

# BENTOMAR

# A

Bentomar, dando segmento à sua implantação do setor de luvas Exotérmicas e Isolantes, apresenta sua atual linha de produtos: Luvas tipo máquina (Insert), Cilíndricas Abertas, Luvas Domadas, Luvas Cônicas, Luvas tipo Neck Down, Luvas Ovais, Copos de Vazamento, Luvas Esféricas e tipos especiais conforme a necessidade do cliente.

Nossas Luvas são isentas de amianto e produzidas com matérias-primas de alta qualidade, como metais nobres, fibras cerâmicas e aglomerantes.

Nosso processo de fabricação está dentro dos padrões de qualidade solicitados, garantindo assim o dimensional e total funcionalidade na aplicação.

A Bentomar dispõe de representantes e técnicos especializados para assessorar seus clientes em todo o território nacional.



## RECOMENDAÇÕES PARA UTILIZAÇÃO

### TIPO DE MATERIAL

- ✓ **ISOMAR** – São luvas produzidas com material de alta propriedade de isolamento destinada a peças fundidas de grande porte, em ferro, aço e não ferrosos.
- ✓ **EXOMAR 5** – São luvas exotérmicas e isolantes, indicadas para peças pequenas, médias e grandes, fundidas em ferro, aço e não ferrosos, devido a sua propriedade isolante após a reatividade da mesma.
- ✓ **EXOMAR 10** – São luvas altamente exotérmicas, indicadas para peças pequenas e em ferro, aço e não ferrosos, onde é exigido maior exotermia dando melhor escoamento em tempo hábil.

### FORMATOS

São produzidas nas seguintes formas:

- ✓ Luva tipo Insert
- ✓ Luva tipo Cilíndrica Aberta
- ✓ Luva tipo Oval Paralela Aberta ou Fechada
- ✓ Luva tipo Oval Cônica
- ✓ Luva tipo Neck Down Cilíndrica
- ✓ Luva tipo Copo de Vazamento
- ✓ Luva com dimensões e/ou formatos especiais, conforme necessidade do cliente.

### CUIDADOS NO MANUSEIO

Não apresenta quaisquer riscos á saúde desde que não ingerido.

### ESTOCAGEM

Lugar seco e coberto.

# BENTOMAR

## LUVAS CILÍNDRICAS

MAIO/2015 - Rev.: 2

As Luvas Cilíndricas desenvolvidas pela BENTOMAR estão disponíveis de diâmetro 2" a 18" nas massas isolantes (ISOMAR) Média exotermia (EXOMAR-5) e alta exotermia (EXOMAR-10).

- Machos estranguladores disponíveis até 8" com reduções de 50%, 60% e 70%. (Tab. 10-Pg 12)

TIPO	Dimensões (mm)			Módulo EXOMAR 10*	Módulo EXOMAR 5*	Módulo ISOMAR *	Peso máximo da seção a ser alimentada (Kg) para contração de:					Peso Metal Líquido (Kg)
	D	d	H	(cm)	(cm)	(cm)	5%	6%	7%	8%	9%	
2x2	75	50	50	1,50	1,31	1,19	4,48	3,72	3,20	2,80	2,47	0,68
2x4	75,0	50,0	100,0	1,68	1,46	1,34	8,91	7,43	6,37	5,59	4,95	1,35
2x6	75,0	50,0	150,0	1,75	1,51	1,38	13,40	11,17	9,58	8,41	7,44	2,03
60x120	86,0	60,0	120,0	2,03	1,80	1,64	15,44	12,83	11,01	9,65	8,51	2,34
3x3	100,0	75,0	75,0	2,25	1,98	1,80	15,05	12,55	10,75	9,44	8,35	2,28
3x4	100,0	75,0	100,0	2,34	2,09	1,91	20,07	16,73	14,34	12,59	11,14	3,04
3x6	100,0	75,0	150,0	2,45	2,25	2,02	30,17	25,15	21,56	18,92	16,74	4,57
4x4	130,0	100,0	100,0	3,00	2,65	2,43	35,71	29,77	25,52	22,40	19,82	5,41
4x6	130,0	100,0	150,0	3,25	2,86	2,61	53,66	44,74	38,35	33,66	29,78	8,13
4x8	130,0	100,0	200,0	3,33	2,95	2,70	71,48	59,40	50,98	44,68	39,42	10,83
125x105	150,0	125,0	105,0	3,31	2,93	2,68	58,74	48,81	41,90	36,72	32,39	8,90
5x5	160,0	125,0	125,0	3,74	3,32	3,02	67,99	56,69	48,58	42,65	37,73	10,30
5x7,5	160,0	125,0	190,0	3,90	3,43	3,14	106,27	88,61	75,94	66,67	58,97	16,10
6x6	185,0	150,0	150,0	4,47	3,97	3,63	120,73	100,66	86,27	75,73	67,00	18,29
6x9	185,0	150,0	230,0	4,80	4,33	3,95	186,86	155,77	133,47	116,79	93,43	28,03
7x7	220,0	180,0	180,0	5,15	4,81	4,38	208,58	173,91	149,06	130,85	115,75	31,60
8x8	240,0	200,0	205,0	5,85	5,43	4,88	292,74	244,08	209,20	183,64	162,45	44,35
8x12	245,0	203,0	305,0	6,40	5,94	5,34	449,59	374,87	321,29	282,04	249,50	68,11
9x9	270,0	230,0	230,0	6,87	6,07	5,57	434,98	362,69	310,85	272,88	241,39	65,90
10x10	290,0	250,0	250,0	7,42	6,75	6,12	558,88	465,99	399,39	350,60	310,15	84,67
11x11	320,0	280,0	280,0	8,31	7,54	6,90	784,82	654,38	560,85	492,34	435,53	118,90
12x12	345,0	300,0	300,0	8,90	7,98	7,28	965,81	805,28	690,19	605,88	535,97	146,32
13x13	380,0	330,0	330,0	9,75	8,79	8,04	1285,15	1071,55	918,40	806,21	713,19	194,70
14x14	400,0	350,0	350,0	10,37	9,37	8,57	1533,66	1278,76	1095,99	962,11	851,10	232,35
15x15	430,0	380,0	380,0	11,15	10,12	9,27	1962,38	1636,21	1402,36	1231,06	1089,01	297,30
16x16	455,0	405,0	405,0	12,03	10,70	9,80	2376,24	1981,29	1698,11	1490,68	1318,68	360,00
18x18(45)	522,0	455,0	455,0	13,10	11,72	10,80	3419,14	2850,85	2443,40	2144,93	1897,44	518,00

