



ACESSÓRIOS
EM
FERRO
MALEÁVEL

INDICAÇÕES GERAIS

1. NORMATIVA E IDENTIFICAÇÃO

- Norma de fabrico e utilização EN 10242: 1994.
- Identificação: De acordo com o material selecionado para o fabrico e o tipo de rosca, os acessórios EO são identificados como classe "A", que significa:
 - Geralmente, são fabricados em fundição maleável de coração branco de alta qualidade EN - GJMW 400-05.
 - São roscados conforme a ISO 7/1 com roscas internas cilíndricas (Rp) e roscas externas cónicas (R).

2. GARANTIA DE QUALIDADE

A norma EN 10242:1994 exige que o fabricante estabeleça e mantenha um Sistema da Qualidade documentado e conforme a norma ISO 9001, certificado por um terceiro Organismo de Certificação que atue de acordo com os critérios rigorosos da norma EN ISO/IEC 17021, como meio para assegurar que os acessórios estão conforme os requisitos especificados na norma de produto EN 10242:1994.

Cumprindo com estas exigências a ATUSA tem estabelecido um Sistema de Garantia da Qualidade conforme a ISO 9001 segundo certificado de registo da Empresa AENOR/ER 076/2/95 e confirmação da prestigiosa **IQNet** (Rede Internacional para a Avaliação e Certificação dos Sistemas da Qualidade) que opera de acordo com os critérios da EN ISO/IEC.

3. GALVANIZADO

Os acessórios EO, de acordo com as especificações do pedido, são fornecidos em negro ou galvanizado a quente.

Tal como indica a Norma EN 10242:1994, a massa do revestimento de Zinco deve ser superior a 500gr/m², o que supõe uma espessura média mínima de 70um. Ambos os acabamentos são protegidos por um verniz antioxidante.

As superfícies dos acessórios EO estão isentas de hidrocarbonetos aromáticos policíclicos.

4. ENSAIOS DE ESTANQUIDADE

Em conformidade com a norma EN 10242:1994, ensaia-se unitariamente a estanquidade de todos os acessórios EO mediante uma pressão hidrostática não inferior a 20 bar, equivalente a uma pressão pneumática não inferior a 5 bar.

5. CONDIÇÕES DE FORNECIMENTO

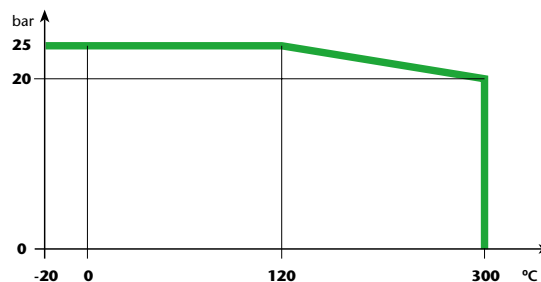
Os aspetos técnicos, de desenho e outras características dos acessórios podem ser modificadas para melhorias técnicas ou alteração de normas.

DIÂMETRO NOMINAL E MEDIDA DE ROSCA

DN	6	8	10	15	20	25	32	40	50	65	80	100	125	150
"	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6

RELAÇÃO PRESSÃO / TEMPERATURA

Temperatura de serviço (°C)	Pressão máxima de trabalho (*) (bar)
-20 a 120	25
entre 120 e 300	valores extrapolados
300	20



(*) Para utilizações superiores por favor consultar.

 1	 1A	 2	 2A	 3	 40	 41
 60	 85	 90	 90R	 92	 92R	 94
 95	 96	 97	 98	 120	 121	 130
 130R	 131	 132	 133	 134	 135	 165
 180	 220	 221	 223	 240	 241	 245
 246	 270	 271	 280	 281	 290	 291
 294	 300	 310	 312	 320	 321	 330
 331	 340	 341	 344	 370	 371	 372
 374	 471	 526	 529	 531	 596	



1 CURVA M/F 90°

ISO/EN **G4**

Ø		NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/8"	200 10	01001000	3,29	01005000	3,96
1/4"	250 10	01001001	3,11	01005001	3,83
3/8"	170 10	01001002	2,27	01005002	2,76
1/2"	110 10	01001003	2,10	01005003	2,53
3/4"	60 10	01001004	3,19	01005004	3,70
1"	35 1	01001005	4,68	01005005	5,44
1 1/4"	17 1	01001006	8,13	01005006	9,46
1 1/2"	12 1	01001007	11,44	01005007	13,31
2"	6 1	01001008	16,10	01005008	19,63
2 1/2"	3 1	01001009	39,74	01005009	50,03
3"	4 1	0100100A	52,68	0100500A	69,49
4"	2 1	0100100C	112,55	0100500C	141,77



1A CURVA CURTA M/F 90°

ISO/EN **D4**

Ø		NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/4"	250 10	01A01001	3,35	01A05001	4,07
3/8"	130 10	01A01002	3,06	01A05002	3,71
1/2"	100 10	01A01003	2,74	01A05003	3,46
3/4"	60 10	01A01004	4,04	01A05004	5,16
1"	40 1	01A01005	5,89	01A05005	7,52
1 1/4"	20 1	01A01006	8,68	01A05006	11,13
1 1/2"	15 1	01A01007	12,55	01A05007	16,07
2"	8 1	01A01008	22,03	01A05008	28,27
2 1/2"	3 1	01A01009	44,22	01A05009	54,61
3"	4 1	01A0100A	67,62	01A0500A	84,51
4"	2 1	01A0100C	154,73	01A0500C	195,04



2 CURVA FÊMEA 90°

ISO/EN **G1**

Ø		NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/4"	200 10	02001001	2,83	02005001	3,46
3/8"	140 10	02001002	2,68	02005002	3,28
1/2"	90 10	02001003	2,46	02005003	2,85
3/4"	50 10	02001004	3,51	02005004	4,17
1"	28 1	02001005	4,81	02005005	5,74
1 1/4"	14 1	02001006	8,41	02005006	10,05
1 1/2"	10 1	02001007	11,43	02005007	13,72
2"	5 1	02001008	15,64	02005008	19,63
2 1/2"	2 1	02001009	44,93	02005009	59,23
3"	4 1	0200100A	60,95	0200500A	80,42
4"	2 1	0200100C	128,78	0200500C	162,18



2A CURVA CURTA FÊMEA 90°

ISO/EN **D1**

Ø		NEGRO		GALVANIZADO	
		COD.	€	COD.	€
3/8"	50 10	02A01002	3,84	02A05002	4,69
1/2"	90 10	02A01003	2,90	02A05003	3,65
3/4"	50 10	02A01004	4,04	02A05004	5,16
1"	35 1	02A01005	5,89	02A05005	7,52
1 1/4"	20 1	02A01006	9,65	02A05006	12,39
1 1/2"	14 1	02A01007	11,83	02A05007	15,20
2"	8 1	02A01008	18,58	02A05008	23,82
2 1/2"	4 1	02A01009	62,79	02A05009	44,87
3"	4 1	02A0100A	69,67	02A0500A	78,03
4"	2 1	02A0100C	154,80	02A0500C	165,14



3 CURVA MACHO 90°

ISO/EN **G8**

Ø		NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/4"	300 10	03001001	4,86	03005001	5,88
3/8"	200 10	03001002	3,07	03005002	3,71
1/2"	120 10	03001003	3,45	03005003	4,38
3/4"	70 10	03001004	3,81	03005004	4,85
1"	40 1	03001005	6,21	03005005	7,61
1 1/4"	20 1	03001006	10,60	03005006	12,97
1 1/2"	14 1	03001007	15,69	03005007	19,18
2"	7 1	03001008	19,91	03005008	24,43
2 1/2"	3 1	03001009	70,73	03005009	92,60
3"	5 1	0300100A	90,53	0300500A	118,55



40 CURVA M/F 45°

ISO/EN **G4/45°**

Ø		NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/4"	300 10	04001001	3,59	04005001	4,36
3/8"	200 10	04001002	2,12	04005002	2,60
1/2"	120 10	04001003	2,46	04005003	2,94
3/4"	80 10	04001004	3,34	04005004	4,00
1"	50 1	04001005	4,76	04005005	5,77
1 1/4"	25 1	04001006	7,49	04005006	9,04
1 1/2"	18 1	04001007	8,88	04005007	10,72
2"	10 1	04001008	13,87	04005008	17,53
2 1/2"	6 1	04001009	31,26	04005009	39,36
3"	3 1	0400100A	39,59	0400500A	54,65
4"	4 1	0400100C	104,48	0400500C	131,62



