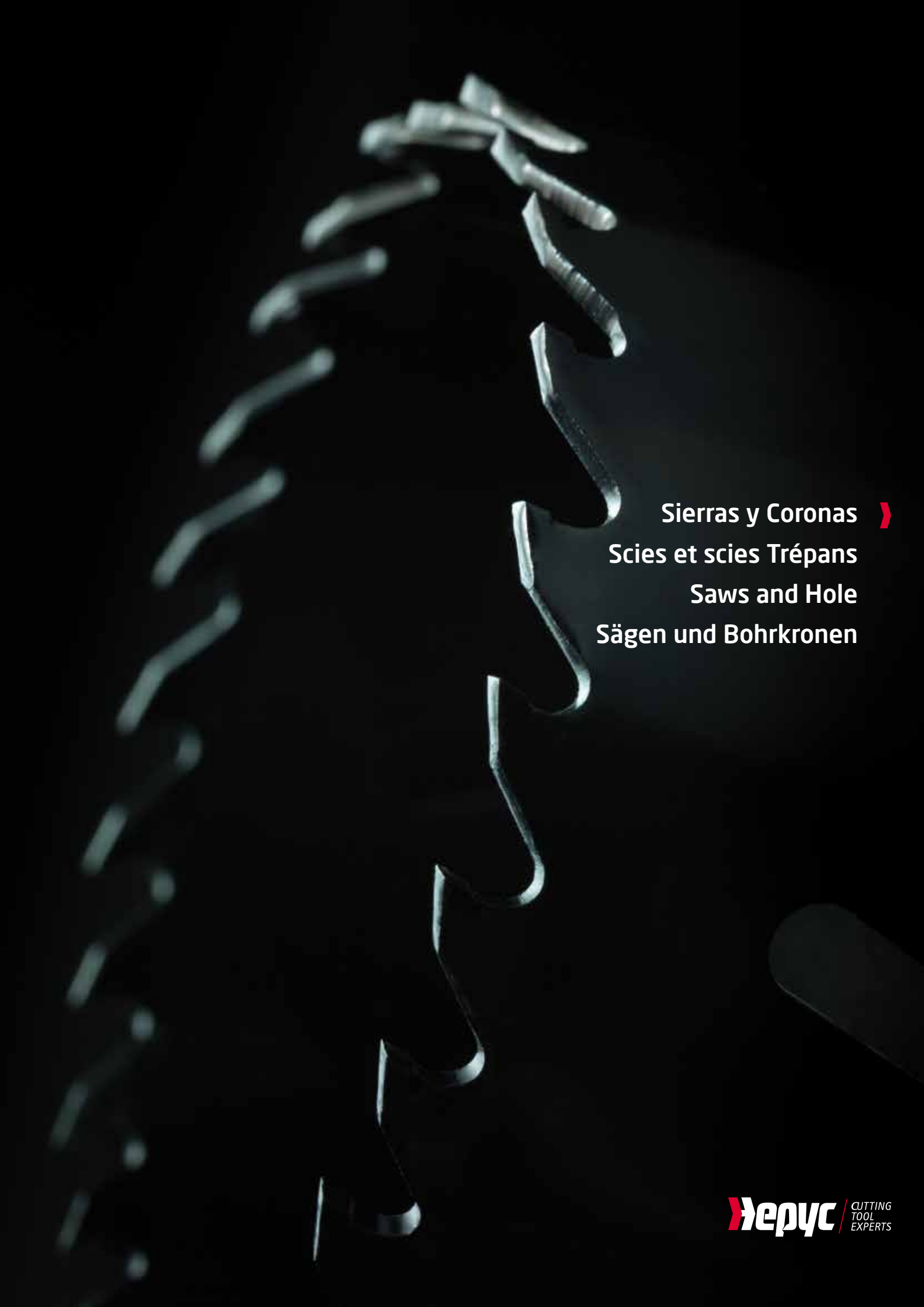


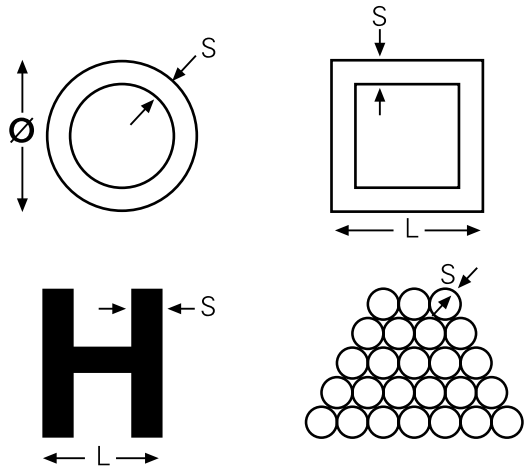
Sierras y Coronas
Scies et scies Trépans
Saws and Hole
Sägen und Bohrkronen

Hepyc CUTTING TOOL EXPERTS

P Aceros Aciers Steels Stähle
M Aceros Inox Aciers Inox Stainless Steels Edelstahl
K Fundicion Fonte Cast Iron Gusseisen
N Metales no ferrosos Métal non Ferraux Non Ferrous metals NE-Metalle
S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys Titan und Superlegierungen
H Materiales Duros Materiels Durs Hard materials Hartmaterialien

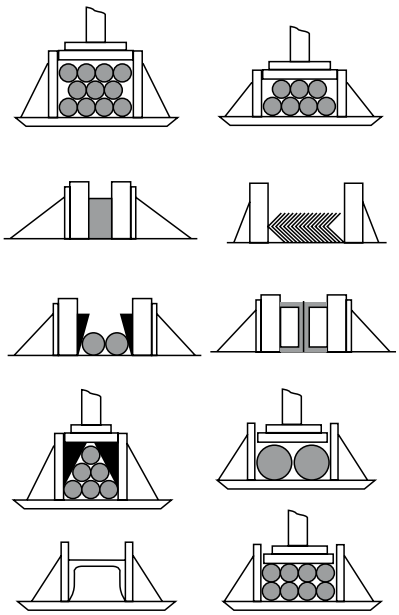
Dentado y amarre del material / Denture et fixation du matériel / Toothimg and securing of material / Verzahnung und Materialaufspannung

> Selección del correcto dentado para el corte de tubos y perfiles.
Choix de la dentura appropriée pour la coupe de tubes et de profilés.
Select correct toothing to cut tubes and beams.
Wahl der richtigen Verzahnung zur Rohr- und Profilbearbeitung.

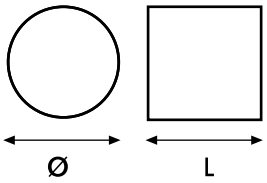


S mm	ØL mm										
	20	40	60	80	100	120	150	200	300	400	500
2	14	14	14	14	10/14	10/14	10/14	10/14	10/14	8/12	8/12
3				10/14					6/10		
4			10/14				6/10	6/10		6/10	6/10
5		10/14			6/10	6/10			4/6	4/6	4/6
6	10/14		8/12	6/10			5/8	4/6			
7		8/12			5/8	5/8					3/4
8			6/10				4/6		3/4	3/4	
10		6/10		5/8	4/6	4/6		3/4			
12			5/8				3/4				2/3
15				4/6	3/4	3/4					
20							2/3	2/3	2/3	2/3	
30											
50											

> Selección correcta de amarre de material.
Choix du type de fixation du matériel approprié.
Correct selection to secure material.
Richtige Wahl der Materialaufspannung.



> Para el corte de secciones macizas.
Pour la coupe de sections massives.
For cutting solid sections.
Für Vollprofilschnitte.



