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# HYDRAULIC STEEL TUBES



## Dimension Specifications

DIN 2391/C (DIN EN 10305-4) - Steel tubes for precision applications - Technical delivery conditions - Part 4: Seamless cold drawn tubes for hydraulic and pneumatic power systems.

DIN 2445/2 - Seamless steel tubes for dynamic loads - Part 2: Steel tubes for precision application in fluid systems, 100 bar to 500 bar.

### Material Specifications

ST 37.4 (E235N)

ST 52.4 (E355N)

### Finishing

NBK, normalized, phosphated and oiled inside and outside. The tubes are annealed above the upper transformation point in a controlled atmosphere or under vacuum.

### Recommended Bend Radius

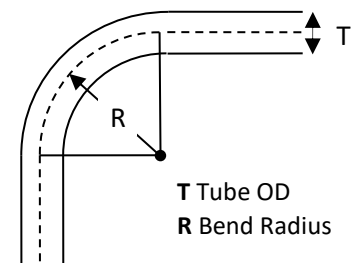
A bend radius of 3x the external tube diameter is recommended for cold bending of tubes with tube benders or by hand. (As per Figure 1)

### Welding Suitability

Tubes of ST 37.4, ST 52.4 are suitable for welding according to usual techniques. The welding filler should be selected in accordance with DIN EN 1600 and DIN EN 12072 part 1 taking into account the type of application and the welding technique.



**Hydraulic Steel Tube**



**Figure 1 Recommended Bend Radius**

## Chemical Composition

Steel Grade	Chemical Composition (%)				
	C Max.	Si Max.	Mn Max.	P Max.	S Max.
ST 37.4 (E235N)	0.170	0.350	1.20	0.025	0.015
ST 52.4 (E355N)	0.220	0.550	1.60	0.025	0.015

## Mechanical Properties of the Tubes at Room Temperature

Steel Grade	Tensile Strength $R_m$ (N/mm <sup>2</sup> )	Upper Yield Point $R_{eH}^*$ (N/mm <sup>2</sup> ) Min.	Elongation at Rupture $A_5$ (%) Min.
ST 37.4 (E235N)	$340 \leq R_m \leq 480$	235	25
ST 52.4 (E355N)	$490 \leq R_m \leq 630$	355	22

\*In the case of tubes of outside diameter  $\leq 30$ MM, the wall thickness of which is  $\leq 3$ MM, the minimum value of the yield point is 10 N/mm<sup>2</sup> lower.

### Why ST 52.4 and not ST 37.4?

Using a higher material quality makes it possible to reduce wall thickness and weight and still maintain the same working pressure.

### Galvanized Coating

- Phosphated for hydraulic line pipes - electro galvanized\*

- Blue chromated – Yellow chromated, for line pipes\*

\*Only available upon request.

### Elevated Temperature Factor

Elevated Temperature Rating Factor is calculated using as per DIN2413 I.

°F	-40	248	302	347	392	482
°C	-40	120	150	175	200	250
Rating Factor	0.90	1.00	0.89	0.89	0.83	NA

## Ordering Information

TH	-	37	-	NBK	-	MM	-	6	X	1.5
I		II		III		IV		V		VI

<b>I</b>	<b>Type of Item</b>
TH	Hydraulic Steel Tubes

<b>II</b>	<b>Material Grade</b>
37	ST 37.4 (E235N)
52	ST 52.4 (E355N)

<b>III</b>	<b>Item Finish</b>
NBK	Normalized. The tubes are annealed above the upper transformation point in a controlled atmosphere or under vacuum

<b>IV</b>	<b>Size Designator</b>
MM	Metric Size
IN	Inches Size
NB	Nominal Bore Size

<b>V</b>	<b>Tube OD Sizes</b>
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### For Metric OD Sizes

Size	6MM	12MM	20MM	.....	35MM	38MM	42MM
Code	6	12	20		35	38	42

<b>V</b>	<b>Tube OD Sizes</b>
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### For Inch OD & Inch NB Sizes

Size	1/8"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	7/8"
Code	02	04	05	06	08	10	12	14
Size	1"	1 1/8"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
Code	16	18	20	24	32	40	48	64

<b>VI</b>	<b>Tube Thickness Sizes</b>
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### For Metric Sizes