41 CURVA FÊMEA 45°

ISO/EN G1/45°

Ø	Box	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/4"	220 10	04101001	4,06	04105001	4,98
3/8"	150 10	04101002	3,05	04105002	3,67
1/2"	100 10	04101003	2,60	04105003	3,11
3/4"	60 10	04101004	3,70	04105004	4,28
1"	40 1	04101005	5,44	04105005	6,56
1 1/4"	22 1	04101006	7,66	04105006	9,22
1 1/2"	15 1	04101007	11,29	04105007	14,34
2"	9 1	04101008	15,66	04105008	19,81
2 1/2"	4 1	04101009	32,17	04105009	44,37
3"	2 1	0410100A	45,41	0410500A	61,62
4"	2 1	0410100C	109,92	0410500C	138,43



90 JOELHO SIMPLES 90°

ISO/EN A1

Ø	Box	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/8"	400 10	09001000	2,19	09005000	2,62
1/4"	350 10	09001001	1,85	09005001	2,28
3/8"	250 10	09001002	1,23	09005002	1,41
1/2"	120 10	09001003	1,08	09005003	1,07
3/4"	90 10	09001004	1,40	09005004	1,41
1"	50 10	09001005	2,09	09005005	2,14
1 1/4"	30 1	09001006	3,50	09005006	3,70
1 1/2"	22 1	09001007	4,46	09005007	4,69
2"	12 1	09001008	5,95	09005008	6,59
2 1/2"	7 1	09001009	16,64	09005009	20,09
3"	4 1	0900100A	25,04	0900500A	33,01
4"	2 1	0900100C	54,10	0900500C	68,18
5"	2 1			0900500D	212,65
6"	1			0900500E	318,25



92 JOELHO SIMPLES M/F 90°

ISO/EN A4

Ø	Box	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/8"	500 10	09201000	2,55	09205000	3,12
1/4"	350 10	09201001	1,85	09205001	2,28
3/8"	250 10	09201002	1,43	09205002	1,70
1/2"	150 10	09201003	1,14	09205003	1,29
3/4"	90 10	09201004	1,54	09205004	1,60
1"	50 10	09201005	2,61	09205005	2,73
1 1/4"	30 1	09201006	4,42	09205006	4,69
1 1/2"	22 1	09201007	6,05	09205007	6,70
2"	12 1	09201008	8,27	09205008	8,81
2 1/2"	7 1	09201009	18,86	09205009	23,84
3"	4 1	0920100A	30,23	0920500A	39,88
4"	2 1	0920100C	53,04	0920500C	66,82



60 CURVA FÊMEA 180°

Ø	Box	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/2"	90 1	06001003	15,61	06005003	18,87
3/4"	90 1	06001004	24,06	06005004	28,90
1"	20 1	06001005	30,56	06005005	36,70
1 1/4"	15 1	06001006	42,12	06005006	50,65
1 1/2"	10 1	06001007	49,81	06005007	59,87
2"	6 1			06005008	91,38



85 UNIÃO DE CRUZAMENTO

Ø	Box	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
3/8"	100 10	08501002	4,04	08505002	4,89
1/2"	60 10	08501003	3,35	08505003	4,05
3/4"	30 10	08501004	4,98	08505004	6,08
1"	20 1	08501005	11,25	08505005	13,82
1 1/4"	10 1	08501006	25,48	08505006	30,98



90R JOELHO REDUÇÃO 90°

ISO/EN A1

Ø	Box	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
3/8"-1/4"	120 10	09001021	3,30	09005021	3,97
1/2"-1/4"	120 10	09001031	4,72	09005031	5,67
1/2"-3/8"	120 10	09001032	1,56	09005032	1,87
3/4"-3/8"	90 10	09001042	2,20	09005042	2,65
3/4"-1/2"	90 10	09001043	1,53	09005043	1,83
1"-1/2"	50 10	09001053	2,65	09005053	3,22
1"-3/4"	50 10	09001054	2,63	09005054	3,20
1 1/4"-1/2"	50 10	09001063	7,22	09005063	8,26
1 1/4"-3/4"	50 10	09001064	5,47	09005064	6,64
1 1/4"-1"	40 1	09001065	4,39	09005065	5,36
1 1/2"-3/4"	30 1	09001074	8,71	09005074	10,51
1 1/2"-1"	35 1	09001075	6,65	09005075	8,05
1 1/2"-1 1/4"	25 1	09001076	5,57	09005076	8,00
2"-1"	15 1	09001085	14,36	09005085	17,24
2"-1 1/4"	15 1	09001086	10,75	09005086	12,95
2"-1 1/2"	15 1	09001087	10,79	09005087	13,05
2 1/2"-2"	8 1			09005098	42,54



92R JOELHO DE REDUÇÃO 90°

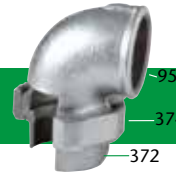
ISO/EN A4

Ø	Box	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/2" x 3/8"	150 10	09201032	4,40	09205032	5,28
3/4" x 1/2"	90 10	09201043	4,89	09205043	5,96
1" x 3/4"	60 10	09201054	4,85	09205054	5,06
1 1/4" x 1"	30 1	09201065	9,49	09205065	11,37
1 1/2" x 1"	20 1	09201075	19,57	09205075	23,74
1 1/2" x 1 1/4"	20 1	09201076	14,41	09205076	17,40
3/8" x 1/2"	150 10	09201023	3,08	09205023	3,20
1/2" x 3/4"	90 10	09201034	6,04	09205034	6,19
3/4" x 1"	60 10	09201045	9,00	09205045	10,82
1" x 1 1/4"	30 1	09201056	13,49	09205056	14,08



94 JOELHO MACHO 90°

Ø		NEGRO		GALVANIZADO	
		COD.	€	COD.	€
3/8"	200 10	09401002	5,07	09405002	6,13
1/2"	150 10	09401003	5,20	09405003	6,29
3/4"	90 10	09401004	5,87	09405004	7,08
1"	60 10	09401005	9,22	09405005	11,17
1 1/4"	20 1	09401006	13,66	09405006	16,53
1 1/2"	25 1	09401007	24,70	09405007	29,89
2"	10 1	09401008	27,30	09405008	33,03



95 JOELHO C/JUNÇÃO S/D FÊMEA

ISO/EN UA1

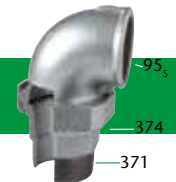
Ø		NEGRO		GALVANIZADO	
		COD.	€	COD.	€
3/8"	70 10	09501002	9,36	09505002	11,25
1/2"	50 10	09501003	5,99	09505003	7,68
3/4"	40 10	09501004	6,52	09505004	8,28
1"	28 1	09501005	8,18	09505005	10,48
1 1/4"	14 1	09501006	14,00	09505006	18,01
1 1/2"	10 1	09501007	19,40	09505007	24,86
2"	6 1	09501008	28,90	09505008	37,08



96 JOELHO C/JUNÇÃO S/C FÊMEA

ISO/EN UA11

Ø		NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/4"	120 10	09601001	10,43	09605001	12,57
3/8"	80 10	09601002	7,91	09605002	9,73
1/2"	50 10	09601003	6,16	09605003	7,94
3/4"	40 10	09601004	7,10	09605004	9,12
1"	28 1	09601005	10,29	09605005	13,19
1 1/4"	14 1	09601006	17,25	09605006	22,15
1 1/2"	10 1	09601007	20,17	09605007	25,84
2"	6 1	09601008	34,22	09605008	43,92
2 1/2"	4 1	09601009	26,29	09605009	34,40
3"	2 1	0960100A	109,74	0960500A	143,76



97 JOELHO C/JUNÇÃO S/D M/F

ISO/EN UA2

Ø		NEGRO		GALVANIZADO	
		COD.	€	COD.	€
3/8"	70 10	09701002	9,36	09705002	11,25
1/2"	50 10	09701003	6,11	09705003	7,82
3/4"	30 10	09701004	7,25	09705004	9,27
1"	23 1	09701005	9,35	09705005	11,95
1 1/4"	12 1	09701006	16,09	09705006	20,62
1 1/2"	10 1	09701007	21,33	09705007	27,36
2"	6 1	09701008	31,22	09705008	40,00



