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J 28/9/1991; VAT No: RO 1510210/1992;

Subscribed and Deposited Share Capital: 30.792.730,20 RON

**MECHANICAL TUBES****1. Standards**

DIN 1629 (has been partially replaced by EN 10297-1)

DIN 1630 (has been partially replaced by EN 10297-1)

DIN 17124 (has been partially replaced by EN 10297-1)

DIN 17204 (has been partially replaced by EN 10297-1)

DIN 17210 (has been with EN 10210)

EN 10297-1

EN 10210-1,2

EN 10216-1,3 ASTM A519

ASTM A105

NFA 49-311

NFA 49-312

UNI 7729

STAS 530/1

2. Used for

-mechanical application;

-general engineering purposes.

3. Dimensions

Cold rolled tubes acc. DIN - Tab.1

Cold rolled tubes acc. ISO 2938 & MBS-92/3.99 - Tab.4

Hot rolled tubes acc. DIN - Tab.2.1; Tab. 2.2

Hot rolled tubes acc. ISO 2938 & MBS-92/3.99 - Tab.5

Hot rolled tubes acc. ASTM A519 - Tab.3

Tab.1 COLD ROLLED MECHANICAL TUBES acc. DIN 2448 and EN 10210-2

WT	mm	2	2.3	2.6	2.9	3.2	3.6	4	4.5	5	5.6	6.3	7.1	8	8.8	10	11	12.5
	in	0.079	0.091	0.102	0.114	0.126	0.142	0.157	0.177	0.197	0.220	0.248	0.280	0.315	0.346	0.394	0.433	0.492
OD		Max Length (m)																
mm	in																	
20	0.787	10	10	10	10	10	10	10	10	10								
21.3	0.839	10	10	10	10	10	10	10	10	10								
25	0.984	10	10	10	10	10	10	10	10	10	10	10						
25.4	1.000	10	10	10	10	10	10	10	10	10	10	10						
26.9	1.059		10	10	10	10	10	10	10	10	10	10	10					
30	1.181			12	12	12	12	12	12	12	12	12	12	12				
31.8	1.252			12	12	12	12	12	12	12	12	12	12	12				
33.7	1.327			12	12	12	12	12	12	12	12	12	12	12				
38	1.496				12	12	12	12	12	12	12	12	12	12	12	12		
42.4	1.669					12	12	12	12	12	12	12	12	12	12	12	12	
44.5	1.752					12	12	12	12	12	12	12	12	12	12	12	12	
48.3	1.902					12	12	12	12	12	12	12	12	12	12	12	12	
51	2.008					11	11	11	11	11	11	11	11	11	11	11		
54	2.126					10	10	10	10	10	10	10	10	10	10	10	10	10
57	2.244							9	9	9	9	9	9	9	9	9	9	9
60.3	2.374							9	9	9	9	9	9	9	9	9	9	9
63.5	2.500								9	9	9	9	9	9	9	9	9	9
70	2.756								9	9	9	9	9	9	9	9	9	9
73	2.874										9	9	9	9	9	9	9	9
76.1	2.996										9	9	9	9	9	9	9	9
82.5	3.248										9	9	9	9	9	9	9	9
88.9	3.500											9	9	9	9	9	9	9
95	3.740												9	9	9	9	9	9
101.6	4.000													9	9	9	9	9
108	4.252													9	9	9	9	9

Notes:

1. Intermediate sizes can be produced subject to agreement before ordering.

2. Weight $We=10.68 (OD-WT) \times WT$, [lbs/ft] $We=0.0246615 \times (OD-WT) \times WT$, [kg/m];

3. Cold mechanicals acc. DIN 1629, DIN 1630, do not cover surface and precision size request for DIN 2391.

For these tubes please consult Precision Programm.