Size	1.0MM	1.5MM	2.0MM	.....	4.0MM	5.0MM	10.0MM
Code	1.0	1.5	2.0		4.0	5.0	10.0

**Hydraulic Tube (ST 37.4 NBK) Working Pressure Table**

No.	Part No	Description	Working	Burst	Weight
			Pressure	Pressure	/6 MTR
			(Bar)	(Bar)	(Kg)
1	TH-37-NBK-MM-4X1.0	4MM OD x 1.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	707	1755	0.44
2	TH-37-NBK-MM-5X1.0	5MM OD x 1.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	565	1404	0.59
3	TH-37-NBK-MM-6X1.0	6MM OD x 1.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	471	1170	0.74
4	TH-37-NBK-MM-6X1.5	6MM OD x 1.5MM THK x 6 MTR HYDRAULIC TUBE ST37.4	707	1755	1.00
5	TH-37-NBK-MM-8X1.0	8MM OD x 1.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	353	878	1.04
6	TH-37-NBK-MM-8X1.5	8MM OD x 1.5MM THK x 6 MTR HYDRAULIC TUBE ST37.4	530	1316	1.44
7	TH-37-NBK-MM-8X2.0	8MM OD x 2.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	707	1755	1.77
8	TH-37-NBK-MM-8X2.5	8MM OD x 2.5MM THK x 6 MTR HYDRAULIC TUBE ST37.4	883	2194	2.03
9	TH-37-NBK-MM-10X1.0	10MM OD x 1.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	283	702	1.33
10	TH-37-NBK-MM-10X1.2	10MM OD x 1.2MM THK x 6 MTR HYDRAULIC TUBE ST37.4	339	845	1.60
11	TH-37-NBK-MM-10X1.5	10MM OD x 1.5MM THK x 6 MTR HYDRAULIC TUBE ST37.4	424	1053	1.89
12	TH-37-NBK-MM-10X2.0	10MM OD x 2.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	565	1404	2.37
13	TH-37-NBK-MM-10X2.5	10MM OD x 2.5MM THK x 6 MTR HYDRAULIC TUBE ST37.4	707	1755	2.77
14	TH-37-NBK-MM-12X1.0	12MM OD x 1.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	236	585	1.63
15	TH-37-NBK-MM-12X1.2	12MM OD x 1.2MM THK x 6 MTR HYDRAULIC TUBE ST37.4	283	702	1.92
16	TH-37-NBK-MM-12X1.5	12MM OD x 1.5MM THK x 6 MTR HYDRAULIC TUBE ST37.4	353	878	2.33
17	TH-37-NBK-MM-12X2.0	12MM OD x 2.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	471	1170	2.96
18	TH-37-NBK-MM-12X2.5	12MM OD x 2.5MM THK x 6 MTR HYDRAULIC TUBE ST37.4	589	1463	3.51
19	TH-37-NBK-MM-12X3.0	12MM OD x 3.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	707	1755	4.00
20	TH-37-NBK-MM-14X1.5	14MM OD x 1.5MM THK x 6 MTR HYDRAULIC TUBE ST37.4	303	752	2.77
21	TH-37-NBK-MM-14X2.0	14MM OD x 2.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	404	1003	3.55
22	TH-37-NBK-MM-14X2.5	14MM OD x 2.5MM THK x 6 MTR HYDRAULIC TUBE ST37.4	505	1254	4.25
23	TH-37-NBK-MM-14X3.0	14MM OD x 3.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	606	1504	4.88
24	TH-37-NBK-MM-14X4.0	14MM OD x 4.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	807	2006	5.92
25	TH-37-NBK-MM-15X1.0	15MM OD x 1.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	188	468	2.07
26	TH-37-NBK-MM-15X1.2	15MM OD x 1.2MM THK x 6 MTR HYDRAULIC TUBE ST37.4	226	562	2.40
27	TH-37-NBK-MM-15X1.5	15MM OD x 1.5MM THK x 6 MTR HYDRAULIC TUBE ST37.4	283	702	2.99
28	TH-37-NBK-MM-15X2.0	15MM OD x 2.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	377	936	3.85
29	TH-37-NBK-MM-15X2.5	15MM OD x 2.5MM THK x 6 MTR HYDRAULIC TUBE ST37.4	471	1170	4.62
30	TH-37-NBK-MM-15X3.0	15MM OD x 3.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	565	1404	5.32
31	TH-37-NBK-MM-16X1.5	16MM OD x 1.5MM THK x 6 MTR HYDRAULIC TUBE ST37.4	265	658	3.22
32	TH-37-NBK-MM-16X2.0	16MM OD x 2.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	353	878	4.14
33	TH-37-NBK-MM-16X3.0	16MM OD x 3.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	530	1316	5.77
34	TH-37-NBK-MM-18X1.5	18MM OD x 1.5MM THK x 6 MTR HYDRAULIC TUBE ST37.4	236	585	3.66
35	TH-37-NBK-MM-18X2.0	18MM OD x 2.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	314	780	4.73
36	TH-37-NBK-MM-18X2.5	18MM OD x 2.5MM THK x 6 MTR HYDRAULIC TUBE ST37.4	393	975	5.70
37	TH-37-NBK-MM-18X3.0	18MM OD x 3.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	471	1170	6.66
38	TH-37-NBK-MM-20X2.0	20MM OD x 2.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	283	702	5.32
39	TH-37-NBK-MM-20X2.5	20MM OD x 2.5MM THK x 6 MTR HYDRAULIC TUBE ST37.4	353	878	6.47
40	TH-37-NBK-MM-20X3.0	20MM OD x 3.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	424	1053	7.54
41	TH-37-NBK-MM-20X3.5	20MM OD x 3.5MM THK x 6 MTR HYDRAULIC TUBE ST37.4	495	1229	8.54
42	TH-37-NBK-MM-20X4.0	20MM OD x 4.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	565	1404	9.47