98 JOELHO C/JUNÇÃO S/C M/F

ISO/EN UA12

Ø		NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/4"	120 10	09801001	9,56	09805001	11,63
3/8"	80 10	09801002	7,91	09805002	9,73
1/2"	50 10	09801003	5,99	09805003	7,68
3/4"	30 10	09801004	7,58	09805004	9,73
1"	23 1	09801005	10,42	09805005	13,28
1 1/4"	12 1	09801006	17,23	09805006	22,08
1 1/2"	10 1	09801007	21,30	09805007	27,28
2"	6 1	09801008	34,52	09805008	44,30
2 1/2"	3 1	09801009	91,77	09805009	120,19
3"	2 1	0980100A	118,65	0980500A	155,40



120 JOELHO SIMPLES 45°

ISO/EN A1/45°

Ø		NEGRO		GALVANIZADO	
		COD.	€	COD.	€
3/8"	150 10	12001002	3,91	12005002	4,68
1/2"	150 10	12001003	2,84	12005003	3,63
3/4"	90 10	12001004	3,60	12005004	4,58
1"	60 10	12001005	5,32	12005005	6,83
1 1/4"	30 1	12001006	11,47	12005006	14,08
1 1/2"	25 1	12001007	14,17	12005007	17,20
2"	10 1	12001008	18,49	12005008	22,51
2 1/2"	8 1	12001009	26,01	12005009	32,50
3"	5 1	1200100A	44,22	1200500A	55,91



130 TÊ SIMPLES

ISO/EN B1

Ø		NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/8"	200 10	13001000	2,79	13005000	3,39
1/4"	220 10	13001001	2,75	13005001	3,36
3/8"	120 10	13001002	1,77	13005002	2,09
1/2"	70 10	13001003	1,41	13005003	1,46
3/4"	60 10	13001004	1,93	13005004	2,07
1"	30 10	13001005	2,71	13005005	2,88
1 1/4"	20 1	13001006	4,72	13005006	5,21
1 1/2"	14 1	13001007	6,58	13005007	6,97
2"	10 1	13001008	9,64	13005008	10,26
2 1/2"	5 1	13001009	22,13	13005009	27,42
3"	4 1	1300100A	29,85	1300500A	39,42
4"	2 1	1300100C	51,28	1300500C	64,58
5"	2 1			1300500D	265,44
6"	1			1300500E	358,49



121 JOELHO SIMPLES M/F 45°

ISO/EN A4/45°

Ø		NEGRO		GALVANIZADO	
		COD.	€	COD.	€
3/8"	200 10	12101002	3,29	12105002	3,99
1/2"	150 10	12101003	2,98	12105003	3,80
3/4"	100 10	12101004	3,45	12105004	4,37
1"	50 10	12101005	5,37	12105005	6,89
1 1/4"	30 1	12101006	11,80	12105006	14,46
1 1/2"	25 1	12101007	12,85	12105007	15,63
2"	12 1	12101008	16,31	12105008	19,79
2 1/2"	8 1	12101009	31,80	12105009	38,76
3"	5 1	1210100A	48,10	1210500A	58,51

3



130R TÊ DE REDUÇÃO 90°

ISO/EN B1

Ø	150 10	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
3/8"-1/4"-3/8"	150 10	13001212	4,54	13005212	5,51
3/8"-1/2"-3/8"	120 10	13001232	3,15	13005232	3,83
3/8"-3/4"-3/8"	90 10	13001242	4,32	13005242	5,78
1/2"-1/4"-1/2"	110 10	13001313	3,53	13005313	4,38
1/2"-3/8"-3/8"	110 10	13001322	3,02	13005322	3,65
1/2"-3/8"-1/2"	110 10	13001323	2,28	13005323	2,73
1/2"-1/2"-3/8"	110 10	13001332	3,02	13005332	3,65
1/2"-3/4"-3/8"	70 10	13001342	4,85	13005342	5,89
1/2"-3/4"-1/2"	70 10	13001343	2,51	13005343	3,01
1/2"-1"-1/2"	60 10	13001353	6,70	13005353	8,12
3/4"-1/4"-3/4"	70 10	13001414	4,85	13005414	5,88
3/4"-3/8"-1/2"	70 10	13001423	4,06	13005423	4,93
3/4"-3/8"-3/4"	70 10	13001424	2,36	13005424	2,85
3/4"-1/2"-3/8"	70 10	13001432	6,04	13005432	7,35
3/4"-1/2"-1/2"	70 10	13001433	2,59	13005433	3,13
3/4"-1/2"-3/4"	60 10	13001434	1,83	13005434	2,21
3/4"-3/4"-3/8"	60 10	13001442	4,36	13005442	5,27
3/4"-3/4"-1/2"	60 10	13001443	2,92	13005443	3,53
3/4"-1"-1/2"	50 10	13001453	5,82	13005453	7,07
3/4"-1"-3/4"	40 10	13001454	4,21	13005454	5,11
3/4"-1 1/4"-3/4"	35 1	13001464	8,87	13005464	10,81
1"-1/4"-1"	40 10	13001515	9,14	13005515	11,13
1"-3/8"-3/4"	50 10	13001524	5,45	13005524	6,61
1"-3/8"-1"	50 10	13001525	3,36	13005525	4,05
1"-1/2"-1/2"	50 10	13001533	5,60	13005533	6,82
1"-1/2"-3/4"	50 10	13001534	3,66	13005534	4,44
1"-1/2"-1"	40 10	13001535	3,13	13005535	3,82
1"-3/4"-1/2"	40 10	13001543	4,58	13005543	5,52
1"-3/4"-3/4"	40 10	13001544	3,86	13005544	4,66
1"-3/4"-1"	40 10	13001545	3,36	13005545	4,06
1"-1"-3/8"	40 10	13001552	6,33	13005552	7,69
1"-1"-1/2"	40 10	13001553	4,66	13005553	5,65
1"-1"-3/4"	30 10	13001554	4,44	13005554	5,87
1"-1 1/4"-3/4"	30 1	13001564	10,15	13005564	12,24
1"-1 1/4"-1"	30 1	13001565	8,11	13005565	9,89
1"-1 1/2"-1"	22 1	13001575	10,59	13005575	12,85
1 1/4"-3/8"-1 1/4"	30 1	13001626	6,01	13005626	7,30
1 1/4"-1/2"-1"	35 1	13001635	6,24	13005635	7,60
1 1/4"-1/2"-1 1/4"	30 1	13001636	5,67	13005636	6,90
1 1/4"-3/4"-3/4"	35 1	13001644	7,88	13005644	9,58
1 1/4"-3/4"-1"	32 1	13001645	7,51	13005645	8,95
1 1/4"-3/4"-1 1/4"	30 1	13001646	5,54	13005646	6,74
1 1/4"-1"-3/8"	30 1	13001652	10,04	13005652	12,18
1 1/4"-1"-1/2"	32 1	13001653	8,48	13005653	10,28
1 1/4"-1"-3/4"	30 1	13001654	8,29	13005654	10,05
1 1/4"-1"-1"	28 1	13001655	6,91	13005655	8,37
1 1/4"-1"-1 1/4"	25 1	13001656	5,47	13005656	6,64
1 1/4"-1 1/4"-1/2"	30 1	13001663	8,11	13005663	9,89
1 1/4"-1 1/4"-3/4"	25 1	13001664	9,56	13005664	11,62
1 1/4"-1 1/4"-1"	25 1	13001665	8,11	13005665	10,35
1 1/4"-1 1/2"-1"	20 1	13001675	12,16	13005675	14,77
1 1/4"-1 1/2"-1 1/4"	18 1	13001676	10,66	13005676	12,98
1 1/4"-2"-1 1/4"	10 1	13001686	16,17	13005686	19,62
1 1/2"-3/8"-1 1/2"	28 1	13001727	10,15	13005727	12,47
1 1/2"-1/2"-1 1/4"	28 1	13001736	7,75	13005736	9,42
1 1/2"-1/2"-1 1/2"	25 1	13001737	7,34	13005737	8,95
1 1/2"-3/4"-1 1/4"	25 1	13001746	10,59	13005746	12,91
1 1/2"-3/4"-1 1/2"	22 1	13001747	7,81	13005747	9,51

