

USEFUL DATA - METRIC OD



USEFUL DATA

PERFORMANCE

Betabite manufactures two series of metric coupling, L (light), S (heavy). The performance of both series are summarised in the following table, where it is possible to see the values of operating pressures for each range of outer diameter for the pipes employed. It must be taken into account that the pressure values indicated are calculated considering a safety factor of 4 vs. those obtained during static operating tests at 120°C.

Series	Outside Ø of pipe	Nominal Pressure
L (light)	6 to 18 mm	315 bar
	22 to 42 mm	160 bar
S (heavy)	6 to 14 mm	630 bar
	16 to 30 mm	400 bar
	38 mm	315 bar

TECHNICAL AND CONSTRUCTION CHARACTERISTICS

All metric couplings are manufactured in accordance with DIN 2353, with either conical (DIN3858 - DIN158 - NPT) or cylindrical (UNI ISO 228 - UNF - UNI 4535) threading. Contrary to the conical threading, which produces the seal by direct coupling, the seal for cylindrical threading is obtained by three methods:

- Using Dowty seal or copper washer to DIN3852, Form A (fig 1).
- Fitting body incorporating cutting edges to DIN3852, Form B (fig 2).
- The fitting of a perbunan or viton ring (soft seal) to DIN3852, form E (fig 3).

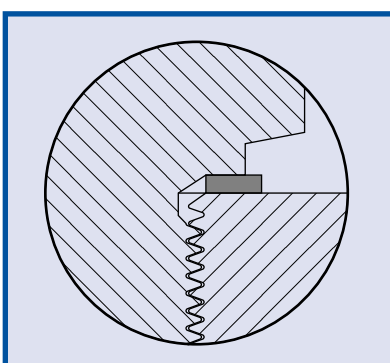


Fig 1.
Form A

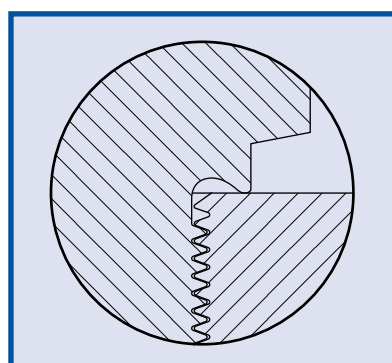


Fig 2.
Form B

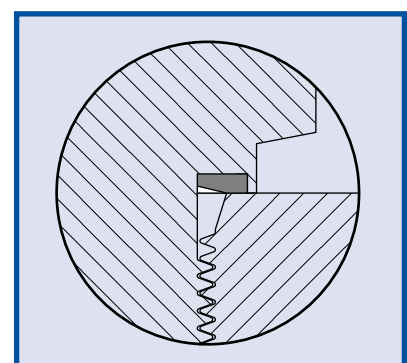


Fig 3.
Form E

All components are manufactured from either drawn or pressed **steel** (both by the cold and hot treatment system). The units and the nuts are submitted to a corrosion - proof surface treatment (yellow passivated UNI ISO 2081 - 4520).

The cutting rings are submitted both to a heat treatment which enhances their mechanical characteristics leaving almost unchanged elasticity, and to a corrosion proof surface treatment. Fittings are manufactured in both **carbon and stainless steel**.

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Recommendations for tubes

For Betabite steel fittings we recommend a tube according to DIN 2391/C of material of special quality (St. 35.4), protective-gas/special-clean-annealed, free of scale (NBK).

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Tube o.d. mm	Wall thickness mm	Tube i.d. mm	Design pressure ¹⁾ bar	Weight Kg/m
5	0.75	3.5	376	0.083
5	1	3	432	0.099
6	0.75	4.5	333	0.103
6	1	4	389	0.123
6	1.5	3	549	0.166
6	2	2	692	0.197
6	2.25	1.5	757	0.208
8	1	6	333	0.173
8	1.5	5	431	0.240
8	2	4	549	0.296
8	2.5	3	658	0.339
10	1	8	282	0.222
10	1.5	7	373	0.314
10	2	6	478	0.395
10	2.5	5	576	0.462
10	3	4	666	0.518
12	1	10	235	0.271
12	1.5	9	353	0.388
12	2	8	409	0.493
12	2.5	7	495	0.586
12	3	6	576	0.666
12	3.5	5	651	0.734
14	1	12	201	0.321
14	1.5	11	302	0.462
14	2	10	403	0.592
14	2.5	9	434	0.709
14	3	8	507	0.814
14	3.5	7	576	0.906
14	4	6	641	0.986
15	1	13	188	0.345
15	1.5	11	282	0.499
15	2	11	376	0.641
15	2.5	10	409	0.771
15	3	9	478	0.888
16	1	14	176	0.370
16	1.5	13	264	0.536
16	2	12	353	0.691
16	2.5	11	386	0.832
16	3	10	452	0.962
18	1	16	157	0.419
18	1.5	15	235	0.610
18	2	14	313	0.789
18	2.5	13	392	0.956
18	3	12	409	1.110

Tube o.d. mm	Wall thickness mm	Tube i.d. mm	Design pressure ¹⁾ bar	Weight Kg/m
20	1.5	17	212	0.684
20	2	16	282	0.888
20	2.5	15	353	1.079
20	3	14	373	1.258
20	3.5	13	426	1.424
20	4	12	478	1.578
22	1	20	128	0.518
22	1.5	19	192	0.758
22	2	18	256	0.986
22	2.5	17	320	1.202
22	3	16	385	1.406
25	2	21	226	1.134
25	2.5	20	282	1.387
25	3	19	338	1.628
25	4	17	394	2.072
25	4.5	16	437	2.275
25	5	15	478	2.466
28	1.5	25	151	0.980
28	2	24	201	1.282
28	2.5	23	252	1.572
28	3	22	302	1.850
28	4	20	403	2.368
28	5	18	434	2.836
30	2	26	188	1.381
30	2.5	25	235	1.695
30	3	24	282	1.998
30	4	22	376	2.565
30	5	20	409	3.083
35	2	31	161	1.628
35	2.5	30	201	2.004
35	3	29	242	2.367
35	4	27	322	3.058
35	5	25	403	3.699
35	6	23	419	4.291
38	2.5	33	186	2.189
38	3	32	223	2.589
38	4	30	297	3.354
38	5	28	371	4.069
38	6	26	390	4.735
38	7	24	446	5.352
42	2	38	134	1.973
42	3	36	201	2.885
42	4	34	269	3.749

¹⁾ Based on the following values the design pressure has been calculated according to DIN 2413 validity I

Part numbers indicated are for **Carbon Steel Couplings** only.

For **316 Stainless Steel Couplings**, add suffix **SS** to part number.