

Phantom

☐ Bij uitstek geschikt - Très approprié - Muy adecuado - Ideal geeignet
☒ Bepikt geschikt - Approprié - Adecuado - Eingeschränkt geeignet

ISO	ISO	
P 11 ≤600 N/mm²	P 11 ≤600 N/mm²	≤600 N/mm² 1.0037 (Si37), 1.0038 (S235JR G2), 1.00402 (C22), 1.1178 (C30E)
P 12 600 - 850 N/mm²	P 12 600 - 850 N/mm²	600 - 850 N/mm² 1.0050 (Si50-2), 1.0070 (Si70-2), 1.0301 (C10), 1.0503 (C45), 1.1121 (Ck10), 1.1191 (C45E), 1.0718 (11SMnP30), 1.0736 (11SMn37)
P 13 850 - 1000 N/mm²	P 13 850 - 1000 N/mm²	850 - 1000 N/mm² 1.0727 (46S20), 1.0728 (60S20), 1.0757 (46SPb20), 1.2080 (X210Cr12), 1.2083 (X42Cr13), 1.2767 (X45NiCrMo4), 1.5131 (50MnSi4), 1.7003 (38Cr2), 1.7030 (28Cr4), 1.7043 (38Cr4)
P 14 1000 - 1400 N/mm²	P 14 1000 - 1400 N/mm²	1000 - 1400 N/mm² 1.5710 (36NiCr6), 1.7035 (41Cr40), 1.7225 (42CrMo4), 1.8519 (31CrMoV9), 1.8550 (34CrAlNi7), 1.5752 (15NiCr13), 1.7131 (16MnCr5), 1.7264 (20CrMo5)
H 15 50 - 60 HRC	H 15 50 - 60 HRC	50 - 60 HRC 1.2344 (X40CrMoV5), 1.2767 (X45NiCrMo4), 1.2379 (X155CrVMo12-1), 1.2080 (X210Cr12), 1.3343 (S6-5-2)
M 21 INOX ≤850 N/mm²	M 21 INOX ≤850 N/mm²	INOX ≤850 N/mm² 1.4005 (X12CrSi3), 1.4104 (X14CrMoS17), 1.4105 (X6CrMoSi17), 1.4301 (XCrNi18-10)(304), 1.4305 (X8CrNiS18-9)(303)
M 22 INOX >850 N/mm²	M 22 INOX >850 N/mm²	INOX >850 N/mm² 1.4438 (X2CrNiMo18-15-4)(317), 1.4404 (X2CrNiMo17-12-2)(316L), 1.4571 (X6CrNiMoTi17-12-2)(316Ti)
K 31 GG ≤260 HB30	K 31 GG ≤260 HB30	GG ≤260 HB30 0.6015 (GG 15), 0.6025 (GG 25), 0.6040 (GG 40)
K 32 GGG GTS-GTW	K 32 GGG GTS-GTW	<260 HB30 0.8145 (GTS-45), 0.8170 (GTS-70-02), 0.7040 (GGG 40), 0.7070 (GGG 70)
N 41 Alu	N 41 Alu	3.0255 (Al99.5), 3.2315 (AlMgSi1), 3.3515 (AlMg1)
N 42 Alu Si10%	N 42 Alu Si10%	Si 10 - 24% ALU 3.2131 (G-AISI5Cu1), 3.2153 (G-AISI7Cu3), (3.2573 G-AISI9), 3.2581 (G-AISI12), 3.2583 (G-AISI12Cu)
N 43 Mg	N 43 Mg	3.5200 (MgMn2), 3.5812 (G-MgAl8Zn1), 3.5612 (G-MgAl6Zn1)
N 51 Cu	N 51 Cu	2.0070 (SE-Cu), 2.1020 (CuSn6), 2.1096 (G-CuSn5ZnPb), 2.0380 (CuZn39Pb2), 2.0401 (CuZn39Pb3), 2.0250 (CuZn20), 2.0280 (CuZn33), 2.0332 (CuZn37Pb0.5)
N 52 CuAlFe	N 52 CuAlFe	2.0916 (CuAl5), 2.0960 (CuAl9Mn), 2.1050 (CuSn10), 2.0980 (CuAl11Ni), 2.1247 (CuBe2) AMPCO® 8, AMPCO® 8 15, AMPCO® 18
N 61 PVC	N 61 PVC	PMMA, PVC, PE, PP, PTFE
N 62 GFK	N 62 GFK	GFK, CFK
S 71 NiCo	S 71 NiCo	Hastelloy, Inconel, Nimonic, Jetalloy
S 72 Ti	S 72 Ti	Titanium 3.7024 (Ti99.5), 3.7114 (TiAl5Sn2.5), 3.7124 (TiCu2), 3.7154 (TiAl6Zr5), 3.7165 (TiAl6V4), 3.7184 (TiAl4Mo4Sn2.5)