Ø	25 1	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1 1/2"-1"-1"	25 1	13001755	9,37	13005755	11,40
1 1/2"-1"-1 1/4"	22 1	13001756	9,37	13005756	11,40
1 1/2"-1"-1 1/2"	20 1	13001757	7,16	13005757	8,68
1 1/2"-1 1/4"-1"	15 1	13001765	14,17	13005765	17,24
1 1/2"-1 1/4"-1 1/4"	18 1	13001766	11,03	13005766	13,35
1 1/2"-1 1/4"-1 1/2"	17 1	13001767	10,09	13005767	12,24
1 1/2"-1 1/2"-1/2"	17 1	13001773	13,47	13005773	16,40
1 1/2"-1 1/2"-3/4"	17 1	13001774	12,60	13005774	15,27
1 1/2"-1 1/2"-1"	17 1	13001775	11,56	13005775	14,04
1 1/2"-1 1/2"-1 1/4"	15 1	13001776	13,47	13005776	16,40
1 1/2"-2"-1 1/4"	10 1	13001786	17,68	13005786	19,69
1 1/2"-2"-1 1/2"	10 1	13001787	15,47	13005787	18,79
2"-1/2"-1 1/2"	18 1	13001837	15,47	13005837	18,79
2"-1/2"-2"	15 1	13001838	10,11	13005838	12,31
2"-3/4"-1 1/2"	16 1	13001847	13,70	13005847	16,62
2"-3/4"-2"	15 1	13001848	11,96	13005848	14,56
2"-1"-1 1/2"	15 1	13001857	13,70	13005857	16,62
2"-1"-2"	12 1	13001858	10,11	13005858	12,32
2"-1 1/4"-1"	12 1	13001865	19,88	13005865	24,22
2"-1 1/4"-1 1/4"	12 1	13001866	14,20	13005866	17,30
2"-1 1/4"-1 1/2"	12 1	13001867	14,20	13005867	17,30
2"-1 1/4"-2"	12 1	13001868	11,98	13005868	14,57
2"-1 1/2"-1"	12 1	13001875	19,88	13005875	24,22
2"-1 1/2"-1 1/2"	10 1	13001877	15,64	13005877	19,03
2"-1 1/2"-2"	10 1	13001878	13,71	13005878	16,70
2"-2"-1/2"	10 1	13001883	28,34	13005883	34,40
2"-2"-3/4"	10 1	13001884	18,06	13005884	22,03
2"-2"-1"	10 1	13001885	16,35	13005885	19,88
2"-2"-1 1/4"	10 1	13001886	19,75	13005886	24,00
2"-2"-1 1/2"	10 1	13001887	16,56	13005887	20,14
2"-2 1/2"-2"	6 1	13001898	42,08	13005898	51,20
2 1/2"-1/2"-2 1/2"	8 1	13001939	42,33	13005939	51,60
2 1/2"-3/4"-2 1/2"	8 1	13001949	29,82	13005949	34,66
2 1/2"-1"-2 1/2"	8 1	13001959	21,48	13005959	29,93
2 1/2"-1 1/4"-2 1/2"	8 1	13001969	26,52	13005969	33,75
2 1/2"-1 1/2"-2 1/2"	8 1	13001979	25,66	13005979	35,78
2 1/2"-2"-2"	6 1	13001988	47,30	13005988	60,23
2 1/2"-2"-2 1/2"	6 1	13001989	27,43	13005989	38,30
2 1/2"-2 1/2"-1 1/2"	6 1			13005997	72,22
2 1/2"-2 1/2"-2	6 1			13005998	58,48
3"-1/2"-3"	5 1			13005A3A	45,83
3"-3/4"-3"	6 1			13005A4A	47,75
3"-1"-3"	5 1	13001A5A	35,58	13005A5A	49,60
3"-1 1/4"-3"	4 1	13001A6A	38,10	13005A6A	48,53
3"-1 1/2"-3"	4 1	13001A7A	38,51	13005A7A	53,65
3"-2"-2"	4 1			13005A88	58,59
3"-2"-3"	4 1	13001A8A	38,97	13005A8A	61,39
3"-2 1/2"-3"	3 1	13001A9A	49,55	13005A9A	69,07
3"-3"-2"	2 1			13005AA8	92,32
4"-1/2"-4"	2 1	13001C3C	94,47		
4"-3/4"-4"	2 1	13001C4C	94,47	13005C4C	120,23
4"-1"-4"	2 1	13001C5C	94,47	13005C5C	120,23
4"-1 1/2"-4"	2 1	13001C7C	56,70	13005C7C	72,13
4"-2"-4"	2 1	13001C8C	72,32	13005C8C	88,04
4"-2 1/2"-4"	2 1	13001C9C	76,30	13005C9C	92,74
4"-3"-4"	2 1	13001CAC	74,22	13005CAC	94,44
5"-4"-5"	2 1			13005DCD	269,43



131 TÊ C/ RAMAL CURVO 90°

ISO/EN **E1**

Ø			NEGRO		GALVANIZADO	
			COD.	€	COD.	€
1/2"	50	10	13101003	5,60	13105003	6,95
3/4"	40	10	13101004	7,15	13105004	8,79
1"	20	10	13101005	10,80	13105005	13,33
1 1/4"	14	1	13101006	14,69	13105006	18,08
1 1/2"	8	1	13101007	21,80	13105007	26,44
2"	4	1	13101008	30,90	13105008	38,19
2 1/2"	2	1	13101009	62,07	13105009	75,59
3"	2	1	1310100A	74,14	1310500A	90,42
4"	2	1	1310100C	175,55	1310500C	231,45



132 TÊ DE 2 CURVAS

ISO/EN **E2**

Ø			NEGRO		GALVANIZADO	
			COD.	€	COD.	€
1/2"	40	1	13201003	10,34	13205003	12,59
3/4"	25	1	13201004	11,42	13205004	13,85
1"	15	1	13201005	18,09	13205005	22,09
1 1/4"	10	1	13201006	31,21	13205006	38,15
1 1/2"	8	1	13201007	39,50	13205007	48,12
2"	3	1	13201008	50,32	13205008	61,55



133 TÊ 90° F/M/F

Ø			NEGRO		GALVANIZADO	
			COD.	€	COD.	€
3/8"	150	10	13301002	7,12	13305002	8,68
1/2"	80	10	13301003	5,70	13305003	6,93
3/4"	50	10	13301004	8,64	13305004	10,53
1"	15	1	13301005	14,48	13305005	17,80



134 TÊ 90° F/F/M

Ø			NEGRO		GALVANIZADO	
			COD.	€	COD.	€
1/2"	80	10	13401003	6,57	13405003	7,99
3/4"	50	10	13401004	8,90	13405004	10,82
1"	30	1	13401005	12,70	13405005	15,31
1 1/4"	20	1	13401006	19,90	13405006	24,18
1 1/2"	15	1	13401007	24,40	13405007	29,56
2"	8	1	13401008	38,44	13405008	46,67



135 TÊ 90° MACHO

Ø			NEGRO		GALVANIZADO	
			COD.	€	COD.	€
1/2"	100	10	13501003	10,13	13505003	12,44
3/4"	60	1	13501004	12,40	13505004	15,21
1"	40	1	13501005	16,33	13505005	19,84



165 FORQUILHA 45°

Ø			NEGRO		GALVANIZADO	
			COD.	€	COD.	€
1/2"	50	10	16501003	8,69	16505003	10,51
3/4"	30	10	16501004	10,02	16505004	12,08
1"	20	1	16501005	14,94	16505005	18,10
1 1/4"	10	1	16501006	18,45	16505006	22,45
1 1/2"	6	1	16501007	24,83	16505007	30,15
2"	4	1	16501008	37,00	16505008	44,99



180 CRUZETA

ISO/EN **C1**

Ø			NEGRO		GALVANIZADO	
			COD.	€	COD.	€
1/4"	120	10	18001001	6,05	18005001	7,33
3/8"	100	10	18001002	4,85	18005002	5,77
1/2"	70	10	18001003	3,30	18005003	3,88
3/4"	40	10	18001004	5,01	18005004	5,91
1"	28	1	18001005	6,91	18005005	8,19
1 1/4"	16	1	18001006	9,26	18005006	10,99
1 1/2"	10	1	18001007	13,77	18005007	16,30
2"	7	1	18001008	21,16	18005008	25,06
2 1/2"	3	1	18001009	31,25	18005009	43,11
3"	2	1	1800100A	41,71	1800500A	52,51
4"	1		1800100C	75,73	1800500C	95,31