Tab.2.2 HOT ROLLED MECHANICAL TUBES acc. DIN 2448 and EN 10210-2 - CPE MILL

WT	mm	2.3	2.6	2.9	3.2	3.6	4	4.5	5	5.6	6.3	7.1	8.0	8.8	10.0	11.0
	in	0.091	0.102	0.114	0.126	0.142	0.157	0.177	0.197	0.220	0.248	0.280	0.315	0.346	0.394	0.433
Max Length (m)																
OD																
mm	in															
21.3	0.839	9.0	9.0	9.0	9.0	9.0										
26.9	1.059	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0							
33.7	1.327		9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0					
38.0	1.496		9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0					
42.4	1.669		9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0					
48.3	1.902		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0				
51.0	2.008		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0			
54.0	2.126			12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		
57.0	2.244			12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		
60.3	2.374			12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		
63.5	2.500			12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
70.0	2.756			12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
73.0	2.874			12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
76.1	2.996			12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
82.5	3.248				12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
88.9	3.500				12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
101.6	4.000					12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	10.0
108.0	4.252					12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	10.0
114.3	4.500					12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	10.0

HP1

- rolling R1
(OD<48.3)

HP2

- rolling R1 or R2 (OD>=48.3 and
OD/WT>=10)

HP3

- rolling R2 (OD>=48.3 and
OD/WT<10)

Note:

Weight: $We = 10.68 (OD - WT) \times WT \text{ [lbs/ft]}$

$We = 0.0246615 \times (OD - WT) \times WT \text{ [kg/m]}$

Tab. 3 HOT ROLLED MECHANICAL TUBES acc. ASTM A519

WT		mm	Max Length [m]																			
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**Tab.4 DIMENSIONS AND CLEAN TURNED SIZES FOR HOLLOW
HOLLOW BAR FOR MACHINING
MBS-92/Manufacturing program 3.99
COLD ROLLING**

<i>Nom sizes</i>			<i>EXECUTION DIMENSIONS</i>							
<i>OD</i>	<i>ID</i>	<i>WT</i>	<i>OD</i>	<i>ID</i>	<i>WT</i>	<i>Odmin</i>	<i>Odmax</i>	<i>Idmin</i>	<i>Idmax</i>	<i>Weight</i>
32	25	3.5	32.5	24.5	4.0	32.1	32.9	23.3	25.7	2.81
32	20	6.0	32.5	19.5	6.5	32.1	32.9	17.9	21.1	4.17
32	18	7.0	32.5	17.5	7.5	32.1	32.9	15.9	19.1	4.62
32	16	8.0	32.5	15.5	8.5	32.1	32.9	13.7	17.3	5.03
36	28	4.0	36.5	27.5	4.5	36.1	36.9	26.1	28.9	3.55
36	25	5.5	36.5	24.5	6.0	36.1	36.9	22.9	26.1	4.51
36	20	8.0	36.5	19.5	8.5	36.1	36.9	17.7	21.3	5.87
40	32	4.0	40.5	31.5	4.5	40.1	40.9	30.1	32.9	4.00
40	28	6.0	40.5	27.5	6.5	40.1	40.9	25.9	29.1	5.45
40	25	7.5	40.5	24.5	8.0	40.1	40.9	22.7	26.3	6.41
40	20	10.0	40.5	19.5	10.5	40.1	40.9	17.5	21.5	7.77
45	36	4.5	45.5	35.5	5.0	45.1	45.9	34.1	36.9	4.99
45	32	6.5	45.5	31.5	7.0	45.1	45.9	29.9	33.1	6.65
45	30	7.5	45.5	29.5	8.0	45.1	45.9	27.7	31.3	7.40
45	28	8.5	45.5	27.5	9.0	45.1	45.9	25.7	29.3	8.10
45	26	9.5	45.5	25.5	10.0	45.1	45.9	23.6	27.4	8.75
45	25	10.0	45.5	24.5	10.5	45.1	45.9	22.5	26.5	9.06
45	20	12.5	45.5	19.5	13.0	45.1	45.9	17.3	21.7	10.42
50	40	5.0	51.0	39.6	5.7	50.6	51.4	38.0	41.2	6.37
50	36	7.0	51.0	35.6	7.7	50.6	51.4	33.9	37.3	8.22
50	34	8.0	51.0	33.6	8.7	50.6	51.4	31.8	35.4	9.08
50	32	9.0	51.0	31.6	9.7	50.6	51.4	29.7	33.5	9.88
50	30	10.0	51.0	29.6	10.7	50.6	51.4	27.6	31.6	10.63
50	28	11.0	51.0	27.6	11.7	50.6	51.4	25.5	29.7	11.34
50	25	12.5	51.0	24.6	13.2	50.6	51.4	22.3	26.9	12.31
63	53	5.0	63.5	52.3	5.6	63.0	64.0	50.6	54.0	8.00
71	60	5.5	71.7	59.3	6.2	71.2	72.2	57.6	61.0	10.02
75	63	6.0	76.1	62.5	6.8	75.6	76.6	60.8	64.2	11.62
80	67	6.5	80.8	66.4	7.2	80.3	81.3	64.7	68.1	13.07