Ø L (mm)	tpi
< 20	10/14 ó 8/12
20 - 40	6/10 ó 6
40 - 70	6 ó 4/6
70 - 140	4 ó 3/4
140 - 200	3/4 ó 3
200 - 400	3 ó 2/3
> 400	1/2 ó 1,25

						Ref./ Réf. / Ref.	7202-7213				
						Diente/ Dent/ Teech	Constante/ Constant				
						Mat.	M42				
						Pag.	444	444	444	444	444
	Z	10-14	6-12	4-8	3-6	2-4	10-14	6-12	4-8	3-6	2-4
		10/14v	8/12-6/10	5/8-4/6	4/6-3/4	3/4-2/3					
	Ø/L	0-13mm	13-25mm	25-75mm	75-150mm	>150mm	0-13mm	13-25mm	25-75mm	75-150mm	>150mm
Mat.		Avance/Feed (cm2/min)					Vc (m/min)				
P.1	<600	55-75	60-80	70-90	77-100	77-100	o 100-120	o 95-115	o 90-110	o 80-100	o 70-90
P.2	<800	42-52	45-55	50-65	55-70	55-70	o 75-100	o 70-95	o 65-90	o 60-80	o 55-70
P.3	<1000	30-39	32-42	35-45	40-52	40-52	o 55-75	o 50-70	o 45-65	o 40-60	o 35-55
P.4	<1200	9-17	10-17	10-20	12-22	12-22	o 32-50	o 30-47	o 28-45	o 25-40	o 22-35
P.5	<1400	5-13	5-14	5-15	6-17	6-17					
M.1	<950	14-28	15-30	17-35	19-38	19-38	o 27-50	o 25-47	o 22-45	o 20-40	o 18-35
M.2		14-28	15-30	17-35	19-38	19-38	o 27-50	o 25-47	o 22-45	o 20-40	o 18-35
M.3	<1200	5-14	5-15	5-17	6-19	6-19					
M.4		5-14	5-15	5-17	6-19	6-19					
K.1	<500	26-33	28-36	30-40	35-45	35-45	o 60-85	o 57-82	o 55-80	o 50-70	o 45-60
K.2		26-33	28-36	30-40	35-45	35-45	o 60-85	o 57-82	o 55-80	o 50-70	o 45-60
K.3	<800	30-37	32-43	35-45	40-50	40-50	o 50-80	o 47-70	o 45-65	o 40-60	o 35-55
K.4.1		30-37	32-43	35-45	40-50	40-50	o 50-80	o 47-70	o 45-65	o 40-60	o 35-55
K.4.2	<1400	11-18	12-20	13-22	15-25	15-25					
N.1.1	Al	90-110	95-120	110-135	120-150	120-150	● 175-230	● 170-225	● 165-220	● 150-200	● 135-180
N.1.2		90-110	95-120	110-135	120-150	120-150	● 120-175	● 115-170	● 110-165	● 100-150	● 90-135
N.1.3		52-90	55-95	75-110	70-120	70-120	● 100-120	● 95-115	● 90-110	● 80-100	● 70-90
N.2.1	Cu	90-105	95-112	110-125	120-140	120-140	● 120-145	● 115-140	● 110-135	● 100-120	● 90-115
N.2.2		75-83	80-88	90-100	100-110	100-110	● 100-120	● 95-115	● 90-110	● 80-100	● 70-90
N.2.3		50-60	52-65	60-70	65-80	65-80	o 75-100	o 70-95	o 65-90	o 60-80	o 55-70
N.2.4		15-26	16-28	18-30	20-35	20-35	o 40-60	o 37-57	o 35-55	o 30-50	o 25-45
N.3.1	Mg/Zn	42-52	45-55	50-60	55-70	55-70	● 75-105	● 70-100	● 65-95	● 60-90	● 55-80
N.4.1	Plastic	90-110	95-120	110-135	120-150	120-150	● 120-175	● 115-170	● 110-165	● 100-150	● 90-135
N.4.2		52-90	55-95	75-110	70-120	70-120	● 100-120	● 95-115	● 90-110	● 80-100	● 70-90
N.4.3											
S.1.1	Ni	4-15	5-16	5-18	6-20	6-20					
S.1.2		4-7	5-8	5-9	6-10	6-10					
S.2.1	Ti	4-7	5-8	5-9	6-10	6-10					
S.2.2		4-7	5-8	5-9	6-10	6-10					
S.2.3		4-7	5-8	5-9	6-10	6-10					
H.1	50 HRC										
H.2	55 HRC										
H.3	60 HRC										