220 FORQUILHA FISGA

Ø			NEGRO		GALVANIZADO	
			COD.	€	COD.	€
3/8"	100	10	22001002	6,97	22005002	8,37
1/2"	60	10	22001003	6,03	22005003	7,18
3/4"	40	10	22001004	9,36	22005004	11,32
1"	20	1	22001005	15,51	22005005	18,77



221 JOELHO DE 3 VIAS

ISO/EN **Za1**

Ø	Imagem	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
3/8"	120 10	22101002	5,68	22105002	4,23
1/2"	80 10	22101003	3,42	22105003	4,09
3/4"	50 10	22101004	3,88	22105004	4,66
1"	40 10	22101005	7,75	22105005	9,30
1 1/4"	20 1	22101006	11,90	22105006	15,23
1 1/2"	13 1	22101007	18,33	22105007	23,49
2"	8 1	22101008	26,52	22105008	33,98



223 TÊ 4 VIAS

ISO/EN **Za2**

Ø	Imagem	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/2"	60 1	22301003	6,62	22305003	7,99
3/4"	40 1	22301004	8,35	22305004	10,04
1"	25 1	22301005	12,33	22305005	14,93

2



240 UNIÃO DE REDUÇÃO

ISO/EN **M2**

Ø	Imagem	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/4" - 1/8"	400 10	24011010	4,31	24015010	4,50
3/8" - 1/8"	400 10	24011020	2,08	24015020	2,53
3/8" - 1/4"	400 10	24011021	1,66	24015021	2,63
1/2" - 1/4"	150 10	24001031	2,14	24005031	2,67
1/2" - 3/8"	200 10	24001032	1,74	24005032	2,10
3/4" - 1/4"	140 10	24001041	2,94	24005041	3,51
3/4" - 3/8"	140 10	24001042	2,10	24005042	2,59
3/4" - 1/2"	140 10	24001043	1,73	24005043	2,10
1" - 3/8"	100 10	24001052	3,39	24005052	4,13
1" - 1/2"	90 10	24001053	2,19	24005053	2,65
1" - 3/4"	80 10	24001054	2,08	24005054	2,53
1 1/4" - 3/8"	60 10	24001062	4,84	24005062	5,95
1 1/4" - 1/2"	60 10	24001063	3,58	24005063	4,36
1 1/4" - 3/4"	60 10	24001064	3,42	24005064	4,15
1 1/4" - 1"	50 10	24001065	3,60	24005065	4,42
1 1/2" - 1/2"	50 1	24001073	5,47	24005073	6,73
1 1/2" - 3/4"	50 1	24001074	5,00	24005074	6,10
1 1/2" - 1"	45 1	24001075	4,04	24005075	4,96
1 1/2" - 1 1/4"	40 1	24001076	4,52	24005076	5,52
2" - 1/2"	30 1	24001083	8,49	24005083	10,34
2" - 3/4"	30 1	24001084	8,52	24005084	10,45
2" - 1"	25 1	24001085	7,84	24005085	9,60
2" - 1 1/4"	22 1	24001086	7,06	24005086	8,60
2" - 1 1/2"	22 1	24001087	5,75	24005087	7,07
2 1/2" - 1"	16 1	24001095	21,05	24005095	25,58
2 1/2" - 1 1/4"	14 1	24001096	23,28	24005096	28,31
2 1/2" - 1 1/2"	14 1	24001097	13,73	24005097	17,50
2 1/2" - 2"	10 1	24001098	20,31	24005098	25,83
3" - 1 1/4"	10 1	240010A6	26,24	240050A6	33,36
3" - 1 1/2"	10 1	240010A7	26,24	240050A7	33,36
3" - 2"	10 1	240010A8	28,61	240050A8	36,43
3" - 2 1/2"	8 1	240010A9	29,74	240050A9	37,82
4" - 2"	6 1	240010C8	52,34	240050C8	66,61
4" - 2 1/2"	6 1	240010C9	30,64	240050C9	38,96
4" - 3"	6 1	240010CA	30,64	240050CA	38,96



TIPO I



TIPO II



TIPO III

241 PORCA DE REDUÇÃO M/F

ISO/EN **N4**

Ø	TIPO	Imagem	NEGRO		GALVANIZADO	
			COD.	€	COD.	€
1/4"-1/8"	I	400 10	24111010	1,40	24115010	1,70
3/8"-1/8"	II	400 10	24111020	1,38	24115020	1,68
3/8"-1/4"	I	400 10	24111021	1,91	24115021	1,98
1/2"-1/8"	II	400 10	24111030	1,73	24115030	1,78
1/2"-1/4"	II	350 10	24101031	1,07	24105031	1,29
1/2"-3/8"	I	350 10	24101032	0,97	24105032	1,16
3/4"-1/4"	II	200 10	24101041	1,71	24105041	2,07
3/4"-3/8"	II	200 10	24101042	1,25	24105042	1,53
3/4"-1/2"	I	200 10	24101043	0,79	24105043	0,94
1"-1/4"	II	140 10	24101051	2,84	24105051	3,46
1"-3/8"	II	140 10	24101052	2,23	24105052	2,68
1"-1/2"	II	140 10	24101053	1,54	24105053	1,83
1"-3/4"	I	140 10	24101054	1,54	24105054	1,83
1 1/4"-3/8"	II	80 10	24101062	3,66	24105062	4,44
1 1/4"-1/2"	II	80 10	24101063	2,54	24105063	3,07
1 1/4"-3/4"	II	80 10	24101064	2,37	24105064	2,90
1 1/4"-1"	I	80 10	24101065	2,02	24105065	2,43
1 1/2"-3/8"	II	80 10	24101072	5,59	24105072	6,75
1 1/2"-1/2"	II	70 10	24101073	3,32	24105073	4,00
1 1/2"-3/4"	II	70 10	24101074	3,58	24105074	4,31
1 1/2"-1"	II	70 10	24101075	2,81	24105075	3,42
1 1/2"-1 1/4"	I	70 10	24101076	2,81	24105076	3,42
2"-1/2"	III	30 1	24101083	6,57	24105083	8,07
2"-3/4"	III	30 1	24101084	6,24	24105084	7,56
2"-1"	II	30 1	24101085	4,59	24105085	5,59
2"-1 1/4"	II	30 1	24101086	5,18	24105086	6,31
2"-1 1/2"	II	30 1	24101087	4,58	24105087	5,53
2 1/2"-2"	II	20 1	24101095	10,47	24105095	13,35
2 1/2"-1 1/4"	III	20 1	24101096	12,14	24105096	15,47
2 1/2"-1 1/2"	II	20 1	24101097	11,67	24105097	14,84
2 1/2"-2"	II	20 1	24101098	8,86	24105098	11,27
3"-1"	III	10 1	241010A5	16,36	241050A5	19,95
3"-1 1/4"	III	10 1	241010A6	18,09	241050A6	22,02
3"-1 1/2"	III	10 1	241010A7	17,00	241050A7	20,68
3"-2"	II	15 1	241010A8	13,25	241050A8	16,86
3"-2 1/2"	II	15 1	241010A9	14,27	241050A9	18,18
4"-2"	III	8 1	241010C8	33,27	241050C8	40,45
4"-2 1/2"	III	8 1	241010C9	32,46	241050C9	39,51
4"-3"	II	8 1	241010CA	24,68	241050CA	31,50
5"-4"	II	11 1			241050DC	163,05
6"-4"	III	6 1			241050EC	217,56
6"-5"	II	6 1			241050ED	236,59



245 CASQ. DUPLO REDUÇÃO

ISO/EN **N8**

Ø		NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/4"-1/8"	400 10	24511010	1,36	24515010	1,62
3/8"-1/8"	400 10	24511020	2,67	24515020	3,74
3/8"-1/4"	400 10	24511021	1,78	24515021	2,07
1/2"-1/4"	250 10	24511031	1,74	24515031	2,13
1/2"-3/8"	230 10	24501032	1,77	24505032	2,10
3/4"-1/4"	150 10	24501041	2,73	24505041	3,36
3/4"-3/8"	140 10	24501042	2,56	24505042	3,09
3/4"-1/2"	150 10	24501043	2,02	24505043	2,44
1"-1/2"	100 10	24501053	2,88	24505053	3,45
1"-3/4"	100 10	24501054	2,25	24505054	2,73
1 1/4"-1/2"	60 10	24501063	6,03	24505063	7,33
1 1/4"-3/4"	60 10	24501064	4,82	24505064	5,84
1 1/4"-1"	50 10	24501065	3,82	24505065	4,65
1 1/2"-3/4"	50 1	24501074	4,97	24505074	6,04
1 1/2"-1"	50 1	24501075	7,69	24505075	9,38
1 1/2"-1 1/4"	45 1	24501076	4,51	24505076	5,50
2"-1"	25 1	24501085	7,75	24505085	9,43
2"-1 1/4"	25 1	24501086	8,84	24505086	10,72
2"-1 1/2"	25 1	24501087	7,74	24505087	9,41
2 1/2"-1 1/2"	15 1	24501097	14,02	24505097	16,93
2 1/2"-2"	14 1	24501098	19,14	24505098	23,30
3"-2"	8 1	245010A8	28,54	245050A8	34,71
3"-2 1/2"	8 1	245010A9	30,85	245050A9	38,39
4"-3"	4 1	245010CA	63,80	245050CA	77,20