**Tab. 5 DIMENSIONS AND CLEAN TURNED SIZES FOR HOLLOW
HOLLOW BAR FOR MACHINING
MBS-92/Manufacturing program 3.99
HOT ROLLING**

<i>Nom sizes</i>			<i>EXECUTION DIMENSIONS</i>							
<i>OD</i>	<i>ID</i>	<i>WT</i>	<i>OD</i>	<i>ID</i>	<i>WT</i>	<i>Odmin</i>	<i>Odmax</i>	<i>Idmin</i>	<i>Idmax</i>	<i>Weight</i>
56	45	5.5	57.0	44.6	6.2	56.6	57.4	43.1	46.1	7.77
56	40	8.0	57.0	39.6	8.7	56.6	57.4	37.8	41.4	10.36
56	38	9.0	57.0	37.6	9.7	56.6	57.4	35.7	39.5	11.31
56	36	10.0	57.0	35.6	10.7	56.6	57.4	33.7	37.5	12.22
56	32	12.0	57.0	31.6	12.7	56.6	57.4	29.4	33.8	13.87
56	30	13.0	57.0	29.6	13.7	56.6	57.4	27.3	31.9	14.63
63	50	6.5	63.5	49.3	7.1	63.0	64.0	47.5	51.1	9.88
63	45	9.0	63.5	44.3	9.6	63.0	64.0	42.4	46.2	12.76
63	43	10.0	63.5	42.3	10.6	63.0	64.0	40.2	44.4	13.83
63	40	11.5	63.5	39.3	12.1	63.0	64.0	37.1	41.5	15.34
63	36	13.5	63.5	35.3	14.1	63.0	64.0	32.8	37.8	17.18
71	56	7.5	71.7	55.5	8.1	71.2	72.2	53.7	57.3	12.70
71	50	10.5	71.7	49.5	11.1	71.2	72.2	47.4	51.6	16.59
71	45	13.0	71.7	44.5	13.6	71.2	72.2	42.1	46.9	19.49
71	40	15.5	71.7	39.5	16.1	71.2	72.2	37.0	42.0	22.08
75	60	7.5	76.1	59.3	8.4	75.6	76.6	57.5	61.1	14.02
75	56	9.5	76.1	55.5	10.3	75.6	76.6	53.4	57.6	16.71
75	50	12.5	76.1	49.7	13.2	75.6	76.6	47.4	52.0	20.48
75	45	15.0	76.1	44.7	15.7	75.6	76.6	42.2	47.2	23.39
80	63	8.5	80.8	62.4	9.2	80.3	81.3	60.5	64.3	16.25
80	60	10.0	80.8	59.4	10.7	80.3	81.3	57.3	61.5	18.50
80	56	12.0	80.8	55.4	12.7	80.3	81.3	53.1	57.7	21.33
80	50	15.0	80.8	49.4	15.7	80.3	81.3	46.9	51.9	25.21
85	70	7.5	85.9	69.5	8.2	85.4	86.4	67.7	71.3	15.71
85	67	9.0	85.9	66.5	9.7	85.4	86.4	64.6	68.4	18.23
85	65	10.0	85.9	64.5	10.7	85.4	86.4	62.4	66.6	19.84
85	61	12.0	85.9	60.5	12.7	85.4	86.4	58.2	62.8	22.93
85	55	15.0	85.9	54.5	15.7	85.4	86.4	52.0	57.0	27.18
85	50	17.5	85.9	49.5	18.2	85.4	86.4	47.0	52.0	30.39
85	45	20.0	85.9	44.5	20.7	85.4	86.4	42.0	47.0	33.28
90	75	7.5	90.9	74.3	8.3	90.4	91.4	72.4	76.2	16.91
90	71	9.5	90.9	70.3	10.3	90.4	91.4	68.2	72.4	20.47
90	67	11.5	90.9	66.3	12.3	90.4	91.4	64.0	68.6	23.84
90	63	13.5	90.9	62.3	14.3	90.4	91.4	60.0	64.6	27.01
90	60	15.0	90.9	59.5	15.7	90.4	91.4	57.0	62.0	29.12
90	56	17.0	90.9	55.5	17.7	90.4	91.4	53.0	58.0	31.95
90	50	20.0	90.9	49.5	20.7	90.4	91.4	47.0	52.0	35.84
90	45	22.5	90.9	44.5	23.2	90.4	91.4	41.6	47.4	38.73
95	80	7.5	96.0	79.2	8.4	95.5	96.5	77.3	81.1	18.15
95	75	10.0	96.0	74.2	10.9	95.5	96.5	72.1	76.3	22.88
95	71	12.0	96.0	70.4	12.8	95.5	96.5	68.1	72.7	26.26
95	69	13.0	96.0	68.4	13.8	95.5	96.5	66.0	70.8	27.98

