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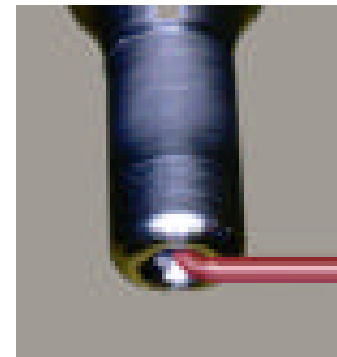
# Guia Fios para Máquinas de Bobinar

A Orlando Ricardo Santos vende guia fios, utilizados nas maiores marcas de máquinas de bobinar, incluindo Tanac, Marsilli, Meteor, Prosys, Siemens, Bachi, Sipro, Wey Hwang, Sarcem, Kinomat, Necoa, Nittoku, ATS, etc.

Existem centenas de tamanhos diferentes incluindo os tamanhos personalizados dos clientes, usualmente sem custos extras. Ver os diferentes tamanhos nas folhas que se seguem.

A produção dos Guia Fios – Agulhas pelo nosso fabricante é provida da melhor relação qualidade/preço porque o material e o processo de fabricação são escolhidos cuidadosamente.

- Aço com alto teor de carbono
- **Dureza** de 62-64 RC
- Saída **macia**
- **Polido espelhado** por todo
- Entrada de fio **arredondada**
- Cuidadosamente polidos na saída
- **Dimensões** Standard e Personalizada
- **Formas** Standard e Personalizada
- Laminas, dobrados e outras agulhas



Também comercializa-mos agulhas para todas as situações de bobinagem. A nossa diversidade inclui lâminas de fio, múltiplo corte, agulhas bifilar e dobradas.

Com Cumprimentos  
Orlando Santos

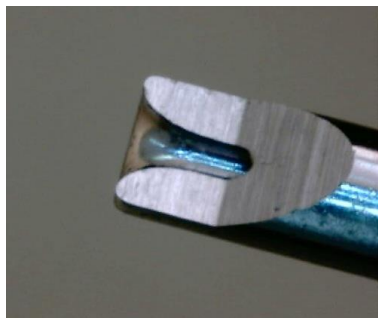
# Passagem suave do fio

*Considerações no desenvolvimento dos Guia-fios*

Os nossos guia-fios recebem uma meticulosa atenção em todos os detalhes. Os Guia-fios são produzidos em aço com alto teor de carbono, temperados a 62-64 RC, para uma melhor combinação entre resistência, oxidação, desgaste e duração. *Mas isto é só o início...*

As nossas agulhas são desenhadas com o conhecimento da necessária **qualidade** das bobinas e dos transformadores, dependendo da passagem suave do fio pelo interior delas.

As nossas agulhas têm um acabamento em **espelho** nas partes mais importantes – onde o fio entra, por onde o fio sai e uma parte macia por onde o fio passa normalmente entre as duas extremidades.



O pormenor dos detalhes está em primeiro lugar. Examine a **forma** da curva no final. A extremidade é desenhada para oferecer uma passagem suave ao fio, mesmo a 90 graus sem perder o controlo.



Na outra extremidade, na entrada do fio, a forma é cuidadosamente desenhada em curvatura gradual. Estes factores ajudam a **minimizar as probabilidades de danificar o fio**.



*Soluções standard e de acordo com o cliente para a indústria de guia- fios.*

Somos especializados em fornecer à indústria de bobinagem guia-fios (agulhas) de todos os tamanhos e formas. Isto também inclui lâminas, vários passos, dobrados e outras formas. Alguns estão disponíveis na lista de tamanhos standard incluída nas próximas páginas.

*Há outros tipos disponíveis. Por favor contacte-nos.*

**Recomenda-mos para o diâmetro do fio os seguintes diâmetros internos (bore):**

Diâmetro do Fio	Diâmetro interno mínimo 0.3
0.01mm to 0.4mm	Diâmetro fio X 2 = bore
0.45mm to 0.80mm	Diâmetro fio X 1.5 = bore
0.85mm to 1.40mm	Diâmetro fio + .5 = bore

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## Guia-fios e lâminas

*Estão também disponíveis, uma grande variedade de lâminas, e agulhas com lâminas.*



