	5596	with seam	High Pressure Boilers and Superheaters	ASTM	A226
	5597	with or without seam	Rigid conduits, with coating, threads, heavy and extra-heavy		
	5598	with or without seam	Rigid conduits, with coating, threads, average and heavy		
	5599	with seam	Precision (car parts and miscellaneous)	DIN	2393
	5602	with or without seam	Low temperature jobs	ASTM	A333
	5603	without seam	High temperature jobs	ASTM	A335
	5605	with or without seam	Low temperature jobs	ASTM	A334
	6321	without seam	High temperature fluid conduction	ASTM	A106
	6591	with seam	Industrial, round, square and rectangular profiles	DIN	2394
	8261	with seam	Structural		
	8476	without seam	Precision (car parts and miscellaneous)	DIN	2391
DIN	1626	with seam	Evaporators, heaters, gas conduction		
	1629	without seam	Boilers, devices, tanks		
	2391	without seam	Precision (car parts and miscellaneous)	NBR	8476
	2393	with seam	Precision (car parts and miscellaneous)	NBR	5599
	2394	with seam	Car parts, home appliances and miscellaneous	NBR	6591
	2440	with or without seam	Fluid conduction	NBR	5580M
	2441	with seam	Fluid conduction	NBR	5580P
	2448	without seam	Boilers, devices an others		
	2458	with seam	Boilers, evaporators, gas conduction, heaters		
	17175	without seam	Boilers - high temperatures		
ASTM	A53	with or without seam	Fluid conductors with quality requirements	NBR	5590
	A106	without seam	High temperature and high pressure fluid conduction	NBR	6321
	A128	with seam	Fluid conduction (common usage)	NBR	5885
	A134	with seam	Low precision pipes		
	A135	with seam	Fluid conduction		
	A139	with seam	Liquid, gas or steam pipes		
	A161	without seam	Refinery services	NBR	5581
	A178	with seam	Boilers	NBR	5595
	A179	without seam	Condensers and heat exchangers	NBR	5583
	A192	without seam	High Pressure Boilers and Superheaters	NBR	5534
	A199	without seam	Condensers and heat exchangers	NBR	5584
	A200	without seam	Refinery services	NBR	5582
	A209	without seam	Boilers and Superheaters	NBR	5593
	A210	without seam	Boilers and Superheaters	NBR	5592
	A213	without seam	Boilers, superheaters and heat exchangers		
	A214	with seam	Condensers and heat exchangers	NBR	5585
	A226	with seam	High Pressure Boilers and Superheaters	NBR	5596
	A252	with or without seam	Pile pipes		
	A333	with or without seam	Low temperature jobs	NBR	5602
	A334	with or without seam	Low temperature jobs	NBR	5605
	A335	without seam	High temperature jobs	NBR	5603
	A405	without seam	High temperature jobs		
	A423	with or without seam	Works under pressure, with higher corrosion strength		
	A500	with or without seam	Structural		
	A501	without seam	Metal structures		
	A513	with seam	Mechanical purposes		
	A519	without seam	Mechanical purposes		
	A523	with or without seam	Power cable conduction		
	A524	without seam	Atmospheric temperatures and below		
	A556	without seam	Supply water heaters		
	A557	with seam	Supply water heaters		
	A589	with or without seam	Artesian wells		
	SCI	with or without seam	Oil wells - casing/pumping 'CASING/TUBING'		
	5D	without seam	Oil wells - 'DRILL PIPE' drilling		
	5L	with or without seam	Oil product conduction - 'LINE PIPE'		
	2B	with seam	Structural Pipes		

Technical Standards

NBR 5590 – Conducting Pipes

Applications: Water, gas, steam, oil, compressed air and non-corrosive fluid conductions.

Steel: Carbon Content

Grade A: 0.25% Max.

Grade B: 0.30% Max.

Hydrostatic Trials: Pipes are tested according to table provided in the standard.

Mechanical Trials: Flattening and folding within patterns required in the standard.

Finishing: Pipes are supplied with internal burr removed;

Pipes can have straight, beveled or threaded ends.