Tab.5 HOT ROLLING - table continued

Nom sizes			EXECUTION DIMENSIONS							
OD	ID	WT	OD	ID	WT	Odmin	Odmax	Idmin	Idmax	Weight
100	85	7.5	101.6	84.2	8.7	101.1	102.1	82.3	86.1	19.93
100	80	10.0	101.6	79.2	11.2	101.1	102.1	77.0	81.4	24.97
100	75	12.5	101.6	74.2	13.7	101.1	102.1	71.8	76.6	29.70
100	71	14.5	101.6	70.2	15.7	101.1	102.1	67.7	72.7	33.26
100	67	16.5	101.6	66.2	17.7	101.1	102.1	63.7	68.7	36.62
100	63	18.5	101.6	62.4	19.6	101.1	102.1	59.7	65.1	39.64
100	59	20.5	101.6	58.4	21.6	101.1	102.1	55.7	61.1	42.62
100	56	22.0	101.6	55.4	23.1	101.1	102.1	52.5	58.3	44.72
100	50	25.0	101.6	49.4	26.1	100.9	102.3	46.1	52.7	48.60
106	90	8.0	107.1	89.1	9.0	106.6	107.7	87.2	91.1	21.77
106	85	10.5	107.1	84.1	11.5	106.6	107.7	82.0	86.3	27.11
106	80	13.0	107.1	79.3	13.9	106.6	107.7	76.8	81.9	31.95
106	75	15.5	107.1	74.3	16.4	106.6	107.7	71.8	76.9	36.68
106	71	17.5	107.1	70.3	18.4	106.6	107.7	67.8	72.9	40.25
106	67	19.5	107.1	66.3	20.4	106.6	107.7	63.6	69.1	43.62
106	63	21.5	107.1	62.3	22.4	106.6	107.7	59.6	65.1	46.79
106	59	23.5	107.1	58.3	24.4	106.6	107.7	55.4	61.3	49.76
106	56	25.0	107.1	55.5	25.8	106.6	107.7	52.4	58.7	51.73
106	50	28.0	107.1	49.5	28.8	106.6	107.7	46.2	52.9	55.61
112	95	8.5	113.1	94.1	9.5	112.5	113.7	92.1	96.1	24.27
112	90	11.0	113.1	89.1	12.0	112.5	113.7	86.8	91.4	29.92
112	85	13.5	113.1	84.1	14.5	112.5	113.7	81.6	86.6	35.26
112	80	16.0	113.1	79.1	17.0	112.5	113.7	76.5	81.7	40.29
112	75	18.5	113.1	74.1	19.5	112.5	113.7	71.3	76.9	45.01
112	71	20.5	113.1	70.3	21.4	112.5	113.7	67.5	73.1	48.40
112	63	24.5	113.1	62.3	25.4	112.5	113.7	59.1	65.5	54.94
112	59	26.5	113.1	58.3	27.4	112.5	113.7	54.9	61.7	57.91
112	56	28.0	113.1	55.3	28.9	112.5	113.7	51.7	58.9	60.01
112	50	31.0	113.1	49.3	31.9	112.5	113.7	45.5	53.1	63.88
118	100	9.0	119.2	99.0	10.1	118.6	119.8	96.9	101.1	27.17
118	95	11.5	119.2	94.0	12.6	118.6	119.8	91.6	96.4	33.12
118	90	14.0	119.2	89.2	15.0	118.6	119.8	86.6	91.8	38.55
118	85	16.5	119.2	84.2	17.5	118.6	119.8	81.6	86.8	43.89
118	80	19.0	119.2	79.2	20.0	118.6	119.8	76.4	82.0	48.93
118	75	21.5	119.2	74.2	22.5	118.6	119.8	71.4	77.0	53.66
118	71	23.5	119.2	70.2	24.5	118.6	119.8	67.2	73.2	57.22
118	63	27.5	119.2	62.2	28.5	118.6	119.8	58.8	65.6	63.75
118	59	29.5	119.2	58.2	30.5	118.6	119.8	54.6	61.8	66.72
118	55	31.5	119.2	54.2	32.5	118.5	119.9	50.3	58.1	69.49
125	106	9.5	126.3	104.9	10.7	125.7	126.9	102.7	107.1	30.50
125	100	12.5	126.3	99.1	13.6	125.7	126.9	96.6	101.6	37.80
125	95	15.0	126.3	94.1	16.1	125.7	126.9	91.5	96.7	43.75
125	90	17.5	126.3	89.1	18.6	125.7	126.9	86.5	91.7	49.40
125	85	20.0	126.3	84.1	21.1	125.7	126.9	81.3	86.9	54.74
125	80	22.5	126.3	79.3	23.5	125.7	126.9	76.3	82.3	59.58
125	71	27.0	126.3	70.3	28.0	125.7	126.9	66.9	73.7	67.88
125	65	30.0	126.3	64.3	31.0	125.7	126.9	60.6	68.0	72.86