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Tipo	O.D.	CD	Bore	OL	CL
1300-030-050000	1.3		0.3	5	
1310-040-350100	1.3	1	0.4	35	10
1300-050-050000	1.3		0.5	5	
1300-070-320000	1.3		0.7	32	
1508-035-350080	1.5	0.8	0.3	35	8
1600-060-347000	1.6	0.6		34.7	
1600-070-110000	1.6	0.7		11	
1600-080-110000	1.6	0.8		11	
2000-030-050000	2	0.3		5	
2010-030-050025	2	1	0.3	5	2.5
2008-030-100070	2	0.8	0.3	10	7
2000-030-120000	2	0.3		12	
2006-030-140020	2	0.6	0.3	14	2
2007-030-140020	2	0.7	0.3	14	2
2012-030-250100	2	1.2	0.3	25	10
2000-030-290000	2	0.3		29	
2000-030-350000	2	0.3		35	
2007-030-350042	2	0.7	0.3	35	4.2
2008-030-350050	2	0.8	0.3	35	5
2008-030-350060	2	0.8	0.3	35	6
2008-030-350080	2	0.8	0.3	35	8
2012-030-350100	2	1.2	0.3	35	10
2009-030-500060	2	0.9	0.3	50	6
2000-035-050000	2		0.3	5	
2015-035-119065	2	1.5	0.3	11.9	6.5
2008-035-200118	2	0.8	0.3	20	11.8
2012-035-250100	2	1.2	0.3	25	10
2008-035-350080	2	0.8	0.3	35	8
2008-035-350100	2	0.8	0.3	35	10
2012-035-350100	2	1.2	0.3	35	10
2008-035-440080	2	0.8	0.3	44	8
2010-040-140020	2	1	0.4	14	2
2010-040-140050	2	1	0.4	14	5
2010-040-260060	2	1	0.4	26	6
2000-040-290000	2		0.4	29	
2008-040-300077	2	0.8	0.4	30	7.7
2008-040-350050	2	0.8	0.4	35	5
2008-040-350080	2	0.8	0.4	35	8
2008-040-350100	2	0.8	0.4	35	10
2010-040-350050	2	1	0.4	35	5
2010-040-350060	2	1	0.4	35	6
2010-040-350100	2	1	0.4	35	10
2014-040-350100	2	1.4	0.4	35	10

Tipo	O.D.	CD	Bore	OL	CL
2012-040-380090	2	1.2	0.4	8	9
2000-050-050000	2		0.5	5	
2000-050-250000	2		0.5	25	
2000-050-300000	2		0.5	30	
2008-050-300050	2	0.8	0.5	30	5
2008-050-300077	2	0.8	0.5	30	7.7
2010-050-300095	2	1	0.5	30	9.5
2000-050-350000	2		0.5	35	
2008-050-350050	2	0.8	0.5	35	5
2012-050-350080	2	1.2	0.5	35	8
2012-050-350100	2	1.2	0.5	35	10
2000-050-380000	2		0.5	38	
2000-050-400000	2		0.5	40	
2012-050-442083	2	1.2	0.5	44.2	8.3
2000-050-500000	2		0.5	50	
2012-050-500100	2	1.2	0.5	50	10
2012-050-350065	2	1.2	0.5	35	6.5
2000-060-050000	2		0.6	5	
2015-060-102050	2	1.5	0.6	10.2	5
2012-060-140050	2	1.2	0.6	14	5
2014-060-140050	2	1.4	0.6	14	5
2000-060-250000	2		0.6	25	
2014-060-254080	2	1.4	0.6	25.4	8
2000-060-286000	2		0.6	28.6	
2000-060-300000	2		0.6	30	
2010-060-320080	2	1	0.6	32	8
2000-060-350000	2		0.6	35	
2010-060-350100	2	1	0.6	35	10
2012-060-350050	2	1.2	0.6	35	5
2012-060-350100	2	1.2	0.6	35	10
2014-060-350100	2	1.4	0.6	35	10
2016-060-350100	2	1.6	0.6	35	10
2000-060-380000	2		0.6	38	
2000-060-480000	2		0.6	48	
2010-060-480080	2	1	0.6	48	8
2012-060-480100	2	1.2	0.6	48	10
2000-060-500000	2		0.6	50	
2016-060-500120	2	1.6	0.6	50	12
2016-060-500220	2	1.6	0.6	50	22
2000-080-050000	2		0.8	5	
2015-080-119064	2	1.5	0.8	11.9	6.4
2015-080-120100	2	1.5	0.8	12	10
2015-080-126350	2	1.5	0.8	12.6	35

Tipo	O.D.	CD	Bore	OL	CL
2012-080-140050	2	1.2	0.8	14	5
2014-080-140050	2	1.4	0.8	14	5
2000-080-300000	2		0.8	30	
2000-080-350000	2		0.8	35	
2012-080-350050	2	1.2	0.8	35	5
2014-080-350050	2	1.4	0.8	35	5
2014-080-350100	2	1.4	0.8	35	10
2015-080-350100	2	1.5	0.8	35	10
2016-080-350100	2	1.6	0.8	35	10
2000-080-450000	2		0.8	45	
2000-080-480000	2		0.8	48	
2016-080-480120	2	1.6	0.8	48	12
2000-080-500000	2		0.8	50	
2000-100-050000	2		1.0	5	
2000-100-100000	2		1.0	10	
2000-100-300000	2		1.0	30	
2000-100-350000	2		1.0	35	
2016-100-350064	2	1.6	1.0	35	6.4
2000-100-500000	2		1.0	50	
2000-120-060000	2		1.2	6	
2000-120-350000	2		1.2	35	
2000-120-600000	2		1.2	60	
2314-080-400090	2.3	1.4	0.8	40	9
2400-120-320000	2.4		1.2	32	
2400-130-300000	2.4		1.3	30	
2500-060-350000	2.5		0.6	35	
2515-080-300080	2.5	1.5	0.8	30	8
2500-080-500000	2.5		0.8	50	
2500-100-175000	2.5		1.0	17.5	
2518-100-350100	2.5	1.8	1.0	35	10
2500-100-450000	2.5		1.0	45	
2500-120-350000	2.5		1.2	35	
2500-120-450000	2.5		1.2	45	
2500-120-480000	2.5		1.2	48	
2500-150-350000	2.5		1.5	35	
2500-150-480000	2.5		1.5	48	
3007-030-090050	3	0.7	0.3	9	5
3010-030-120070	3	1	0.3	12	7
3007-030-220060	3	0.7	0.3	22	6
3010-030-220060	3	1	0.3	22	6
3010-030-220100	3	1	0.3	22	10
3018-030-220100	3	1.8	0.3	22	10
3010-030-250100	3	1	0.3	25	10