246 UNIÃO M/F REDUÇÃO

ISO/EN **M4**

Ø		NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/4"-1/8"	400 10	24611010	2,44	24615010	2,92
3/8"-1/4"	400 10	24611021	2,51	24615021	3,02
1/2"-1/4"	220 10	24601031	2,45	24605031	2,97
1/2"-3/8"	220 10	24601032	1,73	24605032	2,09
3/4"-3/8"	150 10	24601042	3,02	24605042	3,65
3/4"-1/2"	140 10	24601043	2,05	24605043	2,47
1"-1/2"	80 10	24601053	3,01	24605053	3,65
1"-3/4"	80 10	24601054	4,06	24605054	4,24
1 1/4"-1/2"	60 10	24601063	7,43	24605063	8,99
1 1/4"-3/4"	50 10	24601064	5,23	24605064	6,41
1 1/4"-1"	50 10	24601065	4,34	24605065	5,23
1 1/2"-3/4"	45 1	24601074	6,73	24605074	8,13
1 1/2"-1"	45 1	24601075	6,24	24605075	7,56
1 1/2"-1 1/4"	40 1	24601076	5,59	24605076	8,42
2"-1"	30 1	24601085	10,32	24605085	12,54
2"-1 1/4"	25 1	24601086	8,82	24605086	10,71
2"-1 1/2"	20 1	24601087	9,13	24605087	11,11
2 1/2"-1 1/2"	12 1	24601097	23,54	24605097	28,62
2 1/2"-2"	12 1	24601098	18,61	24605098	22,54
3"-2"	12 1	246010A8	27,11	246050A8	32,91
3"-2 1/2"	12 1	246010A9	33,11	246050A9	40,28



270 UNIÃO SIMPLES

ISO/EN **M2**

Ø		NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/8"	400 10	27011000	1,40	27015000	1,71
1/4"	400 10	27011001	1,40	27015001	1,71
3/8"	250 10	27001002	1,23	27005002	1,41
1/2"	180 10	27001003	0,97	27005003	0,99
3/4"	110 10	27001004	1,15	27005004	1,16
1"	80 10	27001005	1,79	27005005	1,85
1 1/4"	45 1	27001006	2,97	27005006	3,11
1 1/2"	35 1	27001007	3,96	27005007	4,19
2"	20 1	27001008	6,10	27005008	6,46
2 1/2"	12 1	27001009	10,96	27005009	13,19
3"	9 1	2700100A	19,93	2700500A	25,16
4"	4 1	2700100C	31,48	2700500C	39,73
5"	3 1			2700500D	201,43
6"	3 1			2700500E	274,97



271 UNIÃO C/ ROSCA DIR./ESQ.

ISO/EN **M2 R-L**

Ø		NEGRO		GALVANIZADO	
		COD.	€	COD.	€
3/8"	250 10	27101002	1,66	27105002	2,00
1/2"	180 10	27101003	1,63	27105003	2,08
3/4"	110 10	27101004	2,10	27105004	2,73
1"	80 10	27101005	2,54	27105005	3,29
1 1/4"	45 1	27101006	4,84	27105006	6,20
1 1/2"	35 1	27101007	5,45	27105007	7,02
2"	20 1	27101008	9,92	27105008	12,71



280 CASQUILHO DUPLO

ISO/EN N8

Ø	Box	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/8"	400 10	28011000	1,79	28015000	2,14
1/4"	400 10	28011001	1,87	28015001	2,22
3/8"	300 10	28001002	1,53	28005002	1,79
1/2"	200 10	28001003	1,01	28005003	1,02
3/4"	130 10	28001004	1,10	28005004	1,16
1"	80 10	28001005	1,59	28005005	1,63
1 1/4"	40 10	28001006	2,97	28005006	3,11
1 1/2"	40 1	28001007	3,42	28005007	3,78
2"	20 1	28001008	5,83	28005008	6,52
2 1/2"	10 1	28001009	10,44	28005009	13,75
3"	8 1	2800100A	15,11	2800500A	19,91
4"	4 1	2800100C	29,34	2800500C	36,93
5"	3 1			2800500D	142,95
6"	3 1			2800500E	273,88



281 CASQUILHO DUPLO C/ROSCA DIR./ESQ.

ISO/EN N8 R-L

Ø	Box	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
3/8"	300 10	28101002	3,29	28105002	3,97
1/2"	200 10	28101003	2,06	28105003	2,62
3/4"	130 10	28101004	2,38	28105004	3,02
1"	80 10	28101005	3,31	28105005	4,21
1 1/4"	40 10	28101006	4,84	28105006	6,14
1 1/2"	40 1	28101007	6,67	28105007	8,61
2"	20 1	28101008	9,82	28105008	12,54



290 TAMPÃO MACHO (TACO)

ISO/EN T9

Ø	Box	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/8"	400 10	29011000	1,05	29015000	1,29
1/4"	400 10	29011001	0,99	29015001	1,22
3/8"	400 10	29001002	0,79	29005002	0,94
1/2"	300 10	29001003	0,71	29005003	0,76
3/4"	200 10	29001004	0,89	29005004	0,99
1"	120 10	29001005	1,33	29005005	1,44
1 1/4"	80 10	29001006	1,92	29005006	2,13
1 1/2"	60 10	29001007	2,29	29005007	2,58
2"	40 1	29001008	3,54	29005008	4,00
2 1/2"	20 1	29001009	8,11	29005009	10,70
3"	15 1	2900100A	10,53	2900500A	13,88
4"	8 1	2900100C	20,80	2900500C	26,23



291 TAMPÃO MACHO (TACO) S/CORDÃO

ISO/EN T8

Ø	Box	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/8"	400 10	29111000	1,18	29115000	1,35
1/4"	400 10	29111001	1,22	29115001	1,46
3/8"	400 10	29101002	1,22	29105002	1,46
1/2"	300 10	29101003	0,89	29105003	1,12
3/4"	200 10	29101004	1,16	29105004	1,39
1"	120 10	29101005	1,44	29105005	1,86
1 1/4"	80 10	29101006	2,25	29105006	2,84
1 1/2"	60 10	29101007	2,90	29105007	3,65
2"	40 1	29101008	4,36	29105008	5,55
2 1/2"	20 1	29101009	10,93	29105009	13,19
3"	15 1	2910100A	13,33	2910500A	16,12
4"	8 1	2910100C	46,28	2910500C	56,38



294 TAMPÃO MACHO (TACO) P/SELAR

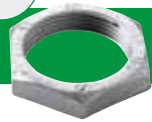
Ø	Box	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/2"	300 10	29401003	1,84	29405003	2,16
3/4"	200 10	29401004	2,30	29405004	2,74
1"	120 10	29401005	3,23	29405005	3,88
1 1/4"	80 10	29401006	3,74	29405006	4,50
1 1/2"	60 10	29401007	4,06	29405007	4,85
2"	40 1	29401008	5,69	29405008	6,82



300 TAMPÃO FÊMEA

ISO/EN T1

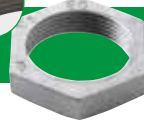
Ø	Box	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/8"	400 10	30011000	1,17	30015000	1,43
1/4"	400 10	30011001	1,40	30015001	1,43
3/8"	400 10	30011002	1,01	30015002	1,22
1/2"	280 10	30001003	1,02	30005003	1,20
3/4"	180 10	30001004	1,15	30005004	1,31
1"	130 10	30001005	1,48	30005005	1,77
1 1/4"	80 10	30001006	2,47	30005006	2,88
1 1/2"	60 10	30001007	2,96	30005007	3,45
2"	40 1	30001008	5,15	30005008	6,05
2 1/2"	25 1	30001009	10,09	30005009	13,29
3"	15 1	3000100A	11,72	3000500A	15,42
4"	8 1	3000100C	23,87	3000500C	30,05