**Note: Working Pressure Calculation: DIN 2413 I Static Straight Pipe including manufacturing tolerance.**

**Hydraulic Tube (ST 37.4 NBK) Working Pressure Table**

No.	Part No	Description	Working	Burst	Weight
			Pressure	Pressure	/6 MTR
			(Bar)	(Bar)	(Kg)
43	TH-37-NBK-MM-20X4.5	20MM OD x 4.5MM THK x 6 MTR HYDRAULIC TUBE ST37.4	636	1580	10.32
44	TH-37-NBK-MM-20X5.0	20MM OD x 5.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	707	1755	11.09
45	TH-37-NBK-MM-22X2.0	22MM OD x 2.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	257	638	5.92
46	TH-37-NBK-MM-22X2.5	22MM OD x 2.5MM THK x 6 MTR HYDRAULIC TUBE ST37.4	321	798	7.21
47	TH-37-NBK-MM-22X3.0	22MM OD x 3.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	385	957	8.43
48	TH-37-NBK-MM-22X4.0	22MM OD x 4.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	514	1276	10.65
49	TH-37-NBK-MM-25X2.0	25MM OD x 2.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	226	562	6.80
50	TH-37-NBK-MM-25X2.5	25MM OD x 2.5MM THK x 6 MTR HYDRAULIC TUBE ST37.4	283	702	8.32
51	TH-37-NBK-MM-25X3.0	25MM OD x 3.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	339	842	9.76
52	TH-37-NBK-MM-25X3.5	25MM OD x 3.5MM THK x 6 MTR HYDRAULIC TUBE ST37.4	396	983	11.13
53	TH-37-NBK-MM-25X4.0	25MM OD x 4.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	452	1123	12.42
54	TH-37-NBK-MM-25X5.0	25MM OD x 5.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	565	1404	14.79
55	TH-37-NBK-MM-28X2.0	28MM OD x 2.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	202	501	7.69
56	TH-37-NBK-MM-28X2.5	28MM OD x 2.5MM THK x 6 MTR HYDRAULIC TUBE ST37.4	252	627	9.40
57	TH-37-NBK-MM-28X3.0	28MM OD x 3.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	303	752	11.09
58	TH-37-NBK-MM-28X4.0	28MM OD x 4.0MM THK x 3 MTR HYDRAULIC TUBE ST37.4	404	1003	14.20
59	TH-37-NBK-MM-28X5.0	28MM OD x 5.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	505	1254	17.01
60	TH-37-NBK-MM-30X2.0	30MM OD x 2.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	188	468	8.28
61	TH-37-NBK-MM-30X2.5	30MM OD x 2.5MM THK x 6 MTR HYDRAULIC TUBE ST37.4	236	585	10.20
62	TH-37-NBK-MM-30X3.0	30MM OD x 3.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	283	702	11.98
63	TH-37-NBK-MM-30X4.0	30MM OD x 4.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	377	936	15.38
64	TH-37-NBK-MM-30X5.0	30MM OD x 5.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	471	1170	18.49
65	TH-37-NBK-MM-35X2.0	35MM OD x 2.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	161	401	14.0
66	TH-37-NBK-MM-35X2.5	35MM OD x 2.5MM THK x 6 MTR HYDRAULIC TUBE ST37.4	202	501	12.00
67	TH-37-NBK-MM-35X3.0	35MM OD x 3.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	242	602	14.20
68	TH-37-NBK-MM-35X4.0	35MM OD x 4.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	323	802	18.34
69	TH-37-NBK-MM-35X5.0	35MM OD x 5.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	404	1003	22.19
70	TH-37-NBK-MM-38X3.0	38MM OD x 3.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	223	554	15.53
71	TH-37-NBK-MM-38X4.0	38MM OD x 4.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	297	739	20.11
72	TH-37-NBK-MM-38X5.0	38MM OD x 5.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	372	924	24.40
73	TH-37-NBK-MM-42X2.0	42MM OD x 2.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	135	334	11.83
74	TH-37-NBK-MM-42X3.0	42MM OD x 3.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	202	501	17.30
75	TH-37-NBK-MM-42X4.0	42MM OD x 4.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	269	669	22.48
76	TH-37-NBK-MM-42X5.0	42MM OD x 5.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	336	836	27.36
77	TH-37-NBK-MM-50X3.0	50MM OD x 3.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	170	421	20.85
78	TH-37-NBK-MM-50X5.0	50MM OD x 5.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	283	702	33.28
79	TH-37-NBK-MM-60X3.0	60MM OD x 3.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	141	351	25.29
80	TH-37-NBK-MM-60X5.0	60MM OD x 5.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	236	585	40.70
81	TH-37-NBK-MM-65X6.0	65MM OD x 6.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	261	648	52.36
82	TH-37-NBK-MM-75X3.0	75MM OD x 3.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	113	281	31.95
83	TH-37-NBK-NB-02X02.41	1/8"NB x 2.41MM THK x 6 MTR HYDRAULIC TUBE ST37.4	649	1611	2.88
84	TH-37-NBK-NB-04X3.02	1/4"NB x 3.02MM THK x 6 MTR HYDRAULIC TUBE ST37.4	618	1536	4.81