\* COBERTURA COM PÓ EXOTÉRMICO - B-EXP 707

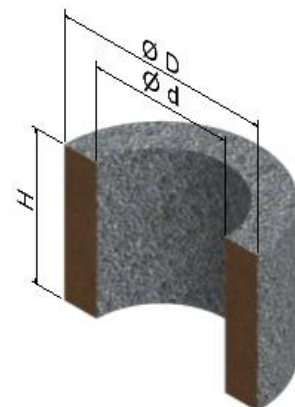
Tabela-01

### Exemplo de solicitação

LE-10 4x4 (Luva alta exotermia sem macho)

LE-5 4x4-ME 60% (Luva média exotermia com macho 60%)

LI – 4x4 (Luva Isolante sem macho)



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# BENTOMAR

## LUVA DOMADA

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- Maior

alternativa no posicionamento do massalote.

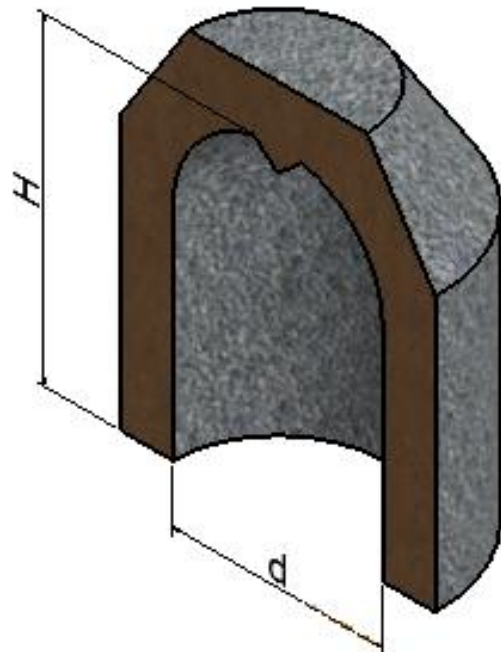
- Perfil domado oferece maior resistência mecânica na moldagem e maior rendimento metálico.
- Machos estranguladores disponíveis nas reduções de 50%, 60% e 70%. (Tab. 10 - Pg12)

TIPO	H (mm)	d (mm)	Módulo Exomar 10 (cm)	Módulo Exomar 5 (cm)	Módulo Isomar (cm)	Peso máximo da seção a ser alimentada (Kg) para contração de:					Peso metal Líquido (Kg)
						5%	6%	7%	8%	9%	
						40D	62,00	40,00	1,28	1,20	
2D	72,00	50,00	1,57	1,46	1,37	5,94	4,95	4,25	3,73	3,30	0,90
60D	88,00	60,00	1,90	1,78	1,66	9,97	8,31	7,12	6,25	5,53	1,51
3DE	84,50	75,00	2,18	2,03	1,90	14,52	12,11	10,38	9,11	8,06	2,20
3D	107,00	75,00	2,36	2,20	2,05	19,14	15,96	13,68	12,01	10,62	2,90
80D	115,00	80,00	2,52	2,35	2,20	23,10	19,26	16,51	14,49	12,82	3,50
90D	130,00	90,00	2,84	2,65	2,48	33,00	27,52	23,58	20,70	18,32	5,00
4D	150,00	100,00	3,19	2,98	2,78	47,52	39,63	33,96	29,81	26,37	7,20
4x8D	200,00	100,00	3,41	3,18	2,97	65,35	54,49	46,70	40,99	36,26	9,90
113D	167,00	113,00	3,59	3,35	3,13	67,33	56,14	48,11	42,24	37,36	10,20
5D	177,00	125,00	3,93	3,67	3,43	90,43	75,40	64,62	56,73	50,18	13,70
137D	196,00	137,00	4,31	4,02	3,76	116,17	96,86	83,02	72,88	64,47	17,60
6D	220,00	150,00	4,76	4,44	4,15	156,44	130,43	111,79	98,14	86,81	23,70
165D	255,00	165,00	5,15	4,81	4,50	214,52	178,87	153,30	134,58	119,05	32,50
7D	250,00	175,00	5,51	5,14	4,81	241,58	201,43	172,64	151,55	134,07	36,60
8D	300,00	200,00	7,13	6,35	5,74	381,07	316,64	271,79	238,19	210,13	57,73

Tabela-02

### Exemplo de solicitação

- LE-5 4D (Luva média exotermia sem macho)
- LE-10 4D-ME 60% (Luva alta exotermia com macho 60%)
- LI – 4D (Luva isolante sem macho)



# BENTOMAR

## LUVA INSERT

MAIO/2015 - Rev. : 2

- São

luvas com dimensões controladas externamente e internamente, possibilitando o encaixe das mesmas em cavidades posicionadas no molde (Shell).

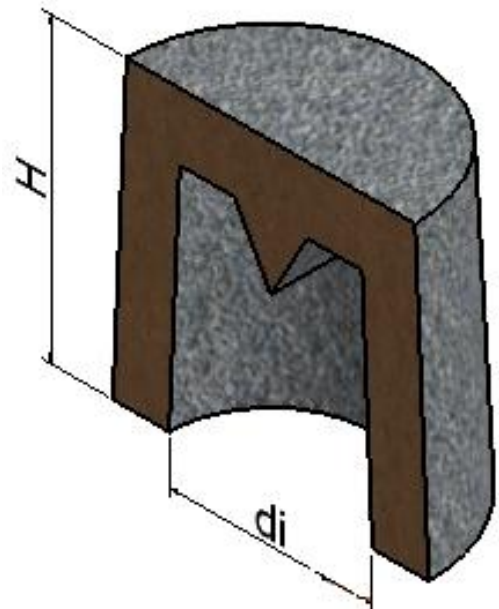
- Ótima resistência para suportar os processos de compactação na moldagem.
- Machos estranguladores disponíveis nas reduções de 50%, 60% e 70%. (Ver Tb 10e11 - Pg 12/13)

