

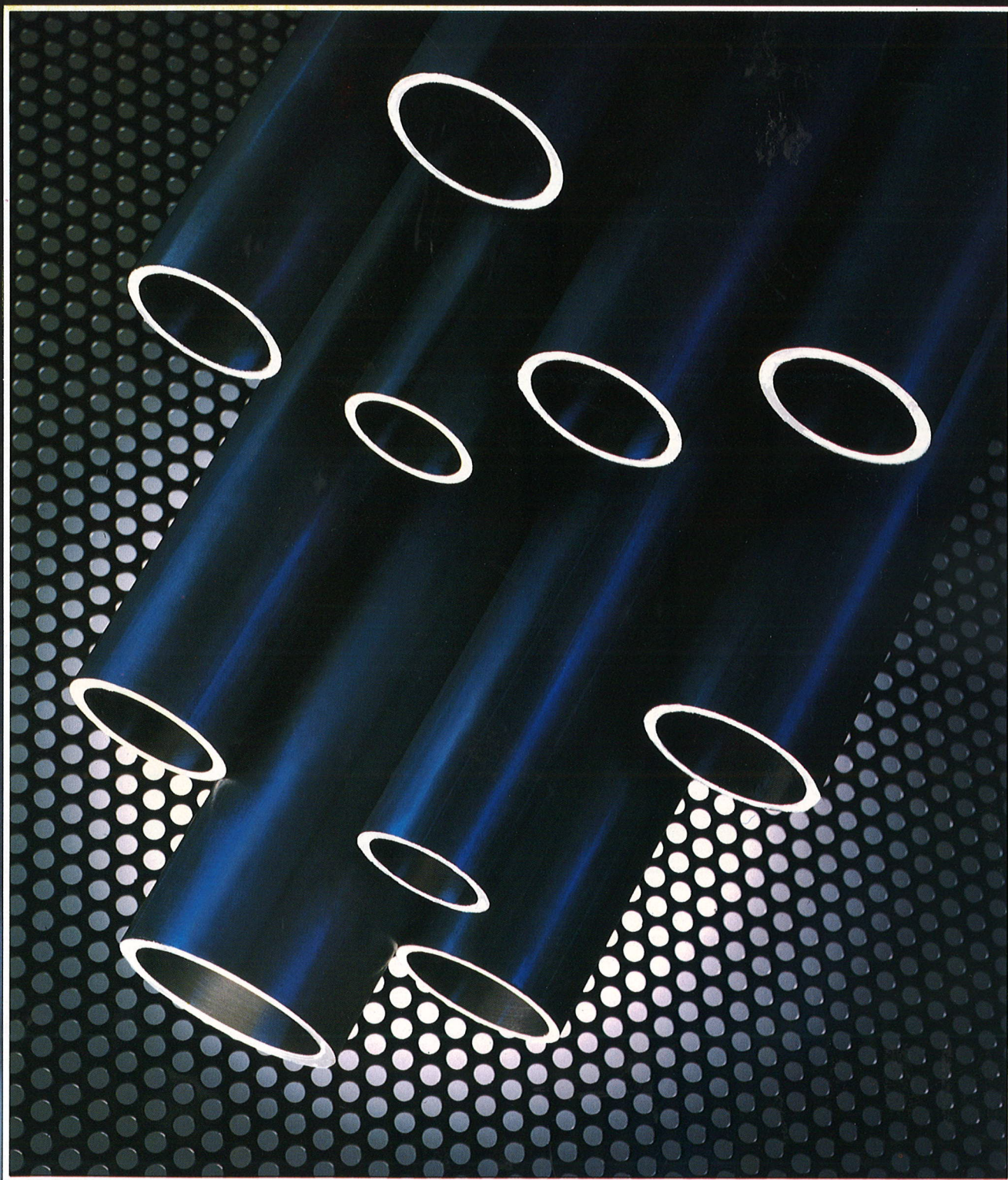


Cert. No. 96/8536

FLO-LINE

HYDRAULICS

— PRECISION HONED TUBES —



STOCK RANGE

Metric Size	Diameters from 30mm ID to 300mm ID
Imperial Size	Diameters from 1.5" ID to 12" ID
Standard Length	6.0 to 8.5 metres (Longer lengths available on request)
Delivery Length	On application, cutting to specified length or In random of 6.0 to 8.5 metres
Packing	Coated with special anti-rust agent and capped at both ends
Mill Certificate	If required, please request at time of ordering

MATERIAL GRADE

Specification	ST 52.3 / SAE 1026 / JIS G3445 (1974) STKM - 13C (13EC)
Surface Roughness	20 micro inch (max)
Internal Diameter Tolerance	ISO H9
Straightness	Commercially straight as per ASTM A-5
Tube Condition	Stress-relief annealed

