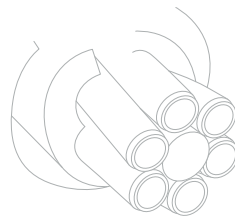
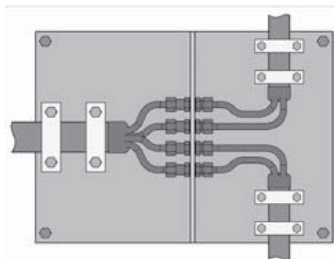


PIPES & TUBES

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PIPES & TUBES

OIL FLOW & PRESSURE DROP

O.D & W.T	Oil Flow L/min.			Pressure loss L/min.		
	1,8 m/s	4,5 m/s	7,2 m/s	1,8 m/s	4,5 m/s	7,2 m/s
6x1,0		3,4	5,4		1,9	4,1
6x1,5		1,9	3,0		2,8	5,9
8x1,0		7,5	12,1		1,1	2,3
8x1,5		5,2	8,4		1,4	3,0
8x2,0		5,4	3,4		1,9	4,1
8x2,5		1,9	3,0		2,8	5,9
10x1,0		13,5	21,5		0,7	1,6
10x1,5		10,3	16,5		0,9	1,9
10x2,0		7,5	12,1		1,1	2,3
10x2,5		5,2	8,4		1,4	3,0
12x1,0		21,0	33,7		0,5	1,2
12x1,5		17,0	27,3		0,6	1,3
12x2,0		13,5	21,5		0,7	1,6
12x2,5		10,3	16,5		0,9	1,9
14x1,5		25,5	40,8		0,5	1,0
14x2,0		21,0	33,7		0,5	1,2
15x1,5		30,3	48,0		0,4	0,9
15x2,0		25,5	40,8		0,5	1,0
16x1,5		36,0	57,0		0,4	0,8
16x2,0		30,0	49,0		0,4	0,9
16x2,5		26,0	41,0		0,5	1,0
16x3,0		21,0	34,0		0,5	1,2
18x1,5		47,0	76,0		0,3	0,7
18x2,0		41,0	66,0		0,3	0,7
20x2,0		54,0	86,0		0,3	0,7
20x2,5		47,0	76,0		0,3	0,7
20x3,0		41,0	66,0		0,3	0,7
20x4,0		30,0	49,0		0,4	0,9
22x1,5		79,0	122,0		0,2	0,5
22x2,0		68,0	109,0		0,2	0,5
22x2,5		21,0	99,0		0,3	0,6
25x2,0		93,0	149,0		0,2	0,4
25x2,5		84,0	135,0		0,2	0,5
25x3,0		76,0	122,0		0,2	0,5
25x4,0		61,0	98,0		0,3	0,6
28x2,0		121,0	194,0		0,2	0,4
28x2,5		112,0	178,0		0,2	0,4
28x3,0		102,0	163,0		0,2	0,4
30x2,0		142,0	227,0		0,1	0,3
30x3,0		121,0	194,0		0,1	0,4
30x4,0		102,0	163,0		0,1	0,4
35x2,0		203,0	324,0		0,1	0,3
35x3,0		177,0	283,0		0,1	0,3
38x2,5		230,0	367,0		0,1	0,2
38x3,0		215,0	343,0		0,1	0,3
38x4,0		190,0	303,0		0,1	0,3
38x5,0		165,0	264,0		0,1	0,3

All calculations based on Tube acc. To EN 10305-4, viscosity 37sct. specific gravity 0,860.

Following formula used and to determine other required tube or pipe sizes: $\text{Tube/Pipe I.D.} = 4,61 \sqrt{\frac{\text{flow/min}}{\text{velocity m/s}}}$

Continue next page

PIPES & TUBES

OIL FLOW & PRESSURE DROP

O.D & W.T	Oil Flow L/min.			Pressure loss L/min.		
	1,8 m/s	4,5 m/s	7,2 m/s	1,8 m/s	4,5 m/s	7,2 m/s
42x2,0		305,0	485,0		0,09	0,2
42x3,0		273,0	435,0		0,10	0,2
42x4,0		248,0	388		0,10	0,2
46x8,5		179,0	286,0		0,06	0,14
50x3,0		408,0	652,0		0,07	0,17
50x5,0		337,0	540,0		0,08	0,19
50x6,0		306,0	489,0		0,09	0,2
56x8,5		321,0	513,0		0,09	0,19
60x3,0		615,0	983,0		0,06	0,13
60x5,0		527,0	843,0		0,06	0,14
65x8,0		506,0	810,0		0,06	0,14
66x8,5		506,0	810,0		0,06	0,14
73x7,0		739,0	1181,0			
75x3,0		759,0	1606,0		0,04	0,09
75x5,0		1453,0	1453,0		0,03	0,10
80x10,0		1349,0	1215,0		0,05	0,11
90x3,5		1124,0	2324,0		0,03	0,07
90x5,0		1349,0	2159,0		0,04	0,08
90x9,0		1100,0	1759,0			
97x12,0		1124,0	1798,0		0,02	0,09
115x4,0		2414,0	3863,0		0,03	0,05
115x15,0		1524,0	3438,0		0,00	0,07
125x4,0		2903,0	4644,0			
130x15,0		2109,0	3374,0		0,03	0,06
140x4,5		3619,0	5790,0		0,02	0,04

All calculations based on Tube acc. To EN 10305-4, viscosity 37sct. specific gravity 0,860.