Tipo	O.D.	CD	Bore	OL	CL
3015-030-250100	3	1.5	0.3	25	10
3015-030-250150	3	1.5	0.3	25	15
3008-030-300055	3	0.8	0.3	30	5.5
3008-030-300070	3	0.8	0.3	30	7
3008-030-300150	3	0.8	0.3	30	15
3010-030-300080	3	1	0.3	30	8
3010-030-300100	3	1	0.3	30	10
3010-030-300150	3	1	0.3	30	15
3010-030-300160	3	1	0.3	30	16
3012-030-300100	3	1.2	0.3	30	10
3010-030-350100	3	1	0.3	35	10
3012-030-350180	3	1.2	0.3	35	18
3015-030-350130	3	1.5	0.3	35	13
3016-030-350100	3	1.6	0.3	35	10
3015-030-400100	3	1.5	0.3	40	10
3007-030-450080	3	0.7	0.3	45	8
3008-030-450100	3	0.8	0.3	45	10
3010-030-450050	3	1	0.3	45	5
3010-030-450100	3	1	0.3	45	10
3012-030-450100	3	1.2	0.3	45	10
3014-030-450120	3	1.4	0.3	45	12
3014-030-450160	3	1.4	0.3	45	16
3015-030-450100	3	1.5	0.3	45	10
3010-030-550100	3	1	0.3	55	10
3000-030-600000	3		0.3	60	
3010-035-220100	3	1	0.3	22	10
3010-035-250100	3	1	0.3	25	10
3010-035-450085	3	1	0.3	45	8.5
3012-035-450120	3	1.2	0.3	45	12
3012-035-450122	3	1.2	0.3	45	12.2
3016-040-210150	3	1.6	0.4	21	15
3012-040-220100	3	1.2	0.4	22	10
3015-040-220100	3	1.5	0.4	22	10
3010-040-250100	3	1	0.4	25	10
3012-040-250100	3	1.2	0.4	25	10
3000-040-300000	3		0.4	30	
3010-040-300070	3	1	0.4	30	7
3010-040-300100	3	1	0.4	30	10
3010-040-300125	3	1	0.4	30	12.5
3010-040-300130	3	1	0.4	30	13
3012-040-300100	3	1.2	0.4	30	10
3015-040-300100	3	1.5	0.4	30	10
3020-040-300140	3	2	0.4	30	14

Tipo	O.D.	CD	Bore	OL	CL
3012-040-350100	3	1.2	0.4	35	10
3000-040-450000	3		0.4	45	
3010-040-450050	3	1	0.4	45	5
3010-040-450060	3	1	0.4	45	6
3010-040-450120	3	1	0.4	45	12
3010-040-450150	3	1	0.4	45	15
3012-040-450100	3	1.2	0.4	45	10
3014-040-450120	3	1.4	0.4	45	12
3014-040-450170	3	1.4	0.4	45	17
3015-040-450150	3	1.5	0.4	45	15
3015-040-450170	3	1.5	0.4	45	17
3016-040-450120	3	1.6	0.4	45	12
3016-040-450150	3	1.6	0.4	45	15
3000-050-120000	3		0.5	12	
3000-050-220000	3		0.5	22	
3012-050-250100	3	1.2	0.5	25	10
3010-050-300070	3	1	0.5	30	7
3010-050-300100	3	1	0.5	30	10
3010-050-300120	3	1	0.5	30	12
3012-050-300100	3	1.2	0.5	30	10
3014-050-300080	3	1.4	0.5	30	8
3012-050-350001	3	1.2	0.5	35	0.1
3012-050-350100	3	1.2	0.5	35	10
3013-050-350100	3	1.3	0.5	35	10
3016-050-350100	3	1.6	0.5	35	10
3014-050-400100	3	1.4	0.5	40	10
3015-050-400100	3	1.5	0.5	40	10
3015-050-400120	3	1.5	0.5	40	12
3016-050-400090	3	1.6	0.5	40	9
3016-050-400100	3	1.6	0.5	40	10
3010-050-450060	3	1	0.5	45	6
3012-050-450100	3	1.2	0.5	45	10
3012-050-450150	3	1.2	0.5	45	15
3012-050-450170	3	1.2	0.5	45	17
3012-050-450200	3	1.2	0.5	45	20
3013-050-450120	3	1.3	0.5	45	12
3015-050-450070	3	1.5	0.5	45	7
3015-050-450150	3	1.5	0.5	45	15
3015-050-450170	3	1.5	0.5	45	17
3015-050-450180	3	1.5	0.5	45	18
3016-050-450150	3	1.6	0.5	45	15
3012-050-500100	3	1.2	0.5	50	10
3013-050-510120	3	1.3	0.5	51	12