Tab. 5 HOT ROLLING - table continued

Nom sizes			EXECUTION DIMENSIONS							
OD	ID	WT	OD	ID	WT	Odmin	Odmax	Idmin	Idmax	Weight
132	112	10.0	133.0	110.8	11.1	132.4	133.7	108.7	113.0	33.37
132	106	13.0	133.0	104.8	14.1	132.4	133.7	102.2	107.5	41.34
132	102	15.0	133.0	100.8	16.1	132.4	133.7	98.2	103.5	46.42
132	98	17.0	133.0	96.8	18.1	132.4	133.7	94.2	99.5	51.29
132	95	13.5	133.0	93.8	19.6	132.4	133.7	91.2	96.5	54.81
132	90	21.0	133.0	89.0	22.0	132.4	133.7	86.2	91.9	60.22
132	84	24.0	133.0	83.0	25.0	132.4	133.7	79.9	86.2	66.59
132	80	26.0	133.0	79.0	27.0	132.4	133.7	75.7	82.4	70.58
132	71	30.5	133.0	70.0	31.5	132.4	133.7	66.2	73.9	78.85
132	65	33.5	133.0	64.0	34.5	132.3	133.7	59.9	68.1	83.81
140	120	10.0	141.3	118.7	11.3	140.6	142.0	116.4	121.0	36.23
140	118	11.0	141.3	116.7	12.3	140.6	142.0	114.2	119.2	39.13
140	112	14.0	141.3	110.7	15.3	140.6	142.0	108.0	113.4	47.54
140	106	17.0	141.3	104.9	18.2	140.6	142.0	102.2	107.6	55.25
140	100	20.0	141.3	98.9	21.2	140.6	142.0	96.0	101.8	62.79
140	95	22.5	141.3	93.9	23.7	140.6	142.0	90.8	97.0	68.73
140	90	25.0	141.3	88.9	26.2	140.6	142.0	85.6	92.2	74.37
140	80	30.0	141.3	78.9	31.2	140.6	142.0	75.0	82.8	84.72
140	70	35.0	141.3	68.9	36.2	140.6	142.0	64.6	73.2	93.83
140	65	37.5	141.3	63.9	38.7	140.6	142.0	59.4	68.4	97.92
150	125	12.5	151.5	123.7	13.9	150.8	152.3	121.2	126.3	47.17
150	122	14.0	151.5	120.9	15.3	150.8	152.3	118.2	123.7	51.39
150	118	16.0	151.5	116.9	17.3	150.8	152.3	114.0	119.9	57.26
150	112	19.0	151.5	110.9	20.3	150.8	152.3	107.9	114.0	65.68
150	106	22.0	151.5	104.9	23.3	150.8	152.3	101.8	108.1	73.67
150	100	25.0	151.5	98.9	26.3	150.8	152.3	95.6	102.3	81.20
150	95	27.5	151.5	93.9	28.8	150.8	152.3	90.3	97.6	87.15
150	90	30.0	151.5	88.9	31.3	150.8	152.3	85.1	92.8	92.78
150	80	35.0	151.5	78.9	36.3	150.8	152.3	74.6	83.3	103.1
150	75	37.5	151.5	73.9	38.8	150.8	152.3	69.4	78.5	107.8
160	136	12.0	161.6	134.6	13.5	160.8	162.4	131.9	137.3	49.31
160	132	14.0	161.6	130.6	15.5	160.8	162.4	127.8	133.4	55.85
160	125	17.5	161.6	123.6	19.0	160.8	162.4	120.8	126.4	66.82
160	122	19.0	161.6	120.8	20.4	160.8	162.4	118.0	123.6	71.04
160	118	21.0	161.6	116.8	22.4	160.8	162.4	113.8	119.8	76.90
160	112	24.0	161.6	110.8	25.4	160.8	162.4	107.4	114.2	85.32
160	105	27.5	161.6	103.8	28.9	160.8	162.4	100.1	107.5	94.58
160	100	30.0	161.6	98.8	31.4	160.8	162.4	94.8	102.8	100.8
160	95	32.5	161.6	93.8	33.9	160.8	162.4	89.6	98.0	106.8
160	90	35.0	161.6	88.8	36.4	160.8	162.4	84.4	93.2	112.4
160	80	40.0	161.6	78.8	41.4	160.8	162.4	74.0	83.6	122.7
170	145	12.5	171.7	143.5	14.1	170.9	172.6	140.7	146.4	54.80
170	140	15.0	171.7	138.5	16.6	170.9	172.6	135.7	141.4	63.49
170	135	17.0	171.7	134.5	18.6	170.9	172.6	131.7	137.4	70.23
170	130	20.0	171.7	128.7	21.5	170.9	172.6	125.7	131.8	79.64
170	126	22.0	171.7	124.7	23.5	170.9	172.6	121.5	128.0	85.89
170	118	26.0	171.7	116.7	27.5	170.9	172.6	113.1	120.4	97.80