Following formula used and to determine other required tube or pipe sizes: $\text{Tube/Pipe I.D.} = 4,61 \sqrt{\frac{\text{flow/min}}{\text{velocity m/s}}}$

Hydra Pipe recommends cold drawn seamless pipes & tubes due to quality (precision of dimensions) and cleanliness reasons (no scale) As a comparison hot rolled pipes & tubes will always have scales both inside and outside due to the manufacturing process.

Cold drawn pipes & tubes leaves no scale inside the tubes & pipes after manufacturing process.

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ISO 6164

PIPES &
TUBES

CLAMPS

VALVES

BITE TYPE
FITTINGS

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PIPES & TUBES

Seamless pipe E235N(ST37.4) EN 10305-04



Tube size	Working Pressure			Burst pressure	Weight	Hydra Pipe part.no	
	O.D. x W.T.	Bended corrosion tolerances included	Straight corrosion tolerances included			Landbased industrial	CF
mm	DNV (bar)	DNV (bar)	DIN (bar)	P [bar]	kg/m	<i>Chrome VI free</i>	<i>Oiled, phosfated</i>
4x1,0	397	459	555	2600	0,07	4x1,0MM EN235*	
6x1,0	252	289	394	1560	0,12	6x1,0MM EN235, CF	
6x1,5	475	552	555	2600	0,17	6x1,5MM EN235, CF	
8x1,0	184	211	305	1114	0,17	8x1,0MM EN253, CF	
8x1,5	341	393	436	1800	0,24	8x1,5MM EN235, CF	
10x1,0	146	167	249	867	0,22	10x1,0MM EN235, CF	
10x1,5	265	304	359	1376	0,31	10x1,5MM EN235, CF	
12x1,5	218	250	305	1114	0,39	12x1,5MM EN235, CF	
12x2,0	322	372	394	1560	0,49	12x2,0MM EN235, CF	
12x2,5	435	503	477	2052	0,59		12x2,5MM EN235, NBK*
14x2,0	271	312	344	1300	0,59		14x2,0MM EN235, NBK*
15x2,0	251	290	324	1200	0,64	15x2,0MM EN235, CF	
50x3,0	115	131	155	498	3.48	50x3,0MM EN235, CF	
60x3,0	95	108	130	411	4.22	60x3,0MM EN235, CF	
73x3,0	78	88	108	334	5,18		73X3,0MM EN235, NBK*
75x3,0	76	86	105	325	5.32		75X3,0MM EN235, NBK
90x3,5	75	85	102	316	7.47		90X3,5MM EN235, NBK
115x4,0	68	77	92	325	10,95		115X4,0MM EN235, NBK
140x4,5	63	72	85	280	15.00		140X4,5MM EN235, NBK*
165x5,0	60	68	80	260	19.73		165X5,0MM EN235, NBK*
220x6,0	54	62	72	243	31.66		220X6,0MM EN235, NBK*
273x6,0	43	49	59	219	39.51		273X6,0MM EN235, NBK*

*

Not standard stock item, but available with short delivery time

Pressure table acc. to DNV rules incl. bendings, corrosion and manufacturings

tolerance

s.Tolerances DIN EN 10305-4 (old DIN 2391) and ISO 3304

Hydra Pipe recommends cold drawn seamless pipes & tubes due to quality (precision of dimensions) and cleanliness reasons (no scale) As a comparison hot rolled pipes & tubes will always have scales both inside and outside due to the manufacturing process.

Cold drawn pipes & tubes leaves no scale inside the tubes & pipes after manufacturing process.