Tipo	O.D.	CD	Bore	OL	CL
3013-050-550120	3	1.3	0.5	55	12
3000-060-125000	3		0.6	12.5	
3015-060-150090	3	1.5	0.6	15	9
3015-060-180030	3	1.5	0.6	18	3
3015-060-210150	3	1.5	0.6	21	15
3014-060-220080	3	1.4	0.6	22	8
3015-060-220100	3	1.5	0.6	22	10
3000-060-225000	3		0.6	22.5	
3014-060-250100	3	1.4	0.6	25	10
3015-060-250100	3	1.5	0.6	25	10
3015-060-250150	3	1.5	0.6	25	15
3015-060-250155	3	1.5	0.6	25	15.5
3016-060-250100	3	1.6	0.6	25	10
3016-060-250150	3	1.6	0.6	25	15
3010-060-300070	3	1	0.6	30	7
3010-060-300080	3	1	0.6	30	8
3012-060-300070	3	1.2	0.6	30	7
3012-060-300080	3	1.2	0.6	30	8
3012-060-300100	3	1.2	0.6	30	10
3014-060-300060	3	1.4	0.6	30	6
3014-060-300100	3	1.4	0.6	30	10
3015-060-300080	3	1.5	0.6	30	8
3015-060-300140	3	1.5	0.6	30	14
3016-060-300100	3	1.6	0.6	30	10
3012-060-350100	3	1.2	0.6	35	10
3014-060-350100	3	1.4	0.6	35	10
3015-060-350250	3	1.5	0.6	35	25
3016-060-350100	3	1.6	0.6	35	10
3000-060-400000	3		0.6	40	
3014-060-400100	3	1.4	0.6	40	10
3015-060-400100	3	1.5	0.6	40	10
3015-060-400150	3	1.5	0.6	40	15
3015-060-400170	3	1.5	0.6	40	17
3016-060-400090	3	1.6	0.6	40	9
3016-060-400100	3	1.6	0.6	40	10
3019-060-400280	3	1.9	0.6	40	28
3020-060-400080	3	2	0.6	40	8
3020-060-400120	3	2	0.6	40	12
3000-060-450000	3		0.6	45	
3010-060-450060	3	1	0.6	45	6
3012-060-450060	3	1.2	0.6	45	6
3012-060-450100	3	1.2	0.6	45	10
3012-060-450150	3	1.2	0.6	45	15

Tipo	O.D.	CD	Bore	OL	CL
3013-060-450120	3	1.3	0.6	45	12
3014-060-450120	3	1.4	0.6	45	12
3015-060-450050	3	1.5	0.6	45	5
3015-060-450150	3	1.5	0.6	45	15
3015-060-450170	3	1.5	0.6	45	17
3016-060-450100	3	1.6	0.6	45	10
3016-060-450120	3	1.6	0.6	45	12
3016-060-450150	3	1.6	0.6	45	15
3018-060-450150	3	1.8	0.6	45	15
3020-060-450080	3	2	0.6	45	8
3020-060-450110	3	2	0.6	45	11
3020-060-450150	3	2	0.6	45	15
3015-060-500150	3	1.5	0.6	50	15
3014-060-550120	3	1.4	0.6	55	12
3015-060-550050	3	1.5	0.6	55	5
3015-060-550080	3	1.5	0.6	55	8
3018-060-550120	3	1.8	0.6	55	12
3019-060-550120	3	1.9	0.6	55	12
3012-060-570240	3	1.2	0.6	57	24
3012-060-570260	3	1.2	0.6	57	26
3015-060-570240	3	1.5	0.6	57	24
3015-060-570260	3	1.5	0.6	57	26
3015-060-600150	3	1.5	0.6	60	15
3020-080-280120	3	2	0.8	28	12
3014-080-300060	3	1.4	0.8	30	6
3015-080-350250	3	1.5	0.8	35	25
3015-080-400080	3	1.5	0.8	40	8
3015-080-400160	3	1.5	0.8	40	16
3014-080-450100	3	1.4	0.8	45	10
3020-080-450150	3	2	0.8	45	15
3025-080-450150	3	2.5	0.8	45	15
3015-080-480100	3	1.5	0.8	48	10
3020-080-140090	3	2	0.8	14	9
3020-080-165070	3	2	0.8	16.5	7
3020-080-175080	3	2	0.8	17.5	8
3000-080-180000	3		0.8	18	
3015-080-180030	3	1.5	0.8	18	3
3016-080-200100	3	1.6	0.8	20	10
3020-080-210150	3	2	0.8	21	15
3016-080-250100	3	1.6	0.8	25	10
3016-080-250200	3	1.6	0.8	25	20
3020-080-250100	3	2	0.8	25	10
3020-080-285140	3	2	0.8	28.5	14