Pipes can be provided without coating or galvanized with or without sleeve.

Mechanical Properties

Min. Flow Limit MPa	Tensile Strength - MPa
Grade A 207	330
Grade B 241	414

NBR 5580 – Conducting Pipes

Applications: Water, gas, steam, oil, compressed air and non-corrosive fluid conductions.

Steel: Low carbon content, without analysis specification

Finishing: Pipes can have straight, beveled or threaded ends; Pipes can be

provided without coating or galvanized with or without sleeve.

USI -CIVIL – Structural Pipes

Applications: Buildings, bridges, agricultural supplies, wagons and mining equipment

Steel: Lower carbon content for structure use in general.

Remark: Similar Standard to COS CIVIL 300/350, VMB 300/350, ASTM A572 GR 42 and GR 50. Standard similarity does not imply they are the same.

Mechanical Properties

Steel	Flow Limit - MPa	Tensile Strength - MPa	Elongation
USI CIVIL 300	≥ 300	400 ~550	$\geq 18\%$
USI CIVIL 350	≥ 350	500 ~650	$\geq 16\%$

USI-SAC – Structural Pipes

Applications: Buildings, bridges, agricultural supplies, wagons and mining equipment

Steel: Lower carbon content for structure use in general, resistant to atmospheric corrosion.

Remark: Similar Standard to COS AR COR 300/350, VMB 300/350COR, only to, USI SAC 350 ASTM A588(CG). Standard similarity does not imply they are the same.

Mechanical Properties

Steel	Flow Limit - MPa	Tensile Strength - MPa	Elongation
USI CIVIL 300	≥ 300	400 ~550	$\geq 19\%$
USI CIVIL 350	≥ 350	500 ~650	$\geq 16\%$

Standard	Steel	Chemical Composition %									Mechanical Properties	
		C	Mn	P Max.	S Max.	Si	Ni	Cr	Mo	Cu	Rt Mpa Min.	LE Mpa Min.
A 106	Gr A	Max. 0.25	0.27/0.93	0.035	0.035		0.40	0.40	0.15	0.40	330	205
	Gr B	Max. 0.30	0.29/1.06	0.035	0.035	Min. 0.10	0.40	0.40	0.15	0.40	415	240
	Gr C	Max. 0.35	0.29/1.06	0.035	0.035	Min. 0.10	0.40	0.40	0.15	0.40	485	275

They are usually provided in SCH without seam, applied at high temperature, high pressure, etc.

API 5L	Gr A	Max. 0.22	Max. 0.90	0.04	0.05	Max. 0.50		2.00/2.50			331	207
	GR B	Max. 0.27	Max. 1.15	0.04	0.05						413	241

Oil product conduction pipes.

A 178	Gr A	0.06/0.18	0.27/0.63	0.035	0.035	0.10/0.50					325	180
	Gr C	Max. 0.35	Max. 0.80	0.035	0.035						415	255
	SAC 50	Max. 0.18	Max. 1.40	0.030	0.015						490/602	373

Boiler, superheater and pressure vessel pipes.

A500	Gr A	Max. 0.30		0.050	0.063					Min. 0.18	310	228
	Gr B	Max. 0.30		0.050	0.063					Min. 0.18	400	290
	Gr C	Max. 0.27	Max. 1.40	0.050	0.063					Min. 0.18	427	317

Round Pipes

A500	Gr A	Max. 0.30		0.050	0.063					Min. 0.18	310	269
	Gr B	Max. 0.30		0.050	0.063					Min. 0.18	400	317
	Gr C	Max. 0.27	Max. 1.40	0.050	0.063					Min. 0.18	427	345

Pipes to be used in structures, for applications, refer to our product page, in Structural, Square and Rectangular Pipes range.

A36		0.25/0.69	0.80/120	0.04	0.05	Max. 0.40					400 / 550	250
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Structural use pipes.