PIPES & TUBES

Seamless pipe E355N(ST52.4) EN 10305-04



Tube size	Working Pressure			Burst pressure	Weight	Hydra Pipe part.no	
	O.D. x W.T.	Bended pipe and corrosion tolerances included	Straight pipe and corrosion tolerances included			Landbased industrial	CF
mm	DNV (bar)	DNV (bar)	DIN (bar)	P (bar)	kg/m	Chrome VI free	Oiled, phosfated
14x2.0	411	473	456	1777	0.59		14x2,0MM ST52.4, NBK*
15x1.5	260	297	330	1184	0.50	15x1,5MM EN355, CF	
15x2.0	380	381	439	1641	0.61	15x2,0MM EN355, CF*	
16x1.5	243	277	311	1103	0.54	16x1,5MM EN355, CF*	
16x2.0	355	408	404	1522	0.69	16x2,0MM EN355, CF	
16x2.5	475	547	493	1974	0.83	16x2,5MM EN355, CF	
18x1.5	214	243	279	969	0.61	18x1,5MM EN355, CF	
18x2.0	313	357	364	1333	0.79	18x2,0MM EN355, CF*	
20x2.0	278	319	330	1184	0.89	20x2,0MM EN355, CF	
20x2.5	371	425	404	1523	1.08	20x2,5MM EN355, CF*	
20x3.0	467	537	476	1881	1.25	20x3,0MM EN355, CF*	
22x2.0	251	288	303	1066	0.99	22x2,0MM EN355, CF	
25x2.0	220	251	269	927	1.13	25x2,0MM EN355, CF*	
25x2.5	291	334	330	1184	1.39	25x2,5MM EN355, CF	
25x3.0	365	418	390	1454	1.63	25x3,0MM EN355, CF	
28x2.0	195	222	242	820	1.28	28x2,0MM EN355, CF	
28x3.0	322	368	352	1279	1.85	28x3,0MM EN355, CF*	
30x3.0	299	342	330	1184	2.00	30x3,0MM EN355, CF	
30x4.0	423	488	429	1640	2.56	30x4,0MM EN355, CF*	
35x2.0	154	177	196	649	1.69	35x2,0MM EN355, CF	
38x3.0	233	266	265	914	2.59	38x3,0MM EN355, CF	
38x4.0	327	374	346	1254	3.35	38x4,0MM EN355, CF	
38x5.0	426	490	424	1615	4.07	38x5,0MM EN355, CF*	
42x3.0	209	239	242	820	2.89	42x3,0MM EN355, CF	
50x5.0	316	360	330	1184	5.55	50x5,0MM EN355, CF	
50x6.0	390	448		1454	6.50	50x6,0MM EN355, CF	
56x8.5	516	515	595	1908	9.96		56x8,5MM EN355, NBK
60x5.0	260	259	279	969	6.78	60x5,0MM EN355, CF	
60x6.0	319	365	330	1184	8,04	60x6,0MM EN355, CF*	
66x8.5	430	430	494	1499	12.05		66x8,5MM EN355, NBK
73x5.0	211	240	274	785	8,38	73x5,0MM EN355, CF*	
73x7.0	309	352	383	1132	11.22		73x7,0MM EN355, NBK*
75x5.0	205	234	227	761	8.63	75x5,0MM EN355, CF*	
80x10.0	418	480	404	1523	17.21		80x10,0MM EN355, NBK
90x5.0	169	192	190	627	10.48		90x5,0MM EN355, NBK *
97X12	416	478	401	1505	25.15		97x12,0MM EN355, NBK
115x15.0	444	511	420	1600	36.95		115x15,0MM EN355, NBK
130x15.0	388	444	376	1390	42.53		130x15,0MM EN355, NBK
150x15.0	332	380	330	1184	49.94		150x15,0MM EN355, NBK
190x20.0	353	405	346	1253	83.84		190x20,0MM EN355, NBK*
220x20.0	301	345	303	1066	98.64		220x20,0MM EN355, NBK*
250x25.0	335	384	330	1184	138.70		250x20,0MM EN355, NBK*
273x25.0	305	349	305	1075	152.90		273x25,0MM EN355, NBK*

* Not standard stock item, but available with short delivery time

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PIPES &
TUBES

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PIPES & TUBES

Stainless Steel Pipe ASTM A213AW/269 EN-10216-5 D4/T3 - AISI 316 L



Pressure table acc. to DNV rules incl. bendings, corrosion and manufacturing tolerances.