TIPO	di (mm)	H (mm)	Módulo Exomar 10 (cm)	Módulo Exomar 5 (cm)	Módulo Isomar (cm)	Peso máximo da seção a ser alimentada (Kg)					Peso metal Líquido (Kg)
						para contração de:					
						5%	6%	7%	8%	9%	
2,5x4,5	26,0	45,0	0,75	0,66	0,60	0,63	0,52	0,44	0,40	0,34	0,10
2,5x6	26,0	63,0	0,80	0,73	0,66	0,99	0,83	0,71	0,62	0,55	0,15
3,5x5	33,5	50,0	1,07	0,95	0,87	1,32	1,10	0,94	0,82	0,74	0,20
4x7	39,5	72,5	1,27	1,14	1,05	2,71	2,26	1,93	1,69	1,51	0,41
4x10	40,0	100,0	1,47	1,32	1,23	4,35	3,62	3,10	2,72	2,40	0,66
5x8	48,5	82,0	1,63	1,48	1,35	5,74	4,79	4,10	3,58	3,20	0,87
6x9	59,5	96,0	1,98	1,78	1,62	9,97	8,31	7,12	6,21	5,55	1,51
6x13,5	59,5	141,0	2,14	1,94	1,76	15,64	13,04	11,18	9,75	8,71	2,37
8x8	77,0	81,0	2,25	2,03	1,88	13,26	11,02	9,46	8,29	7,31	2,01
7x10	70,0	100,0	2,27	2,01	1,87	13,86	11,56	9,91	8,64	7,72	2,10
7x6	67,0	62,0	1,78	1,60	1,49	7,26	6,03	5,18	4,53	4,00	1,10
7x12	70,0	121,0	2,51	2,24	2,09	17,22	14,31	12,30	10,76	9,50	2,61
8x11	79,0	111,0	2,56	2,27	2,10	19,93	16,62	14,25	12,43	11,10	3,02
9x12	89,5	121,0	2,90	2,60	2,38	29,04	24,22	20,75	18,11	16,18	4,40
10x13	99,0	130,0	3,11	2,75	2,58	34,72	28,95	24,81	21,65	19,34	5,26
12x15	118,0	149,5	3,72	3,30	3,07	63,37	52,83	45,28	39,51	35,29	9,60
12x19	118,0	190,0	4,14	3,67	3,42	80,20	66,87	57,31	50,00	44,67	12,15
13x16	130,0	160,0	4,12	3,66	3,41	80,33	66,75	57,29	50,21	44,29	12,17
15x21	150,0	220,0	4,88	4,41	4,03	154,46	128,78	110,38	96,30	86,03	23,40
18x26	180,0	265,0	5,89	5,34	4,88	262,05	218,49	187,26	163,37	145,96	39,70

Tabela-03

### Exemplo de solicitação

- LE-10 10x13 (Alta exotermia sem macho)
- LE-5 12x15-ME 60% (Luva média exotermia com macho 60%)
- LI – 15x21 (Luva isolante sem macho)
- LE-10 7x10 MC 50% (Luva alta exotermia com macho cônico 50%)



# BENTOMAR

## LUVAS NECK DOWN

MAIO/2015 - Rev.: 2

Produzidas com matérias primas que dão maior refratariedade, evitando desgastes acentuados.

- Sua geometria favorece o escoamento do aço e custo de rebarbação.
- Machos estranguladores disponíveis nas reduções de 50% e 60%. (Tab. 12 - Pg 14)

TIPO	Dimensões (mm)			Módulo EXOMAR 10* (cm)	Módulo EXOMAR 5* (cm)	Módulo ISOMAR * (cm)	Peso máximo da seção a ser alimentada (Kg)					Peso Metal líquido (Kg)
	D	d	H				para contração de:					
							5%	6%	7%	8%	9%	
80 N	80,0	56,0	120,0	2,38	2,08	2,00	25,47	21,22	18,19	15,92	14,15	3,82
90 N	90,0	63,0	135,0	2,66	2,33	2,23	36,73	30,61	26,24	22,96	20,41	5,51
100 N	100,0	70,0	150,0	3,07	2,67	2,58	51,93	43,28	37,10	32,46	28,85	7,79
110 N	114,0	79,8	171,0	3,39	2,95	2,81	74,07	61,72	52,90	46,29	41,15	11,11
120 N	120,0	84,0	180,0	3,57	3,13	2,96	86,47	72,06	61,76	54,04	48,04	12,97
130 N	127,0	88,9	190,5	3,80	3,32	3,11	101,07	84,22	72,19	63,17	56,15	15,16
140 N	140,0	98,0	210,0	4,15	3,63	3,44	137,47	114,56	98,19	85,92	76,37	20,62
150 N	152,0	106,4	228,0	4,56	4,00	3,74	176,00	146,67	125,71	110,00	97,78	26,40
160 N	160,0	112,0	240,0	4,77	4,18	3,94	202,87	169,06	144,90	126,79	112,70	30,43
170 N	170,0	119,0	255,0	5,19	4,55	4,19	246,33	205,28	175,95	153,96	136,85	36,95
180 N	178,0	124,6	267,0	5,27	4,62	4,38	279,07	232,56	199,33	174,42	155,04	41,86
190 N	190,0	133,0	285,0	5,59	4,89	4,58	340,47	283,72	243,19	212,79	189,15	51,07
200 N	200,0	151,0	300,0	5,94	5,21	4,88	366,47	305,39	261,76	229,04	203,59	54,97
200 NH	200,0	151,0	400,0	6,38	5,60	5,24	502,40	417,46	359,32	314,02	277,04	76,11
210 N	210,0	147,0	315,0	6,17	5,42	5,17	457,73	381,44	326,95	286,08	254,30	68,66
220 N	222,0	155,4	333,0	6,49	5,69	5,47	543,60	453,00	388,29	339,75	302,00	81,54
230 N	230,0	161,0	345,0	6,77	5,92	5,64	599,87	499,89	428,48	374,92	333,26	89,98
240 N	240,0	168,0	360,0	7,09	6,19	5,89	694,67	578,89	496,19	434,17	385,93	104,20
250 N	250,0	176,0	370,0	7,47	6,53	6,16	750,40	623,24	534,72	468,74	413,57	113,62
250 NH	250,0	176,0	495,0	7,96	6,96	6,60	1017,67	845,61	725,83	636,10	511,17	154,17
260 N	260,0	182,0	390,0	7,67	6,70	6,36	867,67	723,06	619,76	542,29	482,04	130,15
280 N	280,0	196,0	420,0	8,48	7,51	6,88	1088,00	906,67	777,14	680,00	604,44	163,2
300 N	300,0	210,0	450,0	9,22	7,92	7,48	1315,20	1096,00	939,43	822,00	730,67	197,28