Mechanical Properties		
Yield Strength	Ultimate Tensile Strength	Elongation in 2"
Min. 520 N / mm ² / 75000 PSI	Min. 585 N / mm ² / 85000 PSI	18%

Chemical Composition					
C	Mn	P	S	Si	AL
0.13 / 0.18	1.20 / 1.50	0.02 Max	0.015 Max	0.15 / 0.35	0.02 min

Specifications of material are subject to change from manufacturer without notice

Stocking Programme

Metric Sizes (mm)			
Internal Diameter	External Diameter	Wall Thickness	Weight (Kg/M)
30	38	4	3.35
40	50	5	5.55
50	60	5	6.78
55	65	5	7.40
60	70	5	8.02
63	73	5	8.38
65	75	5	8.63
70	80	5	9.25
75	90	7.5	15.26
80	90	5	10.48
80	95	7.5	16.18
80	100	10	22.20
85	105	10	23.43
90	110	10	24.66
90	105	7.5	18.03
95	110	7.5	18.96
100	115	7.5	19.88
100	120	10	27.13
100	125	12.5	34.68
105	120	7.5	20.80
105	125	10	28.36
110	125	7.5	21.73
110	130	10	29.59
115	135	10	30.83
120	140	10	32.06
125	145	10	33.29
130	150	10	34.53
130	155	12.5	43.93
135	160	12.5	45.47
140	160	10	36.99
145	165	10	38.23
145	170	12.5	48.55
150	170	10	39.46
150	175	12.5	50.09
160	175	7.5	30.98
160	180	10	41.92
160	190	15	64.74
165	190	12.5	54.72
170	190	10	44.39
170	195	12.5	56.26
170	205	17.5	80.92
175	190	7.5	33.76
175	195	10	45.62
180	200	10	46.86
180	205	12.5	59.34
183	205	11	52.63
190	220	15	75.83
200	220	10	51.79
200	230	15	79.53
220	240	10	56.72
220	260	20	118.38
250	290	20	133.17
300	350	25	200.38

Imperial Sizes (inches)			
Internal Diameter	External Diameter	Wall Thickness	Weight (Kg/M)
1 - 1/2"	1 - 7/8"	3/16"	5.03
2"	2 - 3/8"	3/16"	6.53
2"	2 - 1/2"	1/4"	8.95
2 - 1/2"	3"	1/4"	10.94
2 - 5/8"	3"	3/16"	8.39
3"	3 - 1/2"	1/4"	12.93
3"	3 - 5/8"	5/16"	16.47
3 - 1/4"	3 - 5/8"	3/16"	10.25
3 - 1/4"	3 - 7/8"	5/16"	17.71
3 - 1/2"	4 - 1/8"	5/16"	18.96
3 - 3/4"	4 - 1/4"	1/4"	15.91
3 - 7/8"	4 - 3/8"	1/4"	16.41
4"	4 - 5/8"	5/16"	21.44
4 - 1/4"	5"	3/8"	27.60
4 - 1/2"	5 - 1/4"	3/8"	29.09
4 - 3/4"	5 - 1/4"	1/4"	19.89
4 - 3/4"	5 - 1/2"	3/8"	30.58
5"	5 - 3/4"	3/8"	32.07
5"	6"	1/2"	43.75
5"	6 - 1/2"	3/4"	68.61
5 - 1/4"	6"	3/8"	33.56
5 - 1/2"	6 - 1/2"	1/2"	47.73
6"	6 - 3/4"	3/8"	38.04
6"	7"	1/2"	51.71
6"	7 - 1/2"	3/4"	80.55
6 - 1/2"	7 - 1/2"	1/2"	55.69
7"	8 - 1/8"	9/16"	67.68
8"	9 - 1/8"	9/16"	76.63
9"	10 - 3/8"	11/16"	105.97
10"	11 - 1/2"	3/4"	128.28
10"	12"	1"	175.02
12"	14"	1"	206.84

Special Sizes and Ready-To-Hone Tubes are also Available upon request.

To find the wall thickness (t in mm) of tube:

Given : P = pressure in bar
 d = inside diameter in mm
 Y = yield stress in N/mm²
(for ST52Y = 520 N/mm²)
 k = safety factor (recommended $k=2$)
 e = weld factor (for ERW tube $e=1.0$)

Formula:
$$\frac{d \times p}{(20 \times Y/K \times e) - 2P}$$

As per DIN 2413

FLO-LINE

HYDRAULICS

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