310 BATENTE

ISO/EN P4

Ø	Imagem	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/4"	400 10	31011001	2,25	31015001	3,11
3/8"	400 10	31011002	2,38	31015002	2,53
1/2"	400 10	31001003	1,24	31005003	1,50
3/4"	300 10	31001004	1,36	31005004	1,63
1"	200 10	31001005	1,55	31005005	2,01
1 1/4"	80 1	31001006	2,44	31005006	2,96
1 1/2"	70 1	31001007	2,73	31005007	3,31
2"	50 1	31001008	5,55	31005008	6,66
2 1/2"	25 1	31001009	11,67	31005009	14,17
3"	25 1	3100100A	13,63	3100500A	16,65



312 BATENTE REBAIXADO

ISO/EN P4

Ø	Imagem	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/4"	400 10	31211001	1,74	31215001	2,10
3/8"	400 10	31211002	1,74	31215002	2,10
1/2"	400 10	31201003	0,98	31205003	1,25
3/4"	300 10	31201004	2,40	31205004	2,71
1"	200 10	31201005	1,79	31205005	2,20
1 1/4"	120 10	31201006	1,81	31205006	2,29
1 1/2"	90 10	31201007	2,43	31205007	3,07
2"	60 10	31201008	4,38	31205008	5,60
2 1/2"	35 1	31201009	12,10	31205009	15,80
3"	25 1	3120100A	13,42	3120500A	17,60
4"	12 1	3120100C	19,31	3120500C	25,30



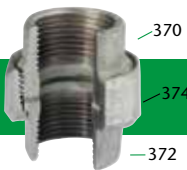
320 FLANGE OVAL

Ø	Imagem	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/2"	140 1	32001003	5,70	32005003	7,29
3/4"	110 1	32001004	6,90	32005004	8,86
1"	70 1	32001005	7,99	32005005	10,25
1 1/4"	50 1	32001006	10,30	32005006	13,17
1 1/2"	35 1	32001007	13,18	32005007	16,94
2"	30 1	32001008	15,94	32005008	20,40
2 1/2"	15 1	32001009	33,97	32005009	44,47
3"	10 1	3200100A	42,27	3200500A	55,35
4"	6 1	3200100C	47,38	3200500C	62,03



321 FLANGE NORMAL

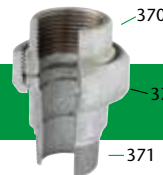
Ø	Imagem	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
3/8"	110 1			32105002	13,83
1/2"	90 1	32101003	3,89	32105003	4,98
3/4"	70 1	32101004	5,18	32105004	6,61
1"	50 1	32101005	6,06	32105005	7,74
1 1/4"	30 1	32101006	8,18	32105006	10,47
1 1/2"	20 1	32101007	9,38	32105007	11,99
2"	15 1	32101008	11,40	32105008	14,58
2 1/2"	12 1	32101009	20,25	32105009	26,54
3"	9 1	3210100A	26,52	3210500A	34,71
4"	5 1	3210100C	48,28	3210500C	63,20



330 JUNÇÃO FÊMEA S/D

ISO/EN U1

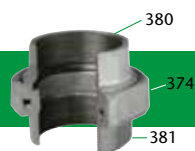
Ø	Imagem	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/2"	80 10	33001003	3,69	33005003	4,68
3/4"	50 10	33001004	4,72	33005004	6,05
1"	30 10	33001005	5,53	33005005	7,10
1 1/4"	20 1	33001006	7,80	33005006	9,99
1 1/2"	18 1	33001007	10,52	33005007	13,42
2"	10 1	33001008	15,78	33005008	20,23
2 1/2"	7 1	33001009	39,08	33005009	51,15
3"	4 1	3300100A	62,34	3300500A	81,68
4"	2 1	3300100C	146,18	3300500C	191,45



331 JUNÇÃO M/F S/D

ISO/EN U2

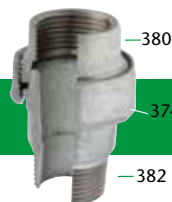
Ø	Imagem	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
3/8"	100 10	33101002	7,11	33105002	8,54
1/2"	60 10	33101003	5,22	33105003	6,69
3/4"	40 10	33101004	5,76	33105004	7,38
1"	35 1	33101005	7,30	33105005	9,36
1 1/4"	18 1	33101006	11,43	33105006	14,65
1 1/2"	15 1	33101007	13,64	33105007	17,50
2"	10 1	33101008	21,52	33105008	27,55
2 1/2"	4 1	33101009	56,67	33105009	74,19
3"	2 1	3310100A	91,45	3310500A	119,72



340 JUNÇÃO FÊMEA S/C

ISO/EN U11

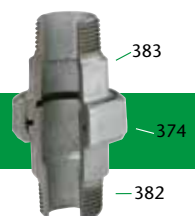
Ø	Imagem	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/8"	160 10	34001000	15,86	34005000	19,04
1/4"	140 10	34001001	6,80	34005001	8,31
3/8"	100 10	34001002	6,80	34005002	8,31
1/2"	80 10	34001003	3,58	34005003	4,42
3/4"	50 10	34001004	4,05	34005004	5,03
1"	30 10	34001005	5,04	34005005	6,23
1 1/4"	20 1	34001006	9,52	34005006	11,45
1 1/2"	18 1	34001007	11,80	34005007	14,23
2"	10 1	34001008	17,63	34005008	21,21
2 1/2"	7 1	34001009	37,50	34005009	49,12
3"	4 1	3400100A	56,66	3400500A	77,67
4"	2 1	3400100C	139,10	3400500C	182,14



341 JUNÇÃO M/F S/C

ISO/EN U12

Ø	Imagem	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/4"	120 10	34101001	6,98	34105001	8,56
3/8"	100 10	34101002	6,98	34105002	8,56
1/2"	60 10	34101003	6,97	34105003	8,90
3/4"	40 10	34101004	7,02	34105004	8,98
1"	35 1	34101005	8,66	34105005	11,11
1 1/4"	18 1	34101006	12,19	34105006	15,63
1 1/2"	15 1	34101007	15,56	34105007	19,95
2"	10 1	34101008	24,51	34105008	31,38
2 1/2"	4 1	34101009	62,40	34105009	85,57
3"	2 1	3410100A	100,67	3410500A	138,06
4"	1	3410100C	156,34	3410500C	204,71



344 JUNÇÃO MACHO S/C

Ø	Imagem	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/4"	120 10	34401001	13,19	34405001	15,84
3/8"	100 10	34401002	10,98	34405002	13,08
1/2"	50 10	34401003	10,02	34405003	12,25
3/4"	40 10	34401004	11,57	34405004	14,18
1"	30 1	34401005	15,21	34405005	17,31
1 1/4"	15 1	34401006	23,76	34405006	28,84
1 1/2"	10 1	34401007	26,61	34405007	32,37
2"	6 1	34401008	48,60	34405008	59,11



370 PEÇA DE JUNÇÃO

Ø	Imagem	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/2"	250 1	37001003	2,21	37005003	2,76
3/4"	200 1	37001004	2,66	37005004	3,37
1"	120 1	37001005	3,17	37005005	4,03
1 1/4"	70 1	37001006	4,13	37005006	5,26
1 1/2"	50 1	37001007	5,55	37005007	7,15
2"	25 1	37001008	7,61	37005008	8,66
2 1/2"	15 1	37001009	9,75	37005009	12,01
3"	10 1	3700100A	15,61	3700500A	19,50
4"	6 1	3700100C	23,40	3700500C	29,90



371 PEÇA DE JUNÇÃO

Ø	Imagem	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/2"	225 1	37101003	2,74	37105003	3,48
3/4"	125 1	37101004	3,39	37105004	4,28
1"	80 1	37101005	2,68	37105005	5,35
1 1/4"	45 1	37101006	5,03	37105006	5,76
1 1/2"	35 1	37101007	4,89	37105007	6,26
2"	20 1	37101008	6,75	37105008	13,31
2 1/2"	10 1	37101009	29,88	37105009	35,83
3"	6 1	3710100A	53,31	3710500A	63,99