NL Voorboordiametertabel
FR Tableau de diamètre de pré-perçage

d1 (mm)	P	Ø (mm)
1	0.25	0.75
1.2	0.25	0.95
1.4	0.3	1.1
1.5	0.3	1.2
1.6	0.35	1.25
1.7	0.35	1.35
1.8	0.35	1.45
2	0.4	1.6
2.2	0.45	1.75
2.5	0.45	2.05
3	0.5	2.5
3.5	0.6	2.9
4	0.7	3.3
4.5	0.75	3.7
5	0.8	4.2
6	1	5
7	1	6
8	1.25	6.8
9	1.25	7.8
10	1.5	8.5
11	1.5	9.5
12	1.75	10.2
14	2	12
16	2	14
18	2.5	15.5
20	2.5	17.5
22	2.5	19.5
24	3	21
27	3	24
30	3.5	26.5
33	3.5	29.5
36	4	32
39	4	35
42	4.5	37.5
45	4.5	40.5
48	5	43
52	5	47

d1	P	Ø (mm)
PG 7	20	11.4
PG 9	18	14
PG 11	18	17.25
PG 13.5	18	19
PG 16	18	21.25
PG 21	16	26.75
PG 29	16	35.5
PG 36	16	45.5
PG 42	16	52.5
PG 48	16	57.5

d1 (")	P	Ø (mm)
nr 1	64	1.5
nr 2	56	1.8
nr 3	48	2
nr 4	40	2.3
nr 5	40	2.4
nr 6	32	2.7
nr 8	32	3.5
nr 10	24	3.8
nr 12	24	4.5
1/4	20	5.1
5/16	18	6.5
3/8	16	7.9
7/16	14	9.3
1/2	13	10.7
9/16	12	12.3
5/8	11	13.5
3/4	10	16.5
7/8	9	19.3
1	8	22.25
1 1/8	7	25
1 1/4	7	28
1 3/8	6	30.75
1 1/2	6	34
1 3/4	5	39.5
2	4 1/2	45

d1 (")	P	Ø (mm)
1/16	60	1.15
3/32	48	1.8
1/8	40	2.5
5/32	32	3.2
9/16	24	3.7
7/32	24	4.4
1/4	20	5.1
5/16	18	6.5
3/8	16	7.9
7/16	14	9.2
1/2	12	10.4
9/16	12	12.1
5/8	11	13.4
3/4	10	16.25
7/8	9	19.25
1	8	22.0
1 1/8	7	24.75
1 1/4	7	27.75
1 3/8	6	30.5
1 1/2	6	33.5
1 5/8	5	35.5
1 3/4	5	39.0
1 7/8	4 1/2	41.5
2	4 1/2	44.5

ES Tabla de perforación previa
DE Bohrungsdurchmessertabelle

d1 (mm)	P	Ø (mm)
3	0.35	2.65
4	0.5	3.5
5	0.5	4.5
6	0.75	5.2
7	0.75	6.2
8	0.75	7.2
8	1	7
9	1	8
10	0.75	9.2
10	1	9
10	1.25	8.8
11	1	10
12	1	11
12	1.25	10.8
12	1.5	10.5
13	1	13
14	1.25	12.8
14	1.50	12.5
15	1	14
15	1.5	13.5
16	1	15
16	1.5	14.5
17	1	17
18	1.5	16.5
18	2	16
20	1	19
20	1.5	18.5
20	2	18
21	1	21
22	1.5	20.5
22	2	20
24	1	23
24	1.5	22.5
24	2	22
25	1	24
25	1.5	23.5
26	1.5	24.5
27	1.5	25.5
28	1.5	26.5
30	1.5	28.5
30	2	28
32	1.5	30.5
33	2	31
35	1.5	33.5
36	1.5	34.5
36	2	34
38	3	33
38	1.5	36.5
39	3	36
40	1.5	38.5
42	1.5	37
45	1.5	43.5
50	1.5	49.5