\* COBERTURA COM PÓ EXOTÉRMICO - B-EXP 707

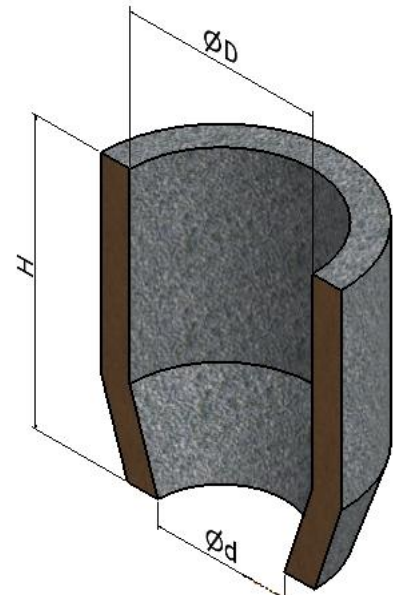
Tabela-04

Exemplo de solicitação

LE-10 100N-ME 50% (Luva alta exotermia com macho 50%)

LE-5 100N (Luva média exotermia sem macho)

LI - 100N (Luva isolante sem macho)



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## LUVAS OVAIS PARALELAS ABERTA

MAIO/2015 - Rev.: 2

- As Luvas Ovais foram desenvolvidas para fundidos com secções estreitas, seu formato obilongo proporciona redução na rebarbação e nos "padding's" utilizados em massalotes cilíndricos.
- Até 7 OPA machos estranguladores disponíveis com redução de 50%. (Tab. 13 - Pg 15)

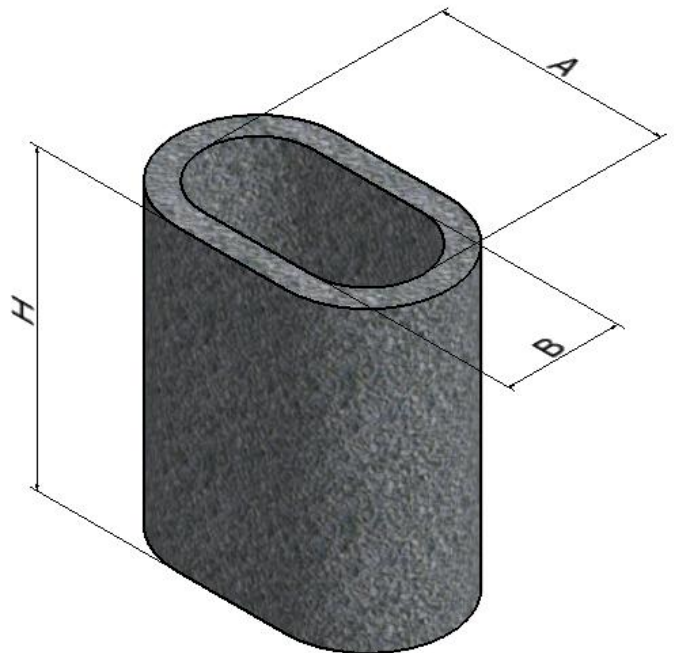
TIPO	Dimensões (mm)			Módulo EXOMAR 10* (cm)	Módulo EXOMAR 5* (cm)	Módulo ISOMAR * (cm)	Peso máximo da seção a ser alimentada (Kg)					Peso Metal líquido (Kg)
							para contração de:					
	B	A	H				5%	6%	7%	8%	9%	
2 OPA	25,0	50,0	75,0	1,18	1,00	0,95	3,87	3,22	2,76	2,42	2,15	0,58
3 OPA	38,0	75,0	100,0	1,74	1,45	1,40	11,67	9,72	8,33	7,29	6,48	1,75
4 OPA	50,0	100,0	125,0	2,28	2,00	1,84	25,67	21,39	18,33	16,04	14,26	3,85
5 OPA	63,0	125,0	150,0	2,85	2,33	2,31	45,60	38,00	32,57	28,50	25,33	6,84
6 OPA	75,0	150,0	150,0	3,29	2,83	2,69	69,80	58,17	49,86	43,63	38,78	10,47
6x9 OPA	75,0	150,0	225,0	3,56	2,91	2,83	104,73	87,28	74,81	65,46	58,19	15,71
7 OPA	88,0	175,0	195,0	3,92	3,47	3,18	125,60	104,67	89,71	78,50	69,78	18,84
8 OPA	100,0	200,0	250,0	4,55	3,90	3,69	204,13	170,11	145,81	127,58	113,41	30,62
10 OPA	125,0	250,0	270,0	5,51	4,88	4,45	346,47	288,72	247,48	216,54	192,48	51,97
11 OPA	88,0	275,0	225,0	4,45	3,95	3,61	231,03	191,97	164,78	144,41	127,79	35,10
12 OPA	150,0	300,0	295,0	6,62	5,84	5,34	545,07	454,22	389,33	340,67	302,81	81,76
13 OPA	113,0	325,0	295,0	5,66	5,02	4,59	456,59	379,39	325,65	285,39	251,77	69,17
14 OPA	175,0	350,0	350,0	7,75	6,86	6,19	880,27	733,56	628,76	550,17	489,04	132,04
16 OPA	200,0	400,0	350,0	8,60	7,72	6,99	1149,73	958,11	821,24	718,58	638,74	172,46

\* COBERTURA COM PÓ EXOTÉRMICO - B-EXP 707

Tabela-05

### Exemplo de solicitação

- LE-10 3 OPA (Luva alta exotermia sem macho)
- LE-5 6 OPA-ME (Luva média exotermia com macho)
- LI-12 OPA (Luva isolante sem macho)