**Note: Working Pressure Calculation: DIN 2413 I Static Straight Pipe including manufacturing tolerance.**

**Hydraulic Tube (ST 37.4 NBK) Working Pressure Table**

No.	Part No	Description	Working	Burst	Weight
			Pressure	Pressure	/6 MTR
			(Bar)	(Bar)	(Kg)
85	TH-37-NBK-NB-06X3.2	3/8"NB x 3.2MM THK x 6 MTR HYDRAULIC TUBE ST37.4	523	1298	6.67
86	TH-37-NBK-NB-08X3.0	1/2"NB x 3.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	391	971	8.30
87	TH-37-NBK-NB-12X3.0	3/4"NB x 3.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	312	774	10.74
88	TH-37-NBK-NB-16X3.5	1"NB x 3.5MM THK x 6 MTR HYDRAULIC TUBE ST37.4	291	723	15.79
89	TH-37-NBK-NB-16X4.55	1"NB x 4.55MM THK x 6 MTR HYDRAULIC TUBE ST37.4	378	939	19.82
90	TH-37-NBK-NB-20X4.85	1 1/4"NB x 4.85MM THK x 6 MTR HYDRAULIC TUBE ST37.4	321	797	27.15
91	TH-37-NBK-NB-24X5.08	1 1/2"NB x 5.08MM THK x 6 MTR HYDRAULIC TUBE ST37.4	295	734	32.70
92	TH-37-NBK-NB-40X6.3	2 1/2"NB x 6.3MM THK x 6 MTR HYDRAULIC TUBE ST37.4	NIL	580	65.22
93	TH-37-NBK-IN-04X1.2	1/4"OD x 1.2MM THK x 6 MTR HYDRAULIC TUBE ST37.4	534	1327	0.91
94	TH-37-NBK-IN-04X1.5	1/4"OD x 1.5MM THK x 6 MTR HYDRAULIC TUBE ST37.4	668	1658	1.08
95	TH-37-NBK-IN-06X1.22	3/8"OD x 1.22MM THK x 6 MTR HYDRAULIC TUBE ST37.4	362	899	1.50
96	TH-37-NBK-IN-06X1.5	3/8"OD x 1.5MM THK x 6 MTR HYDRAULIC TUBE ST37.4	445	1105	1.78
97	TH-37-NBK-IN-08X1.5	1/2"OD x 1.5MM THK x 6 MTR HYDRAULIC TUBE ST37.4	334	829	2.48
98	TH-37-NBK-IN-12X2.0	3/4"OD x 2.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	297	737	5.04
99	TH-37-NBK-IN-12X2.64	3/4"OD x 2.64MM THK x 6 MTR HYDRAULIC TUBE ST37.4	392	973	6.41
100	TH-37-NBK-IN-16X3.0	1"OD x 3.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	334	829	9.94
101	TH-37-NBK-IN-20X3.0	1 1/4"OD x 3.0MM THK x 6 MTR HYDRAULIC TUBE ST37.4	267	663	12.76
102	TH-37-NBK-IN-20X3.25	1 1/4"OD x 3.25MM THK x 6 MTR HYDRAULIC TUBE ST37.4	289	719	13.70

**Note: Working Pressure Calculation: DIN 2413 I Static Straight Pipe including manufacturing tolerance.**



**Hydraulic Tube (ST 52.4 NBK) Working Pressure Table**

No.	Part No	Description	Working	Burst	Weight
			Pressure	Pressure	/6 MTR
			(Bar)	(Bar)	(Kg)
103	TH-52-NBK-MM-10X2.0	10MM OD x 2.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	799	1919	2.37
104	TH-52-NBK-MM-12X2.0	12MM OD x 2.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	666	1599	2.96
105	TH-52-NBK-MM-14X1.5	14MM OD x 1.5MM THK x 6 MTR HYDRAULIC TUBE ST52.4	428	1028	2.77
106	TH-52-NBK-MM-14X2.0	14MM OD x 2.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	571	1371	3.55
107	TH-52-NBK-MM-15X1.5	15MM OD x 1.5MM THK x 6 MTR HYDRAULIC TUBE ST52.4	400	959	2.99
108	TH-52-NBK-MM-15X2.0	15MM OD x 2.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	533	1279	3.85
109	TH-52-NBK-MM-15X2.5	15MM OD x 2.5MM THK x 6 MTR HYDRAULIC TUBE ST52.4	666	1599	4.62
110	TH-52-NBK-MM-16X1.5	16MM OD x 1.5MM THK x 6 MTR HYDRAULIC TUBE ST52.4	375	899	3.22
111	TH-52-NBK-MM-16X2.0	16MM OD x 2.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	500	1199	4.14
112	TH-52-NBK-MM-16X3.0	16MM OD x 3.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	749	1799	5.77