Tipo	O.D.	CD	Bore	OL	CL
3000-080-300000	3		0.8	30	
3014-080-300080	3	1.4	0.8	30	8
3015-080-300080	3	1.5	0.8	30	8
3015-080-300100	3	1.5	0.8	30	10
3016-080-300100	3	1.6	0.8	30	10
3020-080-300120	3	2	0.8	30	12
3020-080-300160	3	2	0.8	30	16
3020-080-330130	3	2	0.8	33	13
3000-080-350000	3		0.8	35	
3012-080-350100	3	1.2	0.8	35	10
3020-080-350060	3	2	0.8	35	6
3020-080-350064	3	2	0.8	35	6.4
3020-080-350100	3	2	0.8	35	10
3020-080-350115	3	2	0.8	35	11.5
3000-080-383000	3		0.8	38.3	
3016-080-400100	3	1.6	0.8	40	10
3018-080-400150	3	1.8	0.8	40	15
3019-080-400100	3	1.9	0.8	40	10
3020-080-400100	3	2	0.8	40	10
3020-080-400120	3	2	0.8	40	12
3000-080-450000	3		0.8	45	
3016-080-450120	3	1.6	0.8	45	12
3016-080-450200	3	1.6	0.8	45	20
3020-080-450080	3	2	0.8	45	8
3020-080-450100	3	2	0.8	45	10
3020-080-450120	3	2	0.8	45	12
3020-080-450130	3	2	0.8	45	13
3020-080-450150	3	2	0.8	45	15
3020-080-450160	3	2	0.8	45	16
3020-080-450165	3	2	0.8	45	16.5
3020-080-450167	3	2	0.8	45	16.7
3020-080-450170	3	2	0.8	45	17
3020-080-450180	3	2	0.8	45	18
3020-080-450210	3	2	0.8	45	21
3025-080-450150	3	2.5	0.8	45	15
3020-080-500115	3	2	0.8	50	11.5
3025-080-500250	3	2.5	0.8	50	25
3020-080-510120	3	2	0.8	51	12
3020-080-681237	3	2	0.8	68.1	23.7
3000-100-350000	3		1.0	35	
3000-100-250000	3		1.0	25	
3016-100-250080	3	1.6	1.0	25	8
3019-100-250100	3	1.9	1.0	25	10

Tipo	O.D.	CD	Bore	OL	CL
3020-100-250080	3	2	1.0	25	8
3020-100-285100	3	2	1.0	28.5	10
3000-100-300000	3		1.0	30	
3016-100-300100	3	1.6	1.0	30	10
3020-100-300100	3	2	1.0	30	10
3025-100-300165	3	2.5	1.0	30	16.5
3019-100-320100	3	1.9	1.0	32	10
3020-100-330130	3	2	1.0	33	13
3000-100-350000	3		1.0	35	
3015-100-350100	3	1.5	1.0	35	10
3015-100-350125	3	1.5	1.0	35	12.5
3019-100-350130	3	1.9	1.0	35	13
3020-100-350100	3	2	1.0	35	10
3020-100-350125	3	2	1.0	35	12.5
3000-100-400000	3		1.0	40	
3015-100-400080	3	1.5	1.0	40	8
3020-100-400080	3	2	1.0	40	8
3020-100-400100	3	2	1.0	40	10
3020-100-400170	3	2	1.0	40	17
3020-100-410070	3	2	1.0	41	7
3000-100-450000	3		1.0	45	
3016-100-450120	3	1.6	1.0	45	12
3020-100-450100	3	2	1.0	45	10
3020-100-450120	3	2	1.0	45	12
3020-100-450150	3	2	1.0	45	15
3020-100-450160	3	2	1.0	45	6
3020-100-450170	3	2	1.0	45	17
3020-100-450184	3	2	1.0	45	18.4
3020-100-450200	3	2	1.0	45	20
3000-100-500000	3		1.0	50	
3020-100-500115	3	2	1.0	50	11.5
3020-100-500120	3	2	1.0	50	12
3000-100-600000	3		1.0	60	
3020-100-600080	3	2	1.0	60	8
3020-100-600180	3	2	1.0	60	18
3000-120-140000	3		1.2	14	
3000-120-300000	3		1.2	30	
3025-120-300165	3	2.5	1.2	30	16.5
3000-120-350000	3		1.2	35	
3020-120-350080	3	2	1.2	35	8
3000-120-400000	3		1.2	40	
3020-120-450150	3	2	1.2	45	15
3025-120-450125	3	2.5	1.2	45	12.5

Tipo	O.D.	CD	Bore	OL	CL
3025-120-450160	3	2.5	1.2	45	16
3025-120-450162	3	2.5	1.2	45	16.2
3000-120-500000	3		1.2	50	
3000-120-600000	3		1.2	60	
3000-130-300000	3		1.3	30	
3020-130-300100	3	2	1.3	30	10
3025-130-300130	3	2.5	1.3	30	13
3000-130-350000	3		1.3	35	
3020-130-350100	3	2	1.3	35	10
3000-130-400000	3		1.3	40	
3020-130-400100	3	2	1.3	40	10
3000-130-450000	3		1.3	45	
3020-130-450100	3	2	1.3	45	10
3020-130-450150	3	2	1.3	45	15
3000-130-500000	3		1.3	50	
3000-140-450000	3		1.4	45	
3000-150-210000	3		1.5	21	
3000-150-250000	3		1.5	25	
3000-150-350000	3		1.5	35	
3000-150-400000	3		1.5	40	
3000-150-450000	3		1.5	45	
3025-150-450150	3	2.5	1.5	45	15
3000-150-600000	3		1.5	60	
3000-160-350000	3		1.6	35	
3000-160-450000	3		1.6	45	
3000-160-480000	3		1.6	48	
3000-165-304000	3		1.6	30.4	
3000-170-445000	3		1.7	44.5	
3000-200-480000	3		2.0	48	
3400-100-349000	3.4		1.0	34.9	
3500-080-350000	3.5		0.8	35	
3526-080-350000	3.5	2.6	0.8	35	
3500-080-520000	3.5		0.8	52	
3524-120-480100	3.5	2.4	1.2	48	10
3530-150-250140	3.5	3	1.5	25	14
3500-200-480000	3.5		2.0	48	
4000-080-120000	4		0.8	12	
4000-080-190000	4		0.8	19	
4020-080-250100	4	2	0.8	25	10
4020-080-300150	4	2	0.8	30	15
4018-080-350100	4	1.8	0.8	35	10
4018-080-380100	4	1.8	0.8	38	10
4020-080-430145	4	2	0.8	43	14.5