## LUVAS OVAIS PARALELAS FECHADA

MAIO/2015 - Rev.: 2

- As Luvais

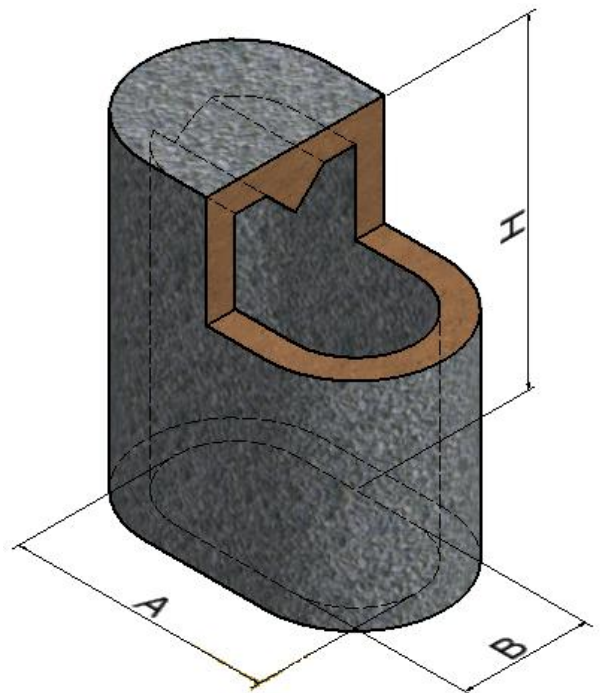
Ovais foram desenvolvidos para fundidos com secções estreitas, seu formato oblongo proporciona redução na rebarbação e nos "paddings" utilizados em massalotes cilíndricos.  
- Até 7 OPF machos estranguladores disponíveis com redução de 50%. (Tab. 13 - Pg 15)

TIPO	Dimensões (mm)			Módulo EXOMAR 10 (cm)	Módulo EXOMAR 5 (cm)	Módulo ISOMAR (cm)	Peso máximo da seção a ser alimentada (Kg)					Peso Metal líquido (Kg)
	B	A	H				para contração de:					
							5%	6%	7%	8%	9%	
2 OPF	25,0	50,0	86,0	1,12	1,03	0,94	3,70	3,08	2,64	2,32	2,05	0,56
2 OPF/H	25,0	50,0	127,0	1,20	1,07	0,98	5,45	4,60	3,95	3,46	3,05	0,84
3 OPF	38,0	75,0	112,0	1,66	1,53	1,40	11,42	9,52	8,16	7,16	6,34	1,73
4 OPF	50,0	100,0	137,0	2,18	2,01	1,84	24,42	20,36	17,45	15,32	13,55	3,70
5 OPF	63,0	125,0	165,0	2,71	2,41	2,21	43,56	36,32	31,13	27,33	24,18	6,60
6 OPF	75,0	150,0	166,0	3,13	2,79	2,55	64,82	54,05	46,32	40,66	35,97	9,82
6x9 OPF	75,0	150,0	239,0	3,39	3,02	2,77	94,39	78,70	67,45	59,21	52,38	14,30
7 OPF	88,0	175,0	212,0	3,73	3,33	3,05	116,83	97,41	83,49	73,29	64,84	17,70
8 OPF	100,0	200,0	268,0	4,33	3,86	3,54	187,13	156,03	133,73	117,39	103,85	28,35
10 OPF	125,0	250,0	293,0	5,24	4,67	4,29	405,36	336,86	289,11	253,37	223,53	61,41
11 OPF	88,0	275,0	245,0	4,23	3,77	3,46	268,27	221,26	189,92	166,44	146,83	40,34
12 OPF	150,0	300,0	320,0	6,30	5,62	5,16	619,43	514,71	441,79	387,18	341,57	93,84
13 OPF	113,0	325,0	316,0	5,39	4,81	4,41	519,49	431,66	370,51	324,71	286,46	78,70
14 OPF	175,0	350,0	373,0	7,38	6,58	6,04	993,45	825,49	708,55	620,96	547,82	150,50
16 OPF	200,0	400,0	375,0	8,19	7,31	6,70	1290,42	1072,26	920,26	806,59	711,58	195,49

Tabela-06

### Exemplo de solicitação

- LE-10 3 OPF (Luva alta exotermia sem macho)
- LE-5 4 OPF-ME (Luva média exotermia com macho)
- LI- 6 OPF (Luva isolante sem macho)





## LUVA CÔNICA

MAIO/2015 - Rev.: 2

- As Luvas

Cônicas são utilizadas alternativamente quando a geometria do fundido limita o uso de outros tipos de luva.

- Seu afunilamento facilita o escoamento mais homogêneo do metal e a quebra ou corte do massalote.
- Pode ser utilizada alternativamente como cone de vazamento.

TIPO	Dimensões (mm)			Módulo EXOMAR 10* (cm)	Módulo EXOMAR 5* (cm)	Módulo ISOMAR * (cm)	Peso máximo da seção a ser alimentada (Kg)					Peso metal líquido (Kg)
	di	Di	H				para contração de:					
							5%	6%	7%	8%	9%	
20 x 50	20,0	50,0	80,0	1,22	1,12	1,05	3,73	3,11	2,67	2,33	2,07	0,56
30 x 60	30,0	60,0	90,0	1,51	1,40	1,30	6,80	5,67	4,86	4,25	3,78	1,02
40 x 70	40,0	70,0	100,0	1,81	1,67	1,56	11,20	9,33	8,00	7,00	6,22	1,68
40 x 80	40,0	80,0	120,0	2,02	1,87	1,74	16,13	13,44	11,52	10,08	8,96	2,42
50 x 100	50,0	100,0	150,0	2,52	2,30	2,14	31,22	25,94	22,26	19,51	17,21	4,73
60 x 120	60,0	120,0	150,0	2,89	2,63	2,45	45,00	37,40	32,10	28,13	24,82	6,82

\* COBERTURA COM PÓ EXOTÉRMICO - B-EXP 707

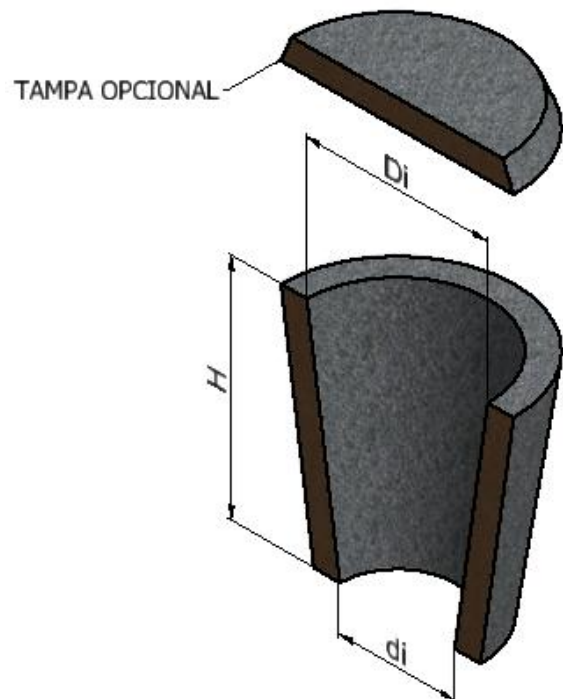
Tabela-07

Exemplo de solicitação.