113	TH-52-NBK-MM-18X1.5	18MM OD x 1.5MM THK x 6 MTR HYDRAULIC TUBE ST52.4	333	800	3.66
114	TH-52-NBK-MM-18X2.0	18MM OD x 2.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	444	1066	4.73
115	TH-52-NBK-MM-20X2.0	20MM OD x 2.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	400	959	5.32
116	TH-52-NBK-MM-20X2.5	20MM OD x 2.5MM THK x 6 MTR HYDRAULIC TUBE ST52.4	500	1199	6.47
117	TH-52-NBK-MM-20X3.0	20MM OD x 3.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	599	1439	7.54
118	TH-52-NBK-MM-22X2.0	22MM OD x 2.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	363	872	5.92
119	TH-52-NBK-MM-25X2.0	25MM OD x 2.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	320	768	6.80
120	TH-52-NBK-MM-25X2.5	25MM OD x 2.5MM THK x 6 MTR HYDRAULIC TUBE ST52.4	400	959	8.32
121	TH-52-NBK-MM-25X3.0	25MM OD x 3.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	480	1151	9.76
122	TH-52-NBK-MM-25X4.0	25MM OD x 4.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	639	1535	12.42
123	TH-52-NBK-MM-25X5.0	25MM OD x 5.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	799	1919	14.79
124	TH-52-NBK-MM-28X2.0	28MM OD x 2.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	285	685	7.69
125	TH-52-NBK-MM-28X3.0	28MM OD x 3.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	428	1028	11.09
126	TH-52-NBK-MM-30X2.0	30MM OD x 2.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	266	640	8.28
127	TH-52-NBK-MM-30X3.0	30MM OD x 3.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	400	959	11.98
128	TH-52-NBK-MM-30X4.0	30MM OD x 4.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	533	1279	15.38
129	TH-52-NBK-MM-35X3.0	35MM OD x 3.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	343	822	14.20
130	TH-52-NBK-MM-35X4.0	35MM OD x 4.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	457	1096	18.34
131	TH-52-NBK-MM-38X3.0	38MM OD x 3.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	315	757	15.53
132	TH-52-NBK-MM-38X4.0	38MM OD x 4.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	421	1010	20.11
133	TH-52-NBK-MM-38X5.0	38MM OD x 5.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	526	1262	24.40
134	TH-52-NBK-MM-42X3.0	42MM OD x 3.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	285	685	17.30
135	TH-52-NBK-MM-42X4.0	42MM OD x 4.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	381	914	22.48
136	TH-52-NBK-MM-42X5.0	42MM OD x 5.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	476	1142	27.36
137	TH-52-NBK-MM-45X5.0	45MM OD x 5.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	444	1066	29.58
138	TH-52-NBK-MM-50X5.0	50MM OD x 5.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	400	959	33.28
139	TH-52-NBK-MM-50X6.0	50MM OD x 6.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	480	1151	39.05
140	TH-52-NBK-MM-50X10.0	50MM OD x 10.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	799	1919	59.16
141	TH-52-NBK-MM-54X6.0	54MM OD x 6.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	444	1066	42.60
142	TH-52-NBK-MM-60X5.0	60MM OD x 5.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	333	800	40.67
143	TH-52-NBK-MM-60X6.0	60MM OD x 6.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	400	959	47.92