DIN 2393	St 34.2	Max. 0.15		0.050	0.050	0.55					310 / 410	205
	St 37.2	Max. 0.18		0.050	0.050						340 / 470	235
	St 42.2	Max. 0.25		0.050	0.050	Max. 0.55						
	St 52.3	Max. 0.22	Max. 1.60	0.050	0.050							

Extruded precision pipes, applications in car parts and various industrial purposes

NBR 8261	1008/10	Max. 0.15	Max. 0.60	Max. 0.025	Max. 0.025	Max. 0.30					Check full table on the website	
	1012/15	Max. 0.17	Max. 0.70	Max. 0.025	Max. 0.025	Max. 0.30						
	1020/21	Max. 0.21	Max. 1.10	Max. 0.025	Max. 0.025	Max. 0.30						
	1022	Max. 0.22	Max. 1.60	Max. 0.025	Max. 0.025	Max. 0.55						

Carbon steel pipes for structural purposes - Round, Square and Rectangular.

NBR 6591	Max. 0.23	Max. 1.00	Max. 0.04	Max. 0.05								
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Carbon steel pipes for industrial purposes - Round, Square and Rectangular.

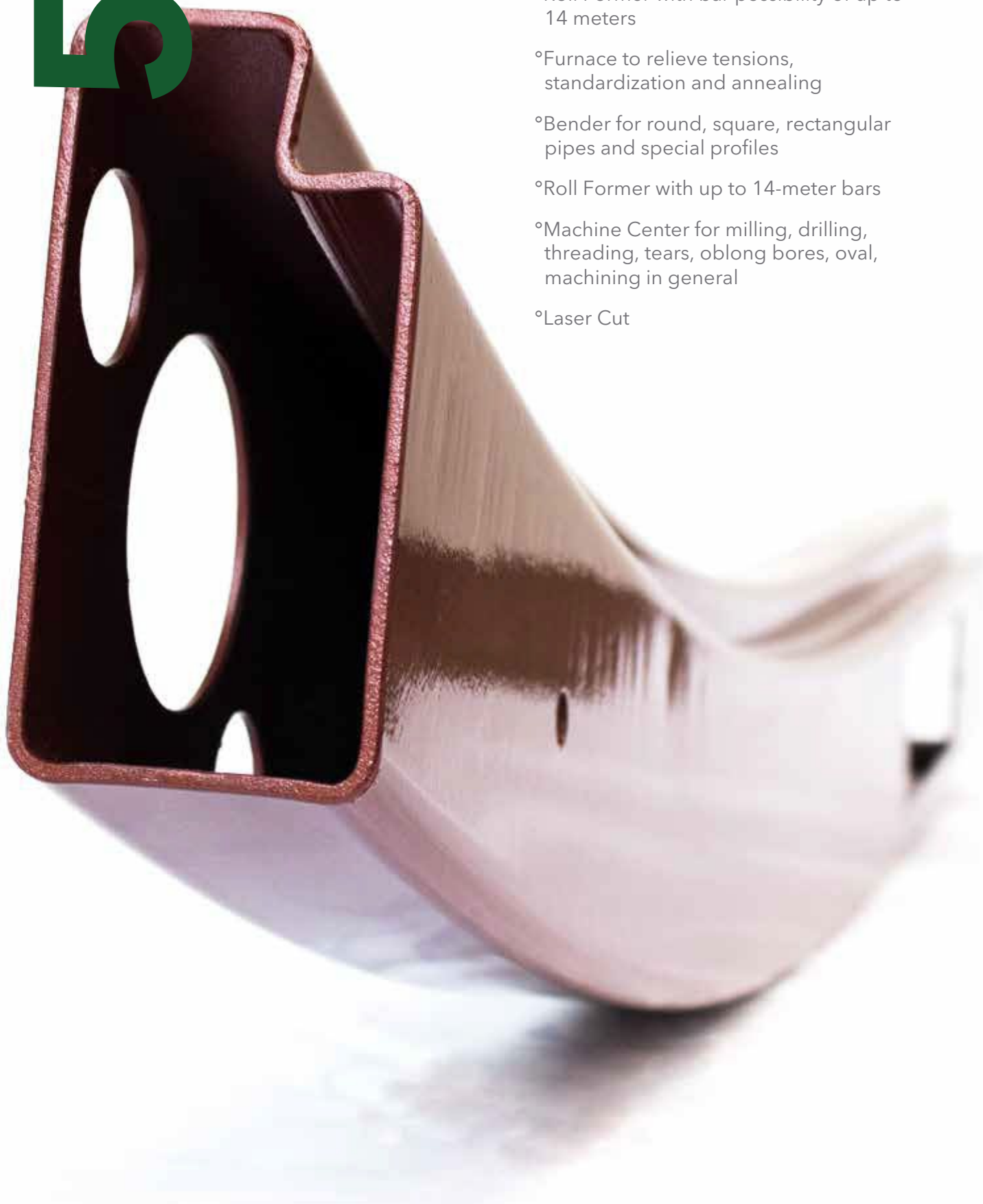
EN 10305-2: Precision - car parts and various extruded (similar standard NBR 5599)
 EN 10305-3: Car parts, furniture, home appliances and miscellaneous (similar standard NBR 6591)
 EN 10220: Boilers, evaporators, heaters, gas conduction, etc. (old standard DIN 2458)
 EN 10305-5: Square and rectangular pipes welded and calibrated (similar standard NBR 6591, old standard DIN 2395)