Tipo	O.D.	CD	Bore	OL	CL
4018-080-450150	4	1.8	0.8	45	15
4020-080-500150	4	2	0.8	50	15
4000-080-600000	4		0.8	60	
4000-100-120000	4		1.0	12	
4000-100-320000	4		1.0	32	
4020-100-400150	4	2	1.0	40	15
4000-100-510000	4		1.0	51	
4000-100-600000	4		1.0	60	
4000-120-340000	4		1.2	34	
4000-150-250000	4		1.5	25	
4000-150-350000	4		1.5	35	
4000-150-400000	4		1.5	40	
4000-150-500000	4		1.5	50	
4000-150-600000	4		1.5	60	
4000-150-190000	4		1.5	19	
4000-200-350000	4		2.0	35	
4030-200-350100	4	3	2.0	35	10
4030-200-450300	4	3	2.0	45	30
4740-200-350140	4.7	4	2.0	35	14
5010-040-600150	5	1	0.4	60	15
5015-060-600200	5	1.5	0.6	60	20
5018-060-600150	5	1.8	0.6	60	15
5020-060-600175	5	2	0.6	60	17.5
5020-100-450170	5	2	1.0	45	17
5025-100-500150	5	2.5	1.0	50	15
5025-100-500250	5	2.5	1.0	50	25
5030-100-500150	5	3	1.0	50	15
5020-100-553225	5	2	1.0	55.3	22.5
5020-100-600200	5	2	1.0	60	20
5020-100-720180	5	2	1.0	72	18
5040-110-390086	5	4	1.1	39	8.6
5025-110-500190	5	2.5	1.1	50	19
5028-150-142107	5	2.8	1.5	14.2	10.7
5025-150-500160	5	2.5	1.5	50	16
5025-150-500170	5	2.5	1.5	50	17
5030-150-500100	5	3	1.5	50	10
5030-150-550220	5	3	1.5	55	22
5000-150-571000	5		1.5	57.1	
5030-150-600200	5	3	1.5	60	20
5030-150-600225	5	3	1.5	60	22.5
5000-200-300000	5		2.0	30	
5040-200-300140	5	4	2.0	30	14
5040-200-300150	5	4	2.0	30	15

Tipo	O.D.	CD	Bore	OL	CL
5000-200-350000	5		2.0	35	
5000-200-400000	5		2.0	40	
5040-200-450100	5	4	2.0	45	10
5040-200-450200	5	4	2.0	45	20
5040-200-500100	5	4	2.0	50	10
5040-200-500250	5	4	2.0	50	25
5030-200-600220	5	3	2.0	60	22
5000-270-500000	5		2.7	50	
5040-270-390086	5	4	2.7	39	8.6
6030-120-330200	6	3	1.2	33	20
6027-150-400110	6	2.7	1.5	40	11
6000-200-600000	6		2.0	60	
6030-220-375065	6	3	2.2	37.5	6.5
6035-150-400100	6	3.5	1.5	40	10
6035-150-400120	6	3.5	1.5	40	12
6040-200-330200	6	4	2.0	33	20
7000-270-430000	7		2.7	43	
10034-050-550250	10	3.4	0.5	55	25
10015-060-550280	10	1.5	0.6	55	28
10017-060-550280	10	1.7	0.6	55	28
10040-150-550190	10	4	1.5	55	19
10060-150-550280	10	6	1.5	55	28
10060-160-550285	10	6	1.6	55	28.5
10050-230-550300	10	5	2.3	55	30
10050-340-550295	10	5	3.4	55	29.5

‘M’ antes da indicação do tipo significa “modificação”. O guia-fios inclui lâmina de corte. Isto inclui lâminas e agulhas para bobinar rotores e estatores.