**Note: Working Pressure Calculation: DIN 2413 I Static Straight Pipe including manufacturing tolerance.**



**Hydraulic Tube (ST 52.4 NBK) Working Pressure Table**

No.	Part No	Description	Working	Burst	Weight
			Pressure	Pressure	/6 MTR
			(Bar)	(Bar)	(Kg)
144	TH-52-NBK-MM-65X8.0	65MM OD x 8.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	492	1181	67.44
145	TH-52-NBK-MM-66X8.5	66MM OD x 8.5MM THK x 6 MTR HYDRAULIC TUBE ST52.4	515	1236	72.29
146	TH-52-NBK-MM-76.1X6.3	76.1MM OD x 6.3MM THK x 6 MTR HYDRAULIC TUBE ST52.4	331	794	65.04
147	TH-52-NBK-MM-80X10.0	80MM OD x 10.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	500	1199	103.53
148	TH-52-NBK-MM-90X5.0	90MM OD x 5.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	222	533	62.86
149	TH-52-NBK-MM-90X10.0	90MM OD x 10.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	444	1066	118.32
150	TH-52-NBK-MM-97X12.0	97MM OD x 12.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	494	1187	150.86
151	TH-52-NBK-MM-100X10.0	100MM OD x 10.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	400	959	133.11
152	TH-52-NBK-MM-115X15.0	115MM OD x 15.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	521	1251	221.90
153	TH-52-NBK-MM-120X12.0	120MM OD x 12.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	400	959	191.68
154	TH-52-NBK-MM-130X15.0	130MM OD x 15.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	461	1107	255.10
155	TH-52-NBK-IN-32X5.9	2"OD x 5.9MM THK x 6 MTR HYDRAULIC TUBE ST52.4	464	1114	39.18
156	TH-52-NBK-IN-32X6.0	2"OD x 6.0MM THK x 6 MTR HYDRAULIC TUBE ST52.4	472	1133	39.76

**Note: Working Pressure Calculation: DIN 2413 I Static Straight Pipe including manufacturing tolerance.**

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