LE-10 CÔNICA 20x50 (Luva alta exotermia sem tampa)

LE-5 CÔNICA 30x60-TP (Luva média exotermia com tampa)

LI-CÔNICA 40x80 (Luva isolante sem tampa)



## COPOS DE VAZAMENTO

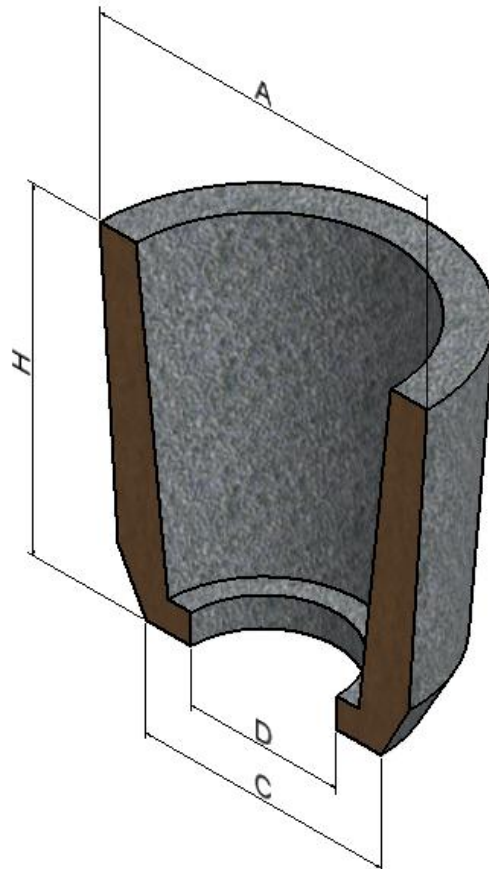
MAIO/2015 - Rev.: 2

- Projetado para ser utilizado conjuntamente com o filtro, tem a função tripla; como copo de vazamento, luva e filtragem, reduzindo o nível de inclusões e regulando o fluxo do metal dentro do molde.
- Simplifica o projeto, aumenta o rendimento metálico e elimina os canais para o enchimento da peça.

TIPO	Dimensões (mm)				Módulo EXOMAR 10* (cm)	Módulo EXOMAR 5* (cm)	Módulo ISOMAR * (cm)	Peso máximo da seção a ser alimentada (Kg)					Peso Metal líquido (Kg)
								para contração de:					
	A	C	D	H				5%	6%	7%	8%	9%	
2 x 4 CV	80,0	68,0	38,0	100,0	1,57	1,38	1,25	10,60	8,83	7,57	6,63	5,89	1,59
2 1/2" x 4 CV	84,0	58,0	30,0	100,0	0,69	1,49	1,35	9,57	7,95	6,82	5,98	5,27	1,45
2 x 6 CV	84,0	68,0	38,0	150,0	1,84	1,61	1,47	17,47	14,56	12,48	10,92	9,70	2,62
50x 80 CV	100,0	68,0	38,0	120,0	2,11	1,85	1,69	17,20	14,33	12,29	10,75	9,56	2,58
5 x 8 CV	195,0	165,0	105,0	200,0	4,32	3,82	3,48	136,53	113,78	97,52	85,33	75,85	20,48
3x 6 CV	121,0	101,0	58,0	165,0	2,80	2,46	2,24	40,73	33,94	29,10	25,46	22,63	6,11
4 x 7 CV	180,0	129,0	80,0	178,0	4,09	3,61	3,29	92,13	76,78	65,81	57,58	51,19	13,82
5x 14 CV	234,0	158,0	110,0	360,0	5,48	4,84	4,42	323,73	269,78	231,24	202,33	179,85	48,56
7 x 13 CV	285,0	220,0	155,0	310,0	6,60	5,83	5,31	494,73	412,28	353,38	309,21	274,85	74,21

\* COBERTURA COM PÓ EXOTÉRMICO - B-EXP 707

Tabela-08

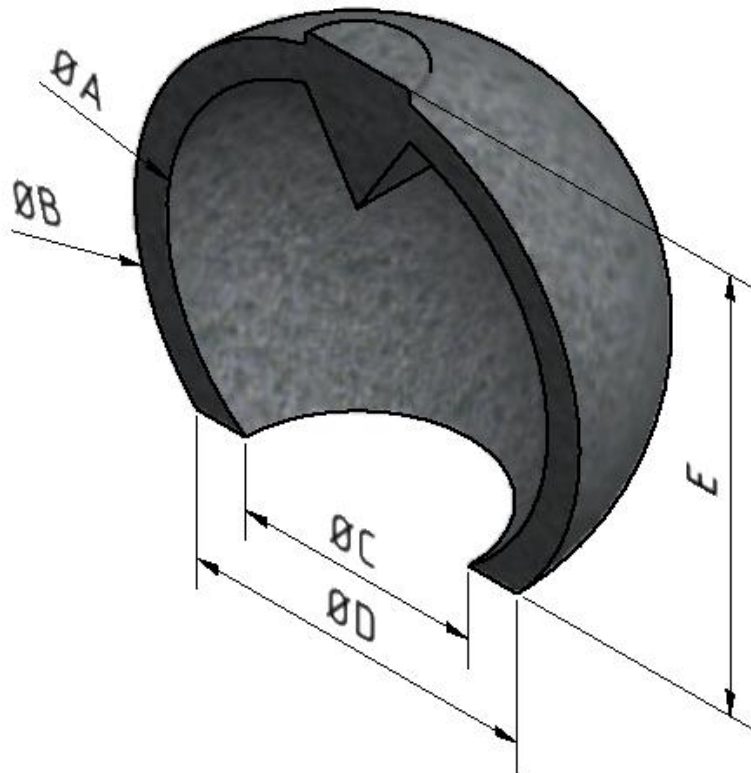


## LUVAS ESFÉRICAS

MAIO/2015 - Rev.: 2

LUA TIPO	DIMENSÕES (mm)					MÓDULO (cm)			PESO METAL LÍQUIDO (Kg)
	A	B	C	D	E	EXOMAR-10	EXOMAR-5	ISOMAR	
55	55,0	75,0	40,3	65,0	67,00	1,44	1,27	1,16	0,57
65	65,0	85,0	45,9	71,5	77,00	1,66	1,47	1,35	0,91
83	83,0	107,0	50,0	84,0	85,00	2,14	1,89	1,74	1,95