● Optima / Optimun ○ Alternativo / Alternative

P Aceros Aciers Steels Stähle
M Aceros Inox Aciers Inox Stainless Steels Edelstahl
K Fundicion Fonte Cast Iron Gusseisen
N Metales no ferrosos Métal non Ferraux Non Ferrous metals NE-Metalle
S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys Titan und Superlegierungen
H Materiales Duros Materiels Durs Hard materials Hartmaterialien

7301-7314					7321-7324				
Variable					Variable				
M42					M51				
445	445	445	445	445	446	446	446	446	446
10/14	8/12-6/10	5/8-4/6	4/6-3/4	3/4-2/3	10/14	8/12-6/10	5/8	3/4	3/4-2/3
0-13mm	13-25mm	25-75mm	75-150mm	150->mm	0-13mm	13-25mm	25-75mm	75-150mm	>150mm
Vc (m/min)									
● 100-120	● 95-115	● 90-110	● 80-100	● 70-90	o 100-120	o 95-115	o 90-110	o 80-100	o 70-90
● 75-100	● 70-95	● 65-90	● 60-80	● 55-70	o 75-100	o 70-95	o 65-90	o 60-80	o 55-70
● 55-75	● 50-70	● 45-65	● 40-60	● 35-55	● 55-75	● 50-70	● 45-65	● 40-60	● 35-55
o 32-50	o 30-47	o 28-45	o 25-40	o 22-35	● 32-50	● 30-47	● 28-45	● 25-40	● 22-35
					● 20-32	● 18-30	● 17-28	● 15-25	● 13-22
● 27-50	● 25-47	● 22-45	● 20-40	● 18-35	● 27-50	● 25-47	● 22-45	● 20-40	● 18-35
● 27-50	● 25-47	● 22-45	● 20-40	● 18-35	● 27-50	● 25-47	● 22-45	● 20-40	● 18-35
o 18-30	o 18-30	o 17-28	o 15-25	o 13-22	● 18-30	● 18-30	● 17-28	● 15-25	● 13-22
o 18-30	o 18-30	o 17-28	o 15-25	o 13-22	● 18-30	● 18-30	● 17-28	● 15-25	● 13-22
o 60-85	o 57-82	o 55-80	o 50-70	o 45-60	● 60-85	● 57-82	● 55-80	● 50-70	● 45-60
o 60-85	o 57-82	o 55-80	o 50-70	o 45-60	● 60-85	● 57-82	● 55-80	● 50-70	● 45-60
o 50-80	o 47-70	o 45-65	o 40-60	o 35-55	● 50-80	● 47-70	● 45-65	● 40-60	● 35-55
o 50-80	o 47-70	o 45-65	o 40-60	o 35-55	● 50-80	● 47-70	● 45-65	● 40-60	● 35-55
					● 32-50	● 30-47	● 28-45	● 25-40	● 22-35
o 175-230	o 170-225	o 165-220	o 150-200	o 135-180	o 175-230	o 170-225	o 165-220	o 150-200	o 135-180
o 120-175	o 115-170	o 110-165	o 100-150	o 90-135	o 120-175	o 115-170	o 110-165	o 100-150	o 90-135
o 100-120	o 95-115	o 90-110	o 80-100	o 70-90	o 100-120	o 95-115	o 90-110	o 80-100	o 70-90
o 120-145	o 115-140	o 110-135	o 100-120	o 90-115	o 120-145	o 115-140	o 110-135	o 100-120	o 90-115
o 100-120	o 95-115	o 90-110	o 80-100	o 70-90	o 100-120	o 95-115	o 90-110	o 80-100	o 70-90
● 75-100	● 70-95	● 65-90	● 60-80	● 55-70	o 75-100	o 70-95	o 65-90	o 60-80	o 55-70
● 40-60	● 37-57	● 35-55	● 30-50	● 25-45	● 40-60	● 37-57	● 35-55	● 30-50	● 25-45
o 75-105	o 70-100	o 65-95	o 60-90	o 55-80	o 75-105	o 70-100	o 65-95	o 60-90	o 55-80
o 120-175	o 115-170	o 110-165	o 100-150	o 90-135	o 120-175	o 115-170	o 110-165	o 100-150	o 90-135
o 100-120	o 95-115	o 90-110	o 80-100	o 70-90	o 100-120	o 95-115	o 90-110	o 80-100	o 70-90
					● 25-30	● 25-30	● 22-28	● 20-25	● 18-22
					● 18-25	● 18-25	● 17-22	● 15-20	● 13-18
					● 25-47	● 25-47	● 22-45	● 20-40	● 18-35
					● 25-30	● 25-30	● 22-28	● 20-25	● 18-22
					● 18-25	● 18-25	● 17-22	● 15-20	● 13-18