Tipo	O.D.	CD	Bore	OL	CL
M1300-000-320000CT3	1.3			32	
M1318-050-320000CD	1.3	1.8	0.5	32	
M1813-050-100046R	1.8	1.3	0.5	10	4.6
M2000-030-292000CT	2		0.3	29.2	
M2000-030-292000SQ	2		0.3	29.2	
M2000-050-300000C3	2		0.5	30	
M2006-030-350030DC	2	0.6	0.3	35	3
M2009-050-300050G1	2	0.9	0.5	30	5
M2009-050-300050G2	2	0.9	0.5	30	5
M2009-050-300050G3	2	0.9	0.5	30	5
M2012-030-167120BR	2	1.2	0.3	16.7	12
M2014-050-350100CT4	2	1.4	0.5	35	10
M2109-050-038022Y	2.1	0.9	0.5	3.8	2.2
M2316-030-082066B	2.3	1.6	0.3	8.2	6.6
M2620-060-200025RC	2.6	2	0.6	20	2.5
M2800-120-699000B	2.8		1.2	69.9	
M3000-035-293000CT	3		0.3	29.3	
M3000-055-207000GO	3		0.6	20.7	
M3000-060-210000					
M3000-080-180000H	3		0.8	18	
M3000-100-685000IC	3		1.0	68.5	
M3000-120-400000I	3		1.2	40	
M3000-120-685000IC	3		1.2	68.5	
M3000-140-450000L	3		1.4	45	
M3005-030-114839GF	3	0.5	0.3	11.4	83.9
M3006-030-340028DC	3	0.6	0.3	34	2.8
M3009-035-300090DC	3	0.9	0.3	30	9
M3010-030-210120G	3	1	0.3	21	12
M3010-030-450100H	3	1	0.3	45	10
M3010-040-220080IV	3	1	0.4	22	8
M3010-040-300100IV	3	1	0.4	30	10
M3010-040-550055DC	3	1	0.4	55	5.5
M3010-040-550055DC2	3	1	0.4	55	5.5
M3010-040-550100DC	3	1	0.4	55	10
M3010-040-550115DC	3	1	0.4	55	11.5

Tipo	O.D.	CD	Bore	OL	CL
M3010-050-300100IV	3	1	0.5	30	10
M3010-050-320290TH5	3	1	0.5	32	29
M3010-050-325295TH5	3	1	0.5	32.5	29.5
M3011-035-220120G	3	1.1	0.3	22	12
M3012-030-450185DC	3	1.2	0.3	45	18.5
M3012-050-300100DC	3	1.2	0.5	30	10
M3012-050-450080DC	3	1.2	0.5	45	8
M3012-055-450185DC	3	1.2	0.6	45	18.5
M3012-070-420190G1	3	1.2	0.7	42	19
M3012-080-450080DC	3	1.2	0.8	45	8
M3013-030-300150CI	3	1.3	0.3	30	15
M3013-060-400100DC	3	1.3	0.6	40	10
M3014-060-450120C1	3	1.4	0.6	45	12
M3014-080-550120IV	3	1.4	0.8	55	12
M3015-000-250080T3	3	1.5		25	8
M3015-050-350270TH5	3	1.5	0.5	35	27
M3015-050-450150H	3	1.5	0.5	45	15
M3015-050-883230C1	3	1.5	0.5	88.3	23
M3015-060-120070T	3	1.5	0.6	12	7
M3015-060-400100DC	3	1.5	0.6	40	10
M3015-060-550060Sq	3	1.5	0.6	55	6
M3015-060-550080C1	3	1.5	0.6	55	8
M3015-060-550090IV	3	1.5	0.6	55	9
M3016-060-300190GS	3	1.6	0.6	30	19
M3016-060-400100H	3	1.6	0.6	40	10
M3016-060-880230C1	3	1.6	0.6	88	23
M3016-070-300190GS	3	1.6	0.7	30	19
M3016-070-880230C1	3	1.6	0.7	88	23
M3016-070-880270(G)	3	1.6	0.7	88	27
M3016-070-880270BC1	3	1.6	0.7	88	27
M3016-070-880270BV1	3	1.6	0.7	88	27
M3016-070-880270C1	3	1.6	0.7	88	27
M3016-080-550120IV	3	1.6	0.8	55	12
M3018-060-450250H	3	1.8	0.6	45	25
M3018-070-500250H	3	1.8	0.7	50	25
M3018-080-450180IV	3	1.8	0.8	45	18
M3018-080-550120IV	3	1.8	0.8	55	12
M3018-080-681237CT	3	1.8	0.8	68.1	23.7
M3020-030-300150C4	3	2	0.3	30	15
M3020-050-300070G1	3	2	0.5	30	7
M3020-050-300080C1	3	2	0.5	30	8
M3020-050-400070G	3	2	0.5	40	7
M3020-060-350150C1	3	2	0.6	35	15