Tube size	Working Pressure			Burst pressure	Weight	Hydra Pipe part.no
	Bended pipe and corrosion tolerences included	Straigth pipe and corrosion tolerences included	Landbased industrial			
O.D. x W.T.	DNV (bar)	DNV (bar)	DIN (bar)	P (bar)	kg/m	Stainless Steel 316 L
6x1.0	525	607	365	2120	0,07	06X1.0-316
8x1,0	378	435	283	1514	0,17	08X1.0-316
8x1,5	601	698	404	2446	0,24	08X1.5-316
10x1.0	298	341	230	1179	0,22	10X1.0-316
10x1.5	465	537	332	1870	0,31	10X1.5-316
10x2.0	650	754	427	2649	0,40	10X2.0-316*
12x1.0	244	279	195	964	0.27	12X1.0-316
12x1.5	381	379	435	283	0.39	12X1.5-316
12x2.0	528	524	607	365	0.50	12X2.0-316*
15x1.5	298	340	231	1178	0.51	15X1.5-316
16x1.5	278	317	218	1096	0.55	16X1.5-316*
16x2.0	380	436	283	1514	0.70	16X2.0-316
16x2.5	490	563	345	1963	0.85	16X2.5-316*
18x1.5	245	279	195	964	0,61	18X1.5-316
18x2.0	334	381	255	1325	0,79	18X2.0-316
20x2.0	298	340	230	1178	0.90	20X2.0-316
20x2.5	380	436	283	1514	1.10	20X2.5-316
20x3.0	467	537	283	1871	1,26	20X3.0-316*
22x1.5	198	224	162	776	0,76	22X1.5-316*
22x2.0	232	307	212	1871	1.00	22X2.0-316
25x2.0	233	232	267	922	0,99	25X2.0-316*
25x2.5	298	340	231	1178	1,39	25X2.5-316
25x3.0	363	417	273	1446	1.66	25X3.0-316
25x4.0	501	579	352	2019	2,07	25X4.0-316*
28x2.0	208	236	169	815	1,28	28X2.0-316
28x2.5	263	300	208	1039	1,57	28X2.5-316*
30x2.5	245	278	195	964	1,70	30X2.5-316
30x3.0	298	341	231	1178	2,01	30X3.0-316
30x4.0	409	469	300	1631	2,57	30X4.0-316*
35x2.0	165	187	137	642	1,63	35X2.0-316*
35x2.5	201	235	169	815	2,0	35X2.5-316*
35X3.0	251	287	201	994	2,37	35X3.0-316

* Not standard stock item, but available with short delivery time

Continues next page

PIPES & TUBES



Stainless Steel Pipe ASTM A213AW/269 EN-10216-5 D4/T3 - AISI 316 L

Pressure table acc. to DNV rules incl. bendings, corrosion and manufacturings tolerances.

Tube size	Working Pressure			Burst pressure	Weight	Hydra Pipe part.no
	Bended pipe and corrosion tolerences included	Straigth pipe and corrosion tolerences included	Landbased industrial			
O.D. x W.T.	DNV (bar)	DNV (bar)	DIN (bar)	P (bar)	kg/m	Stainless Steel 316 L
mm	DNV (bar)	DNV (bar)	DIN (bar)	P (bar)	kg/m	Stainless Steel 316 L
38X3.0	231	263	186	909	2,59	38X3.0-316
38x4.0	315	361	242	1247	3,35	38X4.0-316
38x5.0	403	462	296	1606	4,07	38X5.0-316*
42x3.0	208	236	169	815	2,90	42X3.0-316
42x4.0	283	323	221	1116	3.75	42X4.0-316*
50x3.0	173	196	143	677	3.48	50X3.0-316
50x5.0	298	341	231	1178	5.55	50X5.0-316
50x6.0	361	417	273	1445	6,51	50X6.0-316
60x3.0	143	161	121	558	4.22	60X3.0-316
60x5.0	245	278	196	964	6.78	60X5.0-316
60x6.0	297	341	231	1178	7,99	60X6.0-316
66x8.5	392	450	291	1569	12.0	66X8.5-316
80x10.0	379	435	283	1515	17,3	80X10-316*
97x12.0	376	432	281	1495	25.54	97X12-316*

Note: Check also the Sch sizes on the follwong pages as an alternative and for bigger sizes

* Not standard stock item, but availabale with short delivery time

Hydra Pipe recommends cold drawn seamless pipes & tubes due to quality (precision of dimensions) and cleanliness reasons (no scale) As a comparison hot rolled pipes & tubes will always have scales both inside and outside due to the manufacturing process.

Cold drawn pipes & tubes leaves no scale inside the tubes & pipes after manufacturing process.

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PIPES & TUBES

Stainless Steel Pipe ASTM A312 - AISI 316 L



Pressure table acc. to DNV rules incl. bendings, corrosion and manufacturing tolerances.