d1 (mm)	P	Ø (mm)
EG 7	20	11.4
EG 9	18	14
EG 11	18	17.25
EG 13.5	18	19
EG 16	18	21.25
EG 21	16	26.75
EG 29	16	35.5
EG 36	16	45.5
EG 42	16	52.5
EG 48	16	57.5

d1 (")	P	Ø (mm)
nr 0	80	1.2
nr 1	72	1.5
nr 2	64	1.8
nr 3	56	2.1
nr 4	48	2.4
nr 5	44	2.6
nr 6	40	2.9
nr 8	36	3.5
nr 10	32	4
nr 12	28	4.6
1/4	20	5.1
5/16	18	6.5
3/8	16	7.9
7/16	14	9.3
1/2	13	10.7
9/16	12	12.3
5/8	11	13.5
3/4	10	16.5
7/8	9	19.3
1	8	22.25
1 1/8	7	25
1 1/4	7	28
1 3/8	6	30.75
1 1/2	6	34
1 3/4	5	39.5
2	4 1/2	45

d1 (")	P	Ø (mm)
G 1/16	28	6.7
G 1/8	28	8.7
G 1/4	19	11.6
G 3/8	14	15
G 1/2	14	19
G 5/8	14	20.75
G 3/4	14	24.5
G 7/8	14	28
G 1	11	30.5
G 1 1/8	11	35.1
G 1 1/4	11	39.5
G 1 1/2	11	42
G 1 3/4	11	45
G 1 1/2	11	51
G 2	11	57
G 2 1/4	11	63.1
G 2 1/2	11	72.5
G 2 3/4	11	79.1
G 3	11	85.5
G 3 1/4	11	91.5
G 3 1/2	11	97.7

P = Speed in mm of gangen per inch
FR: Pas de filetage en mm ou pas par pouce
ES: Paso de rosca en mm o paso por pulgada
DE: Gewindesteigung in mm oder Steigung pro Zoll

NL Rollap
FR Taraud à réfiler

d1 (mm)	P	Ø
M 2	0.4	1.8
M 2.5	0.45	2.3
M 3	0.5	2.75
M 3.5	0.5	3.2
M 4	0.7	4.2
M 5	0.8	4.6
M 6	1	5.55
M 8	1.25	7.4
M 10	1.5	9.3
M 12	1.75	11.2
M 14	2	13
M 16	2	15

d1 (mm)	P	Ø
EG M 2	0.4	2.1
EG M 2.5	0.45	2.65
EG M 3	0.5	3.15
EG M 3.5	0.5	3.7
EG M 4	0.7	4.2
EG M 5	0.8	5.25
EG M 6	1	6.3
EG M 7	1	7.3
EG M 8	1.25	8.4
EG M 10	1.5	10.5
EG M 12	1.75	12.5
EG M 14	2	14.5
EG M 16	2	16.5
EG M 18	2.5	18.75
EG M 20	2.5	20.75

d1 (mm)	P	Ø
EG MF 8	1	8.3
EG MF 9	1	9.3
EG MF 10	1	10.3
EG MF 10	1.25	10.4
EG MF 11	1	11.3
EG MF 12	1	12.3
EG MF 12	1.25	12.4
EG MF 12	1.5	12.5
EG MF 14	1	14.3
EG MF 14	1.25	14.4
EG MF 14	1.5	14.5
EG MF 15	1.5	15.5
EG MF 16	1.5	16.5
EG MF 18	1.5	18.5
EG MF 18	2	18.5
EG MF 20	1.5	20.5

d1 (mm)	P	Ø
EG 8	1	8.3
EG 9	1	9.3
EG 10	1	10.3
EG 10	1.25	10.4
EG 11	1	11.3
EG 12	1	12.3
EG 12	1.25	12.4
EG 12	1.5	12.5
EG 14	1	14.3
EG 14	1.25	14.4
EG 14	1.5	14.5
EG 15	1.5	15.5
EG 16	1.5	16.5
EG 18	1.5	18.5
EG 18	2	18.5
EG 20	1.5	20.5

NL Voedingswaardentabel
FR Tableau des avances

	A	B
d1(mm)		
0.3	0.002	0.003
0.5	0.004	0.006
0.8	0.005	0.007
1	0.006	0.008
1.5	0.012	0.014
2	0.020	0.025
3	0.032	0.040
4	0.040	0.050
5	0.040	0.050
6	0.050	0.063
8	0.063	0.080
10	0.080	0.100
12	0.080	0.100
14	0.100	0.125
16	0.100	0.125
18	0.125	0.160
20	0.125	0.160