Tab. 5 HOT ROLLING - table continued

<i>Nom sizes</i>			<i>EXECUTION DIMENSIONS</i>							
<i>OD</i>	<i>ID</i>	<i>WT</i>	<i>OD</i>	<i>ID</i>	<i>WT</i>	<i>Odmin</i>	<i>Odmax</i>	<i>Idmin</i>	<i>Idmax</i>	<i>Weight</i>
180	150	15.0	181.8	148.4	16.7	180.9	182.7	145.5	151.3	68.00
180	145	17.5	181.8	143.4	19.2	180.9	182.7	140.4	146.4	76.99
180	140	20.0	181.8	138.6	21.6	180.9	182.7	135.5	141.7	85.34
180	135	22.5	181.8	133.6	24.1	180.9	182.7	130.3	136.9	93.73
180	130	25.0	181.8	128.6	26.6	180.9	182.7	125.0	132.2	101.8
180	125	27.5	181.8	123.8	29.0	180.9	182.7	120.0	127.6	109.3
180	112	34.0	181.8	110.6	35.6	180.9	182.7	106.1	115.1	128.4
180	100	40.0	181.8	98.6	41.6	180.9	182.7	93.6	103.6	143.8
190	160	15.0	191.0	155.8	17.6	189.6	192.4	150.9	160.7	75.26
190	155	17.5	191.0	151.8	19.6	189.6	192.4	146.5	157.1	82.85
190	150	20.0	191.0	146.8	22.1	189.6	192.4	141.0	152.6	92.05
190	146	22.0	191.0	142.8	24.1	189.6	192.4	136.6	149.0	99.20
190	140	25.0	191.0	136.4	27.3	189.6	192.4	129.6	143.2	110.2
190	132	29.0	191.0	127.6	31.7	189.6	192.4	120.0	135.2	124.5
190	120	35.0	191.0	115.0	38.0	189.6	192.4	107.6	122.4	143.4
190	118	36.0	191.0	112.4	39.3	189.6	192.4	104.8	120.0	147.0
190	106	42.0	191.0	100.0	45.5	189.6	192.4	91.4	108.6	163.3
200	170	15.0	203.0	168.2	17.4	201.5	204.5	163.3	173.1	79.64
200	165	17.5	203.0	162.2	20.4	201.5	204.5	156.7	167.7	91.87
200	160	20.0	203.0	157.0	23.0	201.5	204.5	150.9	163.1	102.1
200	155	22.5	203.0	151.8	25.6	201.5	204.5	145.3	158.3	112.0
200	150	25.0	203.0	146.6	28.2	201.5	204.5	139.5	153.7	121.6
200	140	30.0	203.0	135.6	33.7	201.5	204.5	127.5	143.7	140.7
200	130	35.0	203.0	124.8	39.1	201.5	204.5	117.1	132.5	158.0
200	126	37.0	203.0	120.4	41.3	201.5	204.5	112.3	128.5	164.7
200	120	40.0	203.0	114.0	44.5	201.0	205.0	105.0	123.0	173.9
212	180	16.0	214.1	177.7	18.2	212.5	215.7	172.5	182.9	87.93
212	175	18.5	214.1	172.7	20.7	212.5	215.7	167.1	178.3	98.73
212	170	21.0	214.1	167.7	23.2	212.5	215.7	161.5	173.9	109.2
212	160	26.0	214.1	157.7	28.2	212.5	215.7	150.5	164.9	129.3
212	150	31.0	214.1	145.3	34.4	212.5	215.7	136.9	153.7	152.4
212	140	36.0	214.1	134.7	39.7	212.5	215.7	126.9	142.5	170.7
212	130	41.0	214.1	124.1	45.0	212.5	215.7	115.3	132.9	187.7