Check full table on the website



Tubular Part Division

- °Straight and Angular Cut
- °Roll Former with bar possibility of up to 14 meters
- °Furnace to relieve tensions, standardization and annealing
- °Bender for round, square, rectangular pipes and special profiles
- °Roll Former with up to 14-meter bars
- °Machine Center for milling, drilling, threading, tears, oblong bores, oval, machining in general
- °Laser Cut



Tubular Extruded

With Seam



Standard

NBR 5590/95

DIN EN 10305-02 (old DIN 2393)

Measures

External Diameter: 19.05 to

216.00mm Thickness: 2.00 to

12.70mm

Tables

Steel Types and Chemical Composition, as per NBR 5599/95

Steel Grade	C (%) max.	Mn (%) max.	P (%) max.	S (%) max.
A0	0.23	0.90	0.05	0.05
A1	0.15	0.60	0.04	0.04
A2	0.15 - 0.23	0.30 - 0.90	0.04	0.04
A3	0.22	1.60	0.04	0.04

Mechanical Properties, as per NBR 5599/95

Steel Grade	Hard Extruded (TD/BK)		Soft Extruded (YM/BKM)		Annealed (RB/GBK or RD/GZF)		Standardized (NB/NBK or ND/NZF)		
	Min. Tensile Strength (MPa)	Elongation % min.	Min. Tensile Strength (MPa)	Elongation % min.	Min. Tensile Strength (MPa)	Elongation % min.	Min. Tensile Strength (MPa)	Min. flow limit (Mpa)	Elongation % min.
A0	400	6	350	12	270	25	290 min.	200	20
A1	420	6	360	11	310	26	320 - 440	215	28
A2	520	5	450	8	390	21	410 - 540	255	21
A3	590	4	540	6	490	22	490 - 630	355	22

Supply State, as per EN 10305-02 / DIN 2393

Naming	EM 10305-2 Symbols	DIN 2393 Symbols	Description
Extruded / hard	+C	BK	No heat treatment up cold deformation.
Extruded / soft	+LC	BKW	Upon heat treatment, there is light finishing decrease (cold extrusion). The pipe within a certain limit can be bent/expanded.
Extruded with relief and tension	+SR	BKS	Pipes undergo tension relief win furnaces with controlled atmosphere.
Annealed	+A	GBK	Pipes are annealed in furnaces with controlled atmosphere.
Standardized	+N	NBK	Pipes are standardized in furnaces with controlled atmosphere in temperature above critical zone.