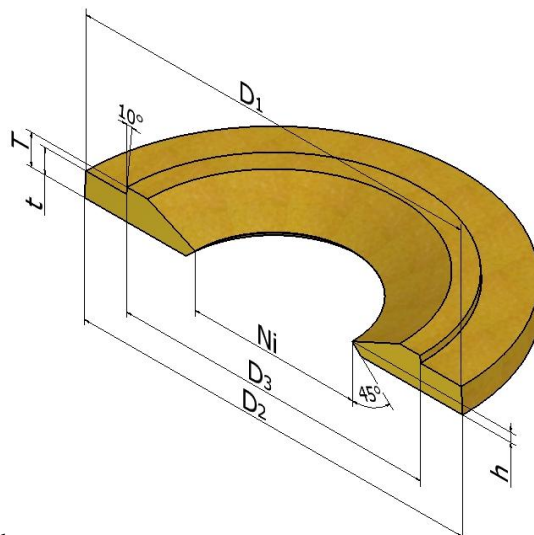
TABELA-09



## Macho Redutor para Luvas dos tipos: INSERT, DOMADAS e CILÍNDRICAS

	Tipo	Redução Ø(Ni) (mm)			Ø D1 (mm)	Ø D2 (mm)	Ø D3 (mm)	T (mm)	t (mm)	h (mm)
		50%	60%	70%						
<b>Luvas Insert</b>	2,5 x 6	13,0	16,0	17,5	41,0	42,0	26,0	8,5	6,5	3,0
	3,5 x 5	17,0	24,0	24,5	50,0	51,0	33,5	9,0	7,0	3,0
	4 x 7	20,0	24,0	28,0	60,5	62,0	38,0	11,0	8,0	4,0
	5 x 8	25,0	30,0	36,0	68,5	70,0	48,5	11,0	8,0	4,0
	6 x 9	30,0	36,0	42,0	79,0	81,5	58,5	11,0	8,0	4,0
	7 x 10	35,0	41,0	49,0	91,0	92,5	69,0	13,0	10,0	5,0
	8 x 11	40,0	48,0	60,0	100,0	102,0	78,0	13,0	10,0	5,0
	9 x 12	45,0	54,0	63,0	110,0	112,0	88,0	13,0	10,0	5,0
	10 x 13	50,0	60,0	70,0	123,0	125,5	98,0	13,0	11,0	5,0
	12 x 15	60,0	72,0	84,0	148,0	151,0	116,0	16,0	13,0	5,0
	12 x 19	60,0	72,0	84,0	148,0	151,0	116,0	16,0	13,0	5,0
15 x 21	75,0	90,0	105,0	189,0	191,5	148,0	18,0	15,0	6,0	
<b>Luvas Domadas</b>	40 D	20,0	24,0	28,0	59,0	61,0	39,0	10,0	8,0	4,0
	2 D	25,0	30,0	36,0	73,0	75,0	49,0	12,0	9,0	4,0
	60 D	30,0	36,0	42,0	83,0	85,0	58,0	12,0	9,0	4,0
	3 D	38,0	45,0	53,0	98,0	100,0	74,0	13,0	10,0	5,0
	80 D	40,0	48,0	56,0	108,0	110,0	79,0	13,0	10,0	5,0
	4 D	50,0	60,0	70,0	127,0	130,0	99,0	13,0	11,0	5,0
	5 D	63,0	75,0	88,0	159,0	162,0	124,0	16,0	13,0	5,0
	6 D	75,0	90,0	105,0	192,0	196,0	149,0	18,0	15,0	6,0
<b>Luvas Cilíndricas</b>	7 D	88,0	105,0	123,0	221,0	225,0	173,0	19,0	16,0	6,5
	2 x 2	25,0	30,0	36,0	75,0	76,5	51,0	12,0	9,0	4,0
	2 x 4	25,0	30,0	36,0	75,0	76,5	51,0	12,0	9,0	4,0
	2 x 6	25,0	30,0	36,0	75,0	76,5	51,0	12,0	9,0	4,0
	3 x 3	38,0	45,0	53,0	104,0	106,0	77,0	13,0	10,0	5,0
	3 x 4	38,0	45,0	53,0	104,0	106,0	77,0	13,0	10,0	5,0
	3 x 6	38,0	45,0	53,0	104,0	106,0	77,0	13,0	10,0	5,0
	4 x 4	50,0	60,0	70,0	125,0	127,0	100,0	13,0	11,0	5,0
	4 x 6	50,0	60,0	70,0	125,0	127,0	100,0	13,0	11,0	5,0
	5 x 5	63,0	75,0	88,0	152,0	154,5	124,0	16,0	13,0	5,0
	5 x 7,5	63,0	75,0	88,0	152,0	154,5	124,0	16,0	13,0	5,0
	6 x 6	76,0	90,0	105,0	181,0	184,0	149,0	17,0	14,0	6,0
	6 x 9	76,0	90,0	105,0	181,0	184,0	149,0	17,0	14,0	6,0
7 x 7	90,0	108,0	126,0	222,0	225,0	179,0	18,0	15,0	6,5	
8 x 8	100,0	120,0	140,0	245,0	248,0	204,0	20,0	17,0	7,0	