● Optima / Optimun ○ Alternativo / Alternative

P	Aceros Aciers Steels Stähle	M	Aceros Inox Aciers Inox Stainless Steels Edelstahl	K	Fundicion Fonte Cast Iron Gusseisen	N	Metales no ferrosos Métal non Ferraux Non Ferrous metals NE-Metalle	S	Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys Titan und Superlegierungen	H	Materiales Duros Materiels Durs Hard materials Hartmaterialien

				
		Ref./ Réf. / Ref.	7801	7802
		Z	32-200	24-100
		Ejec./Exéc./Exec.	N	N
		Hel./Hel./Spiral		
		Mat.	HSS	HSS
		Rec./Rev./Coat.		
		DIN	1837-A	1838-B
		Gama/Gamme/Range	20-315	50-315
		Pag.	447	448
Mat.		fz mm	Vc (m/min)	
P.1	<600	0,03-0,06	● 25-50	● 25-50
P.2	<800	0,03-0,04	● 15-30	● 15-30
P.3	<1000	0,02-0,03	● 10-20	● 10-20
P.4	<1200	0,01-0,03	○ 5-10	○ 5-10
P.5	<1400			
M.1	<950	0,01-0,03	○ 10-20	○ 10-20
M.2		0,01-0,03	○ 10-20	○ 10-20
M.3	<1200	0,01-0,03	○ 5-10	○ 5-10
M.4		0,01-0,03	○ 5-10	○ 5-10
K.1	<500	0,04-0,05	● 15-30	● 15-30
K.2		0,04-0,05	● 15-30	● 15-30
K.3	<800	0,03-0,04	○ 10-20	○ 10-20
K.4.1		0,03-0,04	○ 10-20	○ 10-20
K.4.2	<1400			
N.1.1	Al	0,04-0,09	● 1000-2000	● 1000-2000
N.1.2		0,03-0,06	● 500-1000	● 500-1000
N.1.3		0,03-0,04	● 120-200	● 120-200
N.2.1	Cu	0,04-0,06	● 100-400	● 100-400
N.2.2		0,04-0,06	● 100-400	● 100-400
N.2.3		0,04-0,06	● 40-120	● 40-120
N.2.4		0,01-0,03	○ 10-20	○ 10-20
N.3.1	Mg/Zn	0,04-0,06	○ 40-120	○ 40-120
N.4.1	Plastic	0,04-0,09	○ 500-1000	○ 500-1000
N.4.2		0,04-0,09	○ 500-1000	○ 500-1000
N.4.3				
S.1.1	Ni	0,03-0,04	○ 20-30	○ 20-30
S.1.2				
S.2.1	Ti	0,01-0,03	○ 10-20	○ 10-20
S.2.2		0,03-0,04	○ 10-20	○ 10-20
S.2.3				
H.1	50 HRC			
H.2	55 HRC			
H.3	60 HRC			

● Optima / Optimun ○ Alternativo / Alternative