Tube size	O.D. x W.T.	Working Pressure	Burst pressure	Weight	Hydra Pipe part.no
1/2" SCH 10	21.34x2.11	235	1018	1.02	*
1/2" SCH 40	21.34x2.77	308	1332	1.29	*
1/2" SCH 80	21.34x3.73	415	1800	1.65	*
1/2" SCH 160	21.34x4.78	539	1307	1.98	*
1/2" SCH xxs	21.34x7.47	831	3608	2.55	*
3/4" SCH 10	26.67x2.11	188	815	1.30	*
3/4" SCH 40	26.67x2.81	250	1085	1.71	*
3/4" SCH 80	26.67x3.91	349	1510	2.33	*
3/4" SCH 160	26.67x5.56	485	2147	2.94	*
3/4" SCH xxs	26.67x7.82	695	3020	3.64	*
1" SCH 10	33.40x2.77	197	854	2.13	*
1" SCH 40	33.40x3.38	240	1042	2.54	*
1" SCH 80	33.40x4.55	323	1403	3.29	*
1" SCH 160	33.40x6.35	450	1958	4.30	*
1" SCH xxs	33.40x9.09	646	2803	5.45	*
1 1/4" SCH 10	42.16x2.77	152	671	2.73	*
1 1/4" SCH 40	42.16x3.56	201	875	3.44	*
1 1/4" SCH 80	42.16x4.85	273	1185	4.53	*
1 1/4" SCH 160	42.16x6.35	357	1551	5.69	*
1 1/4" SCH xxs	42.16x9.70	545	2370	7.76	*
1 1/2" SCH 10	48.26x2.77	136	591	3.16	*
1 1/2" SCH 40	48.26x3.68	181	785	4.11	*
1 1/2" SCH 80	48.26x5.08	249	1084	5.49	*
1 1/2" SCH 160	48.26x7.14	350	1524	7.35	*
1 1/2" SCH xxs	48.26x10.16	498	2168	9.55	*
2" SCH 10	60.30x2.77	109	473	3.99	*
2" SCH 40	60.30x3.91	154	668	5.52	*
2" SCH 80	60.30x5.54	218	946	7.60	*
2" SCH 160	60.30x8.74	343	1492	11.28	*
2" SCH xxs	60.30x11.07	434	1891	13.44	*
2 1/2" SCH 5	73.00x2.11	69	298	3.76	*
2 1/2" SCH 10	73.00x3.05	99	430	5.37	*
2 1/2" SCH 40	73.00x5.16	168	728	8.80	*
2 1/2" SCH 80	73.00x7.01	228	989	11.64	*
2 1/2" SCH 160	73.00x9.53	309	1345	15.15	*
2 1/2" SCH XXS	73.00x14.02	359	1978	20.50	*
3" SCH 5	88.90x2.11	57	244	4.59	*
3" SCH 10	88.90x3.05	81	353	6.45	*
3" SCH 40	88.90x5.49	146	636	11.46	*
3" SCH 80	88.90x7.67	204	889	15.51	*
3" SCH 160	88.90x11.13	290	1290	21.67	*
3" SCH XXS	88.90x15.24	406	1716	27.68	*
4" SCH 5	114.30x2.11	44	190	5.93	*
4" SCH 10	114.30x3.05	63	275	8.50	*
4" SCH 40	114.30x6.07	126	547	16.32	*
4" SCH 80	114.30x8.56	177	771	22.67	*
4" SCH 160	114.30x13.49	280	1216	34.05	*
4" SCH XXS	114.30x17.12	345	1543	41.03	*
5" SCH 10	141.3X3.40	55	254	11,56	*
5" SCH 40	141.3X6,55	102	501	22,10	*
5" SCH 80	141.3X9,53	160	745	31,4	*
5" SCH 160	141.3X15,88	277	1304	49,11	*
5" SCH XXS	141.3x19.05	339	1605	57,43	*
6" SCH 10	168.3x3.40	46	172	11,48	*
6" SCH 120	168.3X14,27	204	954	54,1	*
6" SCH 160	168.3X18,26	268	1254	67,55	*
6" SCH XXS	168.3X21,95	326	1545	79,22	*

Note: Sizes up to 24" SCH available on request

*

Not standard stock item, but available with short delivery time



Multi Core Tube



Multi Core Tube

Multi Core Tube is a bundled tube tied together to efficiently install, maintain and control at once. It is used in shipbuilding, offshore plants and other industries to transport hydraulic oil, gas and etc.

Product Advantages

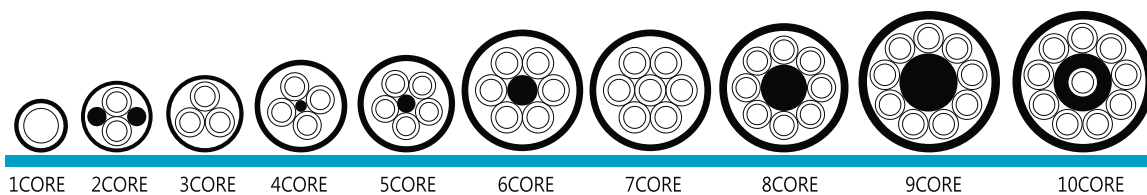
Following advantages are expected by installing Multi Core Tube continuously produced by max. 1,200M without intermediate joints or connections compared to a conventional 6 meter straight tube connected by tube fittings.