Tipo	O.D.	CD	Bore	OL	CL
M3020-060-350150CTP	3	2	0.6	35	15
M3020-070-180014TP	3	2	0.7	18	1.4
M3020-070-180017TP	3	2	0.7	18	1.7
M3020-080-175080A	3	2	0.8	17.5	8
M3020-080-175080A2	3	2	0.8	17.5	8
M3020-080-200070RT	3	2	0.8	20	7
M3020-080-410070G	3	2	0.8	41	7
M3020-080-450150H	3	2	0.8	45	15
M3020-080-450167G	3	2	0.8	45	16.7
M3020-080-450170G	3	2	0.8	45	17
M3020-080-681237CT	3	2	0.8	68.1	23.7
M3020-100-180014TP	3	2	1.0	18	1.4
M3020-100-300270TH5	3	2	1.0	30	27
M3020-100-400080G	3	2	1.0	40	8
M3020-100-410070G	3	2	1.0	41	7
M3020-100-450120CT	3	2	1.0	45	12
M3020-100-450120H	3	2	1.0	45	12
M3022-060-880230C1	3	2.2	0.6	88	23
M3022-080-880230C1	3	2.2	0.8	88	23
M3024-080-410070C1	3	2.4	0.8	41	7
M3024-100-410070C1	3	2.4	1.0	41	7
M3028-055-202132GO	3	2.8	0.6	20.2	13.2
M3400-090-349116GD	3.4		0.9	34.9	11.6
M3400-110-320000G	3.4		1.1	32	
M4000-120-210000T	4		1.2	21	
M4000-200-350290TH5	4		2.0	35	29
M4020-080-487160B	4	2	0.8	48.7	16
M4024-080-400200M	4	2.4	0.8	40	20
M4027-130-400110N	4	2.7	1.3	40	11
M4032-110-450250G	4	3.2	1.1	45	25
M4620-100-360110DC	4.6	2	1.0	36	11
M4732-110-450250G	4.7	3.2	1.1	45	25
M5000-160-240090THG	5		1.6	24	9
M5000-200-240090THG	5		2.0	24	9
M5009-060-116061G	5	0.9	0.6	11.6	6.1
M5016-100-104049G	5	1.6	1.0	10.4	4.9
M5020-050-500200M	5	2	0.5	50	20
M5020-100-215125T8	5	2	1.0	21.5	12.5
M5020-100-225090TH	5	2	1.0	22.5	9
M5020-100-300165TH4	5	2	1.0	30	16.5
M5023-160-375110OC	5	2.3	1.6	37.5	11
M5025-100-500200M	5	2.5	1.0	50	20
M5025-150-142035GO	5	2.5	1.5	14.2	3.5

Tipo	O.D.	CD	Bore	OL	CL
M5030-100-125077TM4	5	3	1.0	12.5	7.7
M5030-110-318196TM5	5	3	1.1	31.8	19.6
M5030-110-400195A1	5	3	1.1	40	19.5
M5030-150-500200M	5	3	1.5	50	20
M5032-110-3002004TH	5	3.2	1.1	30	20
M5032-120-3002004TH	5	3.2	1.2	30	20
M5032-150-3002004TH	5	3.2	1.5	30	20
M5034-110-167010TH5	5	3.4	1.1	16.7	1
M5040-000-400200C3	5	4		40	20
M5040-110-300200M5TH	5	4	1.1	30	20
M5040-110-300270FL	5	4	1.1	30	27
M5040-130-390086D	5	4	1.3	39	8.6
M5040-200-390086D	5	4	2.0	39	8.6
M5040-250-390086D	5	4	2.5	39	8.6
M5040-275-390086D	5	4	2.8	39	8.6
M5525-120-350200BF3	5.5	2.5	1.2	35	20
M6000-200-080000H	6		2.0	8	
M6000-400-770000S4	6		4.0	77	
M6015-060-400150DC	6	1.5	0.6	40	15
M6020-080-225090TH	6	2	0.8	22.5	9
M6020-100-215125T8	6	2	1.0	21.5	12.5
M6020-100-225090TH	6	2	1.0	22.5	9
M6020-100-230110TH4	6	2	1.0	3	11
M6020-100-400100D1	6	2	1.0	40	10
M6028-200-381254G	6	2.8	2.0	38.1	25.4
M6030-100-398195DC	6	3	1.0	39.8	19.5
M6030-110-318196TM5	6	3	1.1	31.8	19.6
M6030-120-400195DC	6	3	1.2	40	19.5
M6030-160-350040DC	6	3	1.6	35	4
M6030-160-350200G	6	3	1.6	35	20
M6038-200-330203TP	6	3.8	2.0	33	20.3
M6040-220-400100N	6	4	2.2	40	10
M6040-220-400110N	6	4	2.2	40	11
M6050-180-211105TH	6	5	1.8	21.1	10.5
M6050-180-211105THG	6	5	1.8	21.1	10.5
M6030-220-375650	6	3	2.2	37.5	65

Tipo	O.D.	CD	Bore	OL	CL
M6030-220-375065OC	6	3	2.2	37.5	6.5
M6622-160-174567OC	6.6	2.2	1.6	17.4	6.7
M6623-160-366101OC	6.6	2.3	1.6	36.6	10.1
M6623-160-366101OCS	6.6	2.3	1.6	36.6	10.1
M6623-160-366101OS	6.6	2.3	1.6	36.6	10.1
M6623-160-375110O2	6.6	2.3	1.6	37.5	11
M6623-160-375110OC	6.6	2.3	1.6	37.5	11
M6624-180-174567OC	6.6	2.4	1.8	17.4	56.7
M6626-200-174567OC	6.6	2.6	2.0	17.4	56.7
M6630-160-375110OC	6.6	3	1.6	37.5	11
M6640-300-175905OC	6.6	4	3.0	17.5	90.5
M6645-300-175905OC	6.6	4.5	3.0	17.5	90.5
M8016-050-455090DC	8	1.6	0.5	45.5	9
M8060-235-455195GL	8	6	2.3	45.5	19.5
M10012-040-135060M5	10	1.2	0.4	13.5	6
M10017-060-135060M5	10	1.7	0.6	13.5	6
M10032-165-550100DC	10	3.2	1.6	55	10

## Referência das para as nossas agulhas standard

**Example**  
**OD=** 3.0 mm  
**CD=** 1.6 mm  
**Bore=** 1.0 mm  
**OL=** 30.0 mm  
**CL=** 10.0 mm