372 PEÇA DE JUNÇÃO

Ø	Imagem	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/2"	325 1	37201003	1,85	37205003	2,33
3/4"	210 1	37201004	2,27	37205004	2,90
1"	150 1	37201005	3,98	37205005	4,22
1 1/4"	80 1	37201006	3,86	37205006	6,76
1 1/2"	55 1	37201007	7,35	37205007	9,40
2"	30 1	37201008	9,90	37205008	10,76
2 1/2"	16 1	37201009	15,40	37205009	19,22
3"	10 1	3720100A	24,32	3720500A	29,13



374 BATENTE P/ JUNÇÃO

Ø	Cód. Caixa	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
3/8"	300 1	37401002	1,75	37405002	2,09
1/2"	175 1	37401003	1,53	37405003	1,96
3/4"	140 1	37401004	1,89	37405004	2,43
1"	100 1	37401005	2,33	37405005	2,97
1 1/4"	55 1	37401006	3,06	37405006	3,89
1 1/2"	45 1	37401007	3,83	37405007	4,84
2"	30 1	37401008	5,36	37405008	6,88
2 1/2"	15 1	37401009	14,05	37405009	17,51
3"	12 1	3740100A	19,27	3740500A	23,29
4"	8 1	3740100C	23,40	3740500C	28,61



471 JOELHO FÊMEA C/PATER

Ø	Cód. Caixa	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/2"	40 10			47105003	11,65
3/4"	30 10			47105004	22,48
1"	20 10			47105005	33,71



526 UNIÃO M/F ALONGAMENTO

Ø	Cód. Caixa	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
30 x 3/8"	350 10	52601302	2,01	52605302	2,47
30 x 1/2"	220 10	52601303	1,78	52605303	2,28
40 x 3/8"	250 10	52601402	2,08	52605402	2,50
40 x 1/2"	200 10	52601403	1,81	52605403	2,29
40 x 3/4"	120 10	52601404	2,99	52605404	3,75
50 x 1/2"	120 10	52601503	2,51	52605503	3,09



529 UNIÃO M/F SIMPLES

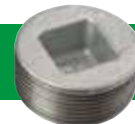
ISO/EN M4

Ø	Cód. Caixa	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
3/8"	300 10	52901002	2,01	52905002	2,47
1/2"	200 10	52901003	1,78	52905003	2,28
3/4"	120 10	52901004	2,37	52905004	3,02
1"	60 10	52901005	3,59	52905005	4,75
1 1/4"	40 1	52901006	6,54	52905006	7,87
1 1/2"	35 1	52901007	9,44	52905007	11,43
2"	20 1	52901008	15,69	52905008	19,09



531 ROSCA EXTERIOR (UNIÃO)

Ø	Cód. Caixa	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/8"	100 10			53115000	1,31
1/4"	500 10	53111001	1,41	53115001	3,34
3/8"	400 10	53101002	1,41	53105002	1,75
1/2"	380 10	53101003	1,36	53105003	1,73
3/4"	240 10	53101004	1,56	53105004	2,00
1"	140 10	53101005	1,69	53105005	2,16
1 1/4"	80 10	53101006	2,68	53105006	3,44
1 1/2"	60 10	53101007	3,52	53105007	4,50
2"	35 1	53101008	5,31	53105008	6,83
2 1/2"	18 1	53101009	11,81	53105009	15,48
3"	12 1	5310100A	16,73	5310500A	22,94
4"	8 1	5310100C	28,57	5310500C	37,36



596 TAMPÃO MACHO DE QUADRA INTERIOR

ISO/EN T11

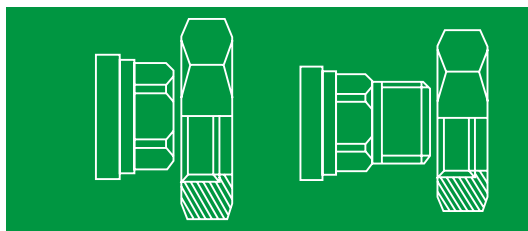
Ø	Cód. Caixa	NEGRO		GALVANIZADO	
		COD.	€	COD.	€
1/2"	200 10			59605003	2,60
3/4"	150 10	59601004	2,60		
1"	150 10	59601005	3,12		
1 1/4"	140 1	59601006	4,73		
1 1/2"	125 1	59601007	9,05	59605007	11,03
2"	60 1	59601008	12,80		

JUNTAS DE ESTANQUIDADE PARA UNIÃO PLANA



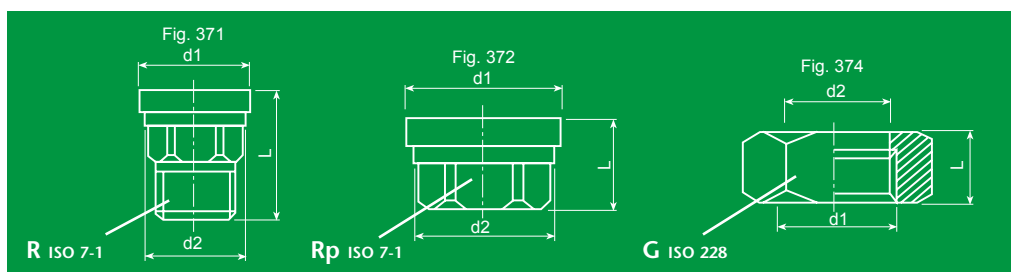
Ø	Ø Int. mm.	Ø Ext. mm.	ESPESSURA	COD.	€
1/2"	24	34	2	90000003	0,24
3/4"	27	38	2	90000004	0,31
1"	32	44	2	90000005	0,39
1 1/4"	42	55	2	90000006	0,59
1 1/2"	46	62	2	90000007	0,68
2"	60	78	2	90000008	0,94
2 1/2"	75	96	3	90000009	2,75
3"	88	109	3	9000000A	3,53
4"	113	134	3	9000000C	4,93

- * Aplicação: gases, água, óleos e hidrocarbonetos
- * Ótima qualidade em relação pressão - temp. P (0-50 bar) / Tª (0° C a 220° C)
- * Certificadas para água potável (TZW) e gás (DVGW - VP 401 e DVGW DIN 3535-6)



JOGOS DE LIGAÇÃO PARA BOMBAS

- **1 Jogo compõe-se por:**
 - 2 Porcas Ref. 374 (P1).
Rosca de sujeição EN - ISO 228-1.
 - 2 Peças loucas Ref. 372 ou 371.
Roscas de união DIN 2999 / ISO 7-1 / EN 10226-1.
 - 2 Juntas de fibra sem amianto:
 - Temperatura máx. 300° C.
 - Temperatura máx. com vapor 200° C.
 - Certificados DVGW para gases industriais.
 - Certificados KTW para alimentação e água potável.
- Os jogos são fabricados em acabamento negro sem galvanizar, caso não se especifique o contrário.
- Cada jogo é fornecido em bolsa de plástico e caixa de cartão, devidamente etiquetadas.



3/4" (372 Reduz.)
JOGO
C4201047

FIG	€	mm.			Box	(grs.)
		d1	d2	L		
372 Rp 3/4"	12,98	44,2	40,9	26,0	20	464
374 G 1 1/2"		45,15	41,8	22,0		

1"
JOGO
C4201057

FIG	€	mm.			Box	(grs.)
		d1	d2	L		
372 Rp 1"	10,42	44,2	40,9	26,5	20	474
374 G 1 1/2"		45,15	41,8	22,0		

1" (372 Reduz.)
JOGO
C4201058

FIG	€	mm.			Box	(grs.)
		d1	d2	L		
372 Rp 1"	18,63	56,0	52,2	31,0	15	854
374 G 2"		56,9	52,9	24,0		

1" M
JOGO
C4101057

FIG	€	mm.			Box	(grs.)
		d1	d2	L		
371 R 1"	19,83	44,2	40,9	49,0	18	620
374 G 1 1/2"		45,15	41,8	22,0		

1 1/4" (371 Ampl.)
JOGO
C4101067

FIG	€	mm.			Box	(grs.)
		d1	d2	L		
371 R 1 1/4"	21,95	44,2	40,9	48,0	15	624
374 G 1 1/2"		45,15	41,8	22,0		

1 1/4"
JOGO
C4201068

FIG	€	mm.			Box	(grs.)
		d1	d2	L		
372 Rp 1 1/4"	15,79	56,0	52,2	31,0	15	878
374 G 2"		56,9	52,9	24,0		