- To reduce installation time and save space by bundled tubings
- To dramatically cut down on fitting connections, fitting installation time and fitting inspection time
- Space-saving and design cost-effective since Multi Core Tube is easily bended in any direction
- Tube protection by triplicate sheath and filler system from outside shock
- To simply solve tube corrosion problem as economical alternative from conventional bare exposed tubes vulnerable to seawater & shipyard working environments

Product Application

- Valve Remote Control (VRC) Line System
- Deck Machinery Remote Control Line System
- Fixed Gas Detection Sensing Line
- Heat Tracing Line
- Pressure Sensing Line
- Sampling & Drain Line
- Tank Level & Draft Gauging System Line
- Fire Fighting System Control Line

Structural Cross - Section



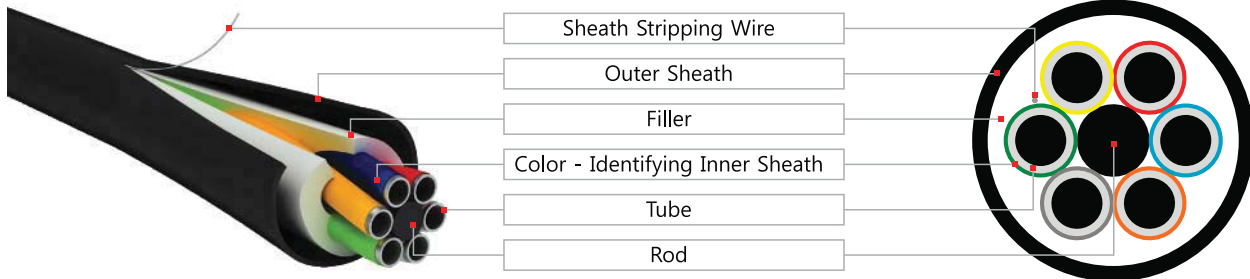
PIPES & TUBES

Construction



Multi Core Tube

Cross Section View



Tube Material

Material	National Standard					
	Alloy	UNS CODE	ASTM	KS	JIS	DIN
Stainless Steel	304	S30400	304	STS 304	SUS 304	1.4301
	316	S31600	316	STS 316	SUS 316	1.4401
	316L	S31603	316L	STS 316L	SUS 316L	1.4404
	317L	S31703	317L	STS 317L	SUS 317L	1.4438
	321	S32100	321	STS 321	SUS 321	1.4541
	347	S34700	347	STS 347	SUS 347	1.4550
Super Austenitic	904L	N08904	-	STS 890L	SUS 890L	1.4539
	6 Mo	S31254	-	-	-	1.4547
Nickel Alloy	Monel 400	N04400	400	NCF 690 TB	NCF 690 TB	2.4360
	Nickel 200	N02200	200	NCF 600 TB	NCF 600 TB	2.4066
	Inconel600	N06600	1600	NCF 800 TB	NCF 800 TB	2.4816
	Inconel625	N06625	I625	NCF 625 TB	NCF 625 TB	2.4856
	Inconel825	N08825	I825	NCF 825 TB	NCF 825 TB	2.4858
	Hastelloy C22	N06022	C22	NW6022	NW6022	2.4602
	Hastelloy C276	N10276	C276	NW0276	NW0276	2.4819
Duplex	Duplex	S31803, S32205	-	STS329J3L	SUS329J3L	1.4462
	Super Duplex	S32750	-	-	-	1.4410
Copper	Copper	C12200	C12200	C1220	C1220	SF-Cu
Copper-Nikel 90/10	Cu-Ni 90/10	C70600	C70600	C7060	C7060	CuNi10Fe1Mn

Please consult us for other materials not listed.

Sheath Material

Material	PVC*	TCR PVC**	FR PVC**	HFFR TPU**	HFFR PE**	HDPE**	MDPE*	LDPE**	XLPE**
Tensile Strength (kgf/mm ²)	1.45	2.25	1.56	2.0	1.19	2.80	2.50	2.40	2.24
Service Temperature (°C)	-40/+70	-60/+100	-40/+70	-70/+120	-45/+70	-85/+70	-85/+70	-85/+60	-45/+90
Elongation (%)	277	378	280	500	600	900	850	550	513
Hardness (Shore A)	87	83	87	90	95	63	59	55	93
Halogenated	O	O	O	X	X	X	X	X	X
Flame Retardant (IEC60332-1)	O	O	O	O	O	X	X	X	X
Flame Retardant (IEC60332-3)	X	O	O	O	O	X	X	X	X

Please consult us for other materials not listed.