Steel Types and Chemical Composition, as per EN 10305-02

Steel Grades		Run Analysis %				
Steel Name	Steel Number	C max.	Si max.	Mn max.	P max.	S max.
E155	1.0033	0.11	0.35	0.70	0.025	0.025
E195	1.0034	0.15	0.35	0.70	0.025	0.025
E235	1.0308	0.17	0.35	1.20	0.025	0.025
E275	1.0225	0.21	0.35	1.40	0.025	0.025
E355	1.0580	0.22	0.55	1.60	0.025	0.025

Mechanical Properties, as per EN 10305-02

Steel Grades		Delivery conditions minimum values											
Steel Name	Num. of Steel	+C		+LC		+SR			+A		+N		
		Rm (Mpa)	A %	Rm (Mpa)	A %	Rm (Mpa)	ReH (Mpa)	A %	Rm (Mpa)	A %	Rm (Mpa)	ReH (Mpa)	A %
E 155	1.0033	400	6	350	10	350	245	18	280	28	270 to 410	155	28
E 195	1.0034	420	6	370	10	370	260	18	290	28	300 to 440	195	28
E 235	1.0308	490	6	440	10	440	325	14	315	25	340 to 480	235	25
E 275	1.0225	560	5	510	8	510	375	12	390	21	410 to 550	275	21
E 355	1.0580	640	4	590	6	590	435	10	450	22	490 to 630	355	22

Rm: Tensile strength - minimum;

A %: Elongation % - minimum;

ReH: Flow limit - minimum;



Extruded Pipes

Without Seam

Standard Specifications

NBR 8476/ 84 – DIN EM 10305-01 (old DIN 2391)

Measures

External Diameter: 19.05 to
216.00mm Thickness: 2.00 to
12.70mm

Tables

Steel Types and Chemical Composition, as per NBR 8476/84

Steel Grades	Run Analysis (%)				
	C	Mn	Si	P	S
A1	0.18 max.	0.25 - 0.60	0.35 max.	0.04 max.	0.05 max.
A2	0.18 - 0.28	0.30 - 0.60	0.10 - 0.35	0.04 max.	0.05 max.
A3	0.28 - 0.38	0.40 - 0.90	0.10 - 0.35	0.04 max.	0.05 max.
A4	0.10 - 0.21	1.00 - 1.60	0.10 - 0.55	0.04 max.	0.05 max.

Mechanical Properties, as per NBR 8476/84

Steel Grades	Hard Extruded (TD/ BK)		Soft Extruded (TM/ BKM)		Annealed (RB/GBK or RD/GZF)		Standardized (NB/NBK or ND/NZF)		
	Min. Tensile Strength (MPa)	Elongation % min.	Min. Tensile Strength (MPa)	Elongation % min.	Min. Tensile Strength (MPa)	Elongation % min.	Min. Tensile Strength (MPa)	Min. Tensile Strength (MPa)	Elongation % min.
A1	450	6	380	10	320	28	350/450	240	25
A2	550	5	480	8	400	24	450/550	260	21
A3	650	4	-	-	500	18	550/650	300	17
A4	600	4	550	6	500	24	520/620	360	22

Supply State as per EN10305-01 / DIN 2391

Naming	EN 10305 Symbols	DIN 2391 Symbols	Description
Extruded / hard	+C	BK	No heat treatment up cold deformation.
Extruded / soft	+LC	BKW	Upon heat treatment, there is light finishing decrease (cold extrusion). The pipe within a certain limit can be bent/expanded.
Extruded with tension relief	+SR	BKS	Pipes undergo tension relief win furnaces with controlled atmosphere.
Annealed	+A	GBK	Pipes are annealed in furnaces with controlled atmosphere.
Standardized	+N	NBK	Pipes are standardized in furnaces with controlled atmosphere in temperature above critical zone.

Steel Types and Chemical Composition as per EN 10305-01

Steel Grades		Run Analysis %					
Steel Name	Steel Number	C max.	Si max.	Mn max.	P max.	S max.	Al max.
E215	1.0212	0.10	0.05	0.70	0.025	0.025	0.025
E235	1.0308	0.17	0.35	1.20	0.025	0.025	-
E355	1.0580	0.22	0.55	1.60	0.025	0.025	-