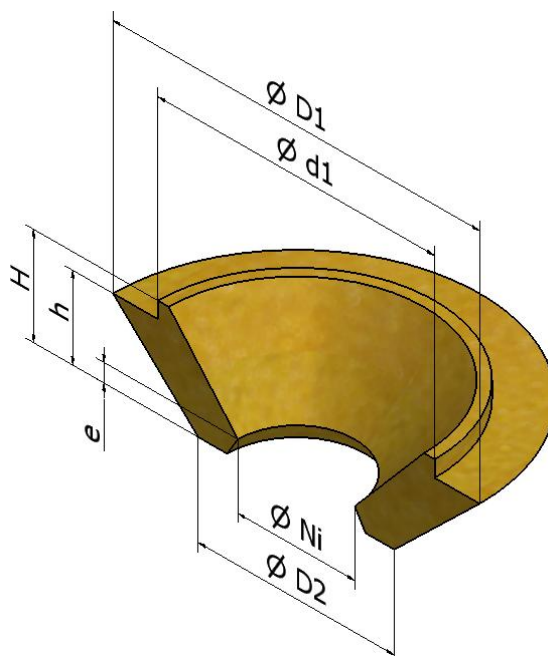
Tabela-10



## Macho Redutor Cônico para luvas tipo "INSERT"

	TIPO	Ø d1 (mm)	Ø NI (mm)	Ø D1 (mm)	Ø D2 (mm)	H (mm)	h (mm)	e (mm)
Redução de 50% - Para ligas de Ferro Fundido	2,5 x 6	26,0	13,0	40,0	30,0	17,0	15,0	3,0
	3,5 x 5	33,5	17,0	50,0	34,0	17,0	15,0	3,0
	4 x 7	38,0	20,0	59,0	43,0	22,0	20,0	5,0
	5 x 8	48,5	25,0	68,5	45,0	22,0	20,0	5,0
	6 x 9	58,5	30,0	79,0	52,0	24,0	22,0	5,0
	7 x 10	69,0	35,0	91,0	60,0	33,0	30,0	5,0
	8 x 11	78,0	40,0	100,0	63,0	33,0	30,0	5,0
	9 x 12	88,0	45,0	110,0	70,0	33,0	30,0	5,0
	10 x 13	98,0	50,0	123,0	80,0	33,0	30,0	5,0
	12 x 15	116,0	60,0	148,0	94,0	39,0	36,0	5,0
15 x 21	148,0	75,0	186,0	113,0	53,0	50,0	7,0	
Redução de 60% - Para ligas de Aço	2,5 x 6	26,0	16,0	40,0	33,0	17,0	15,0	3,0
	3,5 x 5	33,5	21,0	50,0	38,0	17,0	15,0	3,0
	4 x 7	38,0	24,0	59,0	47,0	22,0	20,0	5,0
	5 x 8	48,5	30,0	68,5	50,0	22,0	20,0	5,0
	6 x 9	58,5	36,0	79,0	56,0	24,0	22,0	5,0
	7 x 10	69,0	42,0	91,0	67,0	29,0	26,0	5,0
	8 x 11	78,0	47,0	100,0	72,0	31,0	28,0	5,0
	9 x 12	88,0	54,0	110,0	80,0	33,0	30,0	5,0
	10 x 13	98,0	60,0	123,0	90,0	33,0	30,0	5,0
	12 x 15	116,0	72,0	148,0	106,0	39,0	36,0	5,0
15 x 21	148,0	90,0	186,0	125,0	53,0	50,0	7,0	

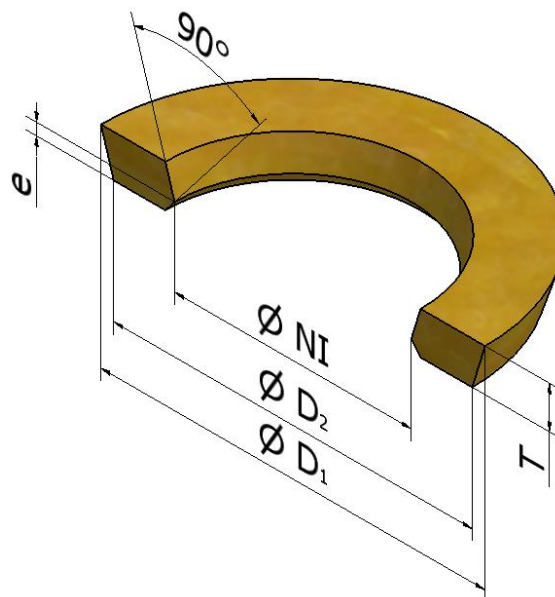
Tabela-11



## Macho Redutor para Luvas TIPO N (Neck Down)

TIPO	REDUÇÃO Ø NI (mm)		Ø D1 (mm)	Ø D2 (mm)	T (mm)	e (mm)
	50%	60%				
80 N	40,00	48,00	79,00	71,00	14,00	4,00
90 N	45,00	54,00	90,00	81,00	15,00	4,00
100 N	50,00	60,00	99,00	90,00	15,00	4,00
110 N	55,00	66,00	110,00	103,00	15,00	4,00
120 N	60,00	72,00	120,00	110,00	15,00	4,50
130 N	65,00	78,00	128,00	119,00	15,00	4,50
140 N	70,00	84,00	137,00	127,00	16,00	4,50
150 N	75,00	90,00	147,00	134,00	17,00	4,50
160 N	80,00	96,00	157,00	145,00	20,00	5,00
170 N	85,00	102,00	167,00	155,00	20,00	5,00
180 N	90,00	108,00	170,00	160,00	20,00	5,00
190 N	95,00	114,00	180,00	167,00	24,00	5,50
200 N	100,00	120,00	200,00	188,00	27,00	6,00
210 N	105,00	126,00	203,00	186,00	27,00	6,50
220 N	110,00	132,00	207,00	194,00	27,00	6,50
230 N	115,00	138,00	215,00	202,00	27,00	7,00
240 N	120,00	144,00	218,00	205,00	27,00	7,00
250 N	125,00	150,00	224,00	209,00	28,00	7,00
260 N	130,00	156,00	234,00	219,00	29,00	7,50
280 N	140,00	168,00	254,00	238,00	31,00	7,50
300 N	150,00	180,00	278,00	260,00	33,00	8,00

Tabela-12





## Macho Redutor para Luvas Ovais Paralelas Abertas/Fechadas

TIPO	A1 (mm)	A2 (mm)	B1 (mm)	B2 (mm)	E1 (mm)	E2 (mm)
2 OPF/OPA	39,0	72,0	15,0	48,0	3,0	9,0
3 OPF/OPA	57,0	99,0	20,0	62,0	4,0	12,0
4 OPF/OPA	75,0	125,0	25,0	75,0	5,0	13,0
5 OPF/OPA	93,0	152,0	31,0	90,0	5,0	14,0
6 OPF/OPA	113,0	180,0	38,0	106,0	7,0	16,0
7 OPF/OPA	135,0	214,0	45,0	124,0	8,0	18,0

Tabela-13