* : Factory Standard, ** : As per Request

TCR : Thermal & Cold Resistance, FR : Flame Retardant, HFFR : Halogen Free & Flame Retardant, HDPE : High Density Polyethylene, MDPE : Mid Density Polyethylene, LDPE : Low Density Polyethylene, XLPE : Cross-Linked Polyethylene, TPU: Thermo Plastic Polyurethane

PIPES & TUBES



Multi Core Tube

Specification (Metric size)

O.D.(mm)xCore	Bundle Weight (Kg/M)						Overall diameter approx. (mm)
	Stainless steel			Copper & Copper alloy			
	Wall Thickness(mm)			Wall Thickness(mm)			
	0.5	0.8	1.0	0.8	1.0	1.2	
6 x 1	0.12	0.16	0.18	0.17	0.20	-	9
6 x 2	0.49	0.56	0.60	0.58	0.63	-	19
6 x 3	0.57	0.66	0.72	0.69	0.77	-	20
6 x 4	0.72	0.86	0.95	0.91	1.01	-	23
6 x 5	0.81	0.98	1.08	1.04	1.16	-	24
6 x 6	1.01	1.22	1.34	1.29	1.43	-	27
6 x 7	1.04	1.28	1.43	1.36	1.53	-	27
6 x 8	1.39	1.67	1.84	1.76	1.96	-	32
6 x 9	1.60	1.92	2.10	2.10	2.22	-	34
6 x 10	1.63	1.98	2.18	2.17	3.32	-	34
8 x 1	0.17	0.22	0.25	0.23	0.27	0.30	11
8 x 2	0.64	0.74	0.80	0.81	0.88	0.94	23
8 x 3	0.71	0.86	0.95	0.94	1.04	1.14	24
8 x 4	0.94	1.14	1.26	1.24	1.38	1.51	28
8 x 5	1.19	1.44	1.60	1.56	1.73	1.89	31
8 x 6	1.35	1.65	1.83	1.78	1.99	2.18	33
8 x 7	1.37	1.72	1.93	1.87	2.11	2.34	33
8 x 8	2.07	2.47	2.72	2.64	2.92	3.18	41
8 x 9	2.43	2.83	3.08	2.88	3.20	3.49	43
8 x 10	2.45	2.90	3.18	2.97	3.32	3.64	43
10 x 1	-	0.27	0.32	0.33	0.34	0.38	13
10 x 2	-	1.02	1.10	1.07	1.16	1.25	28
10 x 3	-	1.20	1.32	1.27	1.40	1.54	29
10 x 4	-	1.55	1.71	1.64	1.82	2.20	33
10 x 5	-	1.96	2.17	2.07	2.30	2.52	37
10 x 6	-	2.26	2.50	2.39	2.67	2.93	40
10 x 7	-	2.33	2.62	2.49	2.80	3.11	40
10 x 8	-	3.23	3.55	3.41	3.77	4.12	48
10 x 9	-	3.72	4.05	-	4.15	4.54	51
10 x 10	-	3.79	4.11	-	4.29	4.72	51
12 x 1	-	0.32	0.38	0.34	0.44	0.49	15
12 x 2	-	1.35	1.45	1.41	1.52	1.87	33
12 x 3	-	1.90	2.05	-	2.15	2.32	38
12 x 4	-	2.02	2.23	-	2.36	2.58	39
12 x 5	-	2.17	2.43	-	2.59	-	44
12 x 6	-	3.01	3.32	-	3.52	-	48

O.D.(mm)xCore	PVC sheathed tube Weight (Kg/M)						Overall diameter approx. (mm)
	Stainless steel				Copper & Copper alloy		
	Wall Thickness(mm)				Wall Thickness(mm)		
	1.0	1.2	1.5	2.0	1.0	1.2	
10 x 1	0.32	0.35	0.40	0.48	0.34	0.38	13
12 x 1	0.38	0.42	0.49	0.60	0.41	0.46	15
15 x 1	0.47	0.54	0.63	-	0.51	0.59	18

Please consult us for other sizes not listed.



- PYPLOK
- FLANGES ISO 6164
- PIPES & TUBES
- CLAMPS
- VALVES
- BITE TYPE FITTINGS
- HP HOSES
- QUICK COUPL.
- TEST POINTS
- ADAPTORS
- MACHINES
- OTHER PRODUCTS

PIPES & TUBES



Multi Core Tube

Specification (Imperial size)

Tube O.D.(in.)xCore	Bundle Weight (Kg / M)						Overall diameter approx. (mm)
	Stainless steel				Copper & Copper alloy		
	Wall Thickness				Wall Thickness		
	0.035"	1.0mm	0.049"	1.2mm	0.035"	0.049"	
1/4" x 1	0.17	0.19	0.21	0.21	0.19	0.23	9
1/4" x 2	0.75	0.77	0.83	0.81	0.78	0.87	23
1/4" x 3	1.00	1.04	1.12	1.10	1.04	1.18	23
1/4" x 4	1.10	1.15	1.26	1.28	1.16	1.34	24
1/4" x 5	1.20	1.26	1.40	1.36	1.27	1.50	27
1/4" x 6	1.40	1.47	1.64	1.60	1.49	1.76	34
3/8" x 1	0.28	0.30	0.35	0.34	0.31	0.38	13
3/8" x 2	1.14	1.18	1.27	1.25	1.18	1.33	27
3/8" x 3	1.55	1.62	1.75	1.72	1.62	1.84	28
3/8" x 4	1.90	1.98	2.16	2.12	1.99	2.28	33
3/8" x 5	2.15	2.25	2.48	2.43	2.26	2.63	37
3/8" x 6	2.35	2.47	2.74	2.68	2.47	2.86	39
1/2" x 1	-	0.41	0.47	0.46	-	0.51	16
1/2" x 2	-	1.36	1.49	1.48	-	1.57	36
1/2" x 3	-	1.97	1.94	1.92	-	2.06	38
1/2" x 4	-	2.32	2.70	2.65	-	2.85	43

Please consult us for other sizes not listed.