Mechanical Properties as per EN 10305-01

Steel Grades		Delivery conditions minimum values											
Steel Name	Steel Number	+C		+LC		+SR			+A		+N		
		Rm (Mpa)	A %	Rm (Mpa)	A %	Rm (Mpa)	ReH (Mpa)	A %	Rm (Mpa)	A %	Rm (Mpa)	ReH (Mpa)	A %
E215	1.0212	430	8	380	12	380	280	16	280	30	290 to 340	215	30
E235	1.0308	480	6	420	10	420	350	16	315	25	340 to 480	235	25
E355	1.0580	640	4	580	7	580	450	10	450	22	490 to 630	355	22

Rm: Tensile strength - minimum;

A%: Elongation - minimum

ReH: Flow limit - minimum;

Tubular Extruded Square and Rectangular



Specifications

Standards

NBR 8261 - ASTM A500 - with or without seam, square and rectangular section to structural uses.

Measures

Square Pipes: 50 x 50 mm to 200 x 200mm

Rectangular Pipes: 40 x 60 mm to 150 x 250 mm

Thicknesses: from 3.00 to 12.70 mm

Wall Thickness

Tolerance of more or less 10% to every thickness of pipes with seam.

Lengths and Tolerances

Manufacturing standards or on previous demand.

Tables

Twist | Specification Values

Greater Side Dimension D(mm)	Maximum Twist V (mm/m)
$D \leq 38.0$	1.4
$38.0 < D \leq 63.5$	1.7
$63.5 < D \leq 101.6$	2.1
$101.60 < D \leq 152.4$	2.4
$152.4 < D \leq 203.2$	2.8
$D \leq 203.2$	3.1

Sizing Tolerances (as per NBR 8261)

External Dimensions Specified D (mm)	External dimension variation for tubular profiles, of circular, square and rectangular section
$D \leq 65$	± 0.5 mm
$65 < D \leq 90$	± 0.7 mm
$90 < D \leq 140$	± 0.9 mm
$D < 140$	$\pm 1\%$

Notes

a)Measurements shall be performed in position located at least 10 mm from ends.

b)Excluding circular section tubular profiles, clearances include margin to bulged, convexity or concavity.

Specifications

Flatness

Maximum flatness deviation shall be 2.5 mm by meter of length.

Corner External Radius

External radius of any corner is three (3) times the wall thickness.

Some cases might eventually exceed value provided, we recommend previous reference. a.

Side brackets

For square and rectangular pipes, adjacent sides can deviate more or less 2° of straight angle.

There is possibility of complying with different measures from table through extrusion process.

Mechanical Properties as per NBR 8261

This standard does not provide mechanical properties to pipes with or without heat treatment, however, the following values can be expected.

Characteristics	Tensile Properties concerning Grade					
	Circular Section			Square and Rectangular Sections		
	A	B	C	A	B	C
Tensile Strength min. limit Lr (Mpa)	310	400	427	310	400	427
Min. Flow Limit Le (Mpa)	228	290	317	269	317	345
Elongation (%) A4 (L0 = 50mm) - minimum	25	23	21	25	23	21

Notes:

Values A, B and C are set based on steel grade of NBR 8261 Standard.

Dagan provides you labor



Our engineering is qualified to analyze your project and provide different shapes of tubular parts and pipes.

Roll Former: We have Latin America's largest bench, with 14-meter extrusion of square, rectangular and special shape pipes.

Heat Treatment Furnace

We can execute the following services standardization, annealing and relief of tensions. *

Wire Drawer: We extrude round, square and special shape pipes, up to 1.4 meters, with outstanding internal and external finishing.

Bender: We bend round pipes of up to 101.60 x 8.00mm, square, rectangular and special shapes.

Machining Center: ROMI: With CNC Discovery 1250, 1500D and G280, we execute milling, drilling, threading and general machining services, including: tears, bores, contact us for further information.

**contact us to know the minimum quantity*

75



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Industry Plant

Av. João Bassi, 524 | Jd. Presidente Dutra
Guarulhos - SP - 07172-440

Distribution Plant

Rua Urbano Santos, 233 | Jd. Castanha
Guarulhos | 07183-350

(55 11) 2088-7810 | 2088-7000
www.dagan.com.br | vendas@dagan.com.br