4. Tolerances

Processing	Outside Diameter	Tolerances	Wall Thickness	Tolerances	Weight
Hot rolled		±1% (admissible ± 0.5mm)	WT ≤ 2Sn 2Sn < WT ≤ 4Sn WT > 4Sn	+15/-10% +12.5/-10% ±9%	+12/-8% for each tube +10/-5% for lots over 10t
Cold rolled	OD ≤ 53.31 53.31 < OD ≤ 63.47 63.47 < OD ≤ 73.63 73.63 < OD ≤ 83.79 83.79 < OD ≤ 93.95 93.95 < OD ≤ 104.11 104.11 < OD ≤ 114.27	OD: +0.30mm ID: -0.30mm OD: +0.35mm ID: -0.35mm OD: +0.40mm ID: -0.40mm OD: +0.45mm ID: -0.45mm OD: +0.55mm ID: -0.55mm OD: +0.65mm ID: -0.65mm OD: +0.75mm ID: -0.75mm	WT ≤ 25%OD & ID < 38.1 WT ≤ 25%OD & ID ≥ 38.1 WT > 25%OD & ID < 38.1 WT > 25%OD & ID ≥ 38.1	±10% ±7.5% ±12.5% ±10%	

Sn- Nominal wall thickness according to DIN 2448

5. Chemical Composition (%)

Steel group	C	Mn	P max	S max	N max	Si	Al min
St37.0, St37.4, S235, P235, E235, OLT35	max 0.17		0.040	0.040	0.009		
St44.0, St44.4, S275, P265, OLT45	max 0.21		0.040	0.040	0.009		
St52.0, St52.4, S355, E355, Tu52-b, P355, Fe510, OL52.3	max 0.20	max 1.70	0.040	0.035		max 0.60	0.020
C45, OLT65	max 0.50	max 1.00	0.040	0.040		max 0.35	

6. Mechanical Properties

Steel group	Tensile Strength	Yield Limit	Elongation
	N/mm ²	N/mm ²	min (%)
St37.0, St37.4, S235, P235, E235, OLT35	350+480	min 235	25
St44.0, St44.4, S275, P265, E275, OLT45	420+550	min 275	21
St52.0, St52.4, S355, E355, Tu52-b, 20MnV6, OL52.3	500+650	min 355	21
C45, OLT65	min 600	min 350	20

7. Lengths

- random lengths: 4÷12m (13.12÷39.7 ft), acc. Tab 1÷5;
- fixed lengths within the random lengths range;

8. Protection

- unprotected;
- external varnished with black or clear lacquer;
- if required, the tubes can be delivered with plastic caps at both ends.

9. Marking

According to standard or per customer request.

10. Delivery

Bundles up to: -2000 kg (4400 lbs) - cold drawn tubes;
-4000 kg (8800 lbs) - hot rolled tubes.

Quantity tolerances: $\pm 5\%$ per size or / and per total.

The bundles will have one tag applied at each end, marked according to standard or at customer's request.

11. Mill test report

Mill test reports are issued to customer requirements. Usually they comply with EN 10204, Type 3.1.

12. Quality certified:

ZUS; TUV; GL; PED; DNV; CE-Sign U.