Maximum Allowable Working Pressure

Seamed Stainless Steel Tube

(Unit : bar)

O.D. (mm)	Wall Thickness (mm)					
	0.5	0.8	1.0	1.2	1.5	2.0
6	160	270	350	-	-	-
8	120	195	250	310	-	-
10	95	155	195	240	310	-
12	-	125	160	195	250	350
15	-	-	125	155	195	-

(Unit : bar)

O.D. (in.)	Wall Thickness (in.)	
	0.035	0.049
1/4	275	410
3/8	180	264
1/2	140	200

Copper Tube

(Unit : bar)

O.D. (mm)	Wall Thickness (mm)		
	0.8	1.0	1.2
6	120	150	180
8	85	110	130
10	-	85	100
12	-	70	85
15	-	55	65

(Unit : bar)

O.D. (in.)	Wall Thickness (in.)	
	0.035	0.049
1/4	130	180
3/8	85	110
1/2	-	85

Cu-Ni(90/10) Tube

(Unit : bar)

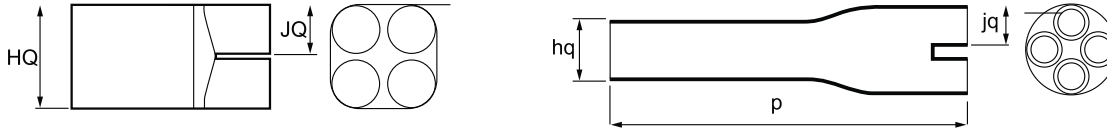
O.D. (mm)	Wall Thickness (mm)		
	1.0	1.4	1.5
8	150	240	260
10	130	190	200
12	-	160	170



Multi Core Tube

Heat Shrinkable Boot

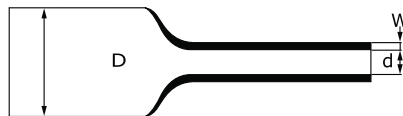
Material	Cross - linked polyolefin (flame retardant)	
Temperature	Operating Temperature range	-40°C ~ 100°C
	Minimum shrinking temperature	125°C



Type	As Supplied		After Recovery (min.)			Suitable multicore tube
	HQ	JQ	hq	jq	p	
DCHB - 02 - 1	34	14	12	4	78	O.D. 6mm X 2CORE O.D. 8mm X 2CORE
DCHB - 02 - 2	45	18	15	6	90	O.D. 10mm X 2CORE O.D. 12mm X 2CORE
DCHB - 03 - 1	35	15	17	5	76	O.D. 6mm X 3CORE O.D. 8mm X 3CORE
DCHB - 03 - 2	50	25	27	9	100	O.D. 10mm X 3CORE O.D. 12mm X 3CORE
DCHB - 04 - 1	40	14	22	5	90	O.D. 6mm X 4CORE O.D. 8mm X 4CORE
DCHB - 04 - 2	50	18	26	5	90	O.D. 10mm X 4CORE O.D. 12mm X 4CORE
DCHB - 05 - 1	40	13	20	5	90	O.D. 6mm X 5CORE O.D. 8mm X 5CORE
DCHB - 05 - 2	55	17	23	5	110	O.D. 10mm X 5CORE O.D. 12mm X 5CORE
DCHB - 06 - 1	45	12	20	4	100	O.D. 6mm X 6CORE O.D. 8mm X 6CORE
DCHB - 06 - 2	85	23	37	7	140	O.D. 10mm X 6CORE O.D. 12mm X 6CORE

Heat Shrinkable Sleeve

Material	Cross - linked polyolefin (flame retardant)	
Temperature	Operating Temperature range	-55°C ~ 125°C
	Minimum shrinking temperature	110°C



Type	As Supplied	After Recovery (min)	Wall thickness after recovery
	D(mm)	d(mm)	w(mm)
DCHT 6 / 2	6	2	1.5
DCHT 8 / 2	8	2	1.5
DCHT 10 / 4	10	4	1.5
DCHT 12 / 4	12	4	1.5
DCHT 15 / 5	15	5	1.9
DCHT 27 / 9	27	9	2.0
DCHT 40 / 13	40	13	2.0
DCHT 48 / 16	48	16	2.1
DCHT 72 / 18	72	18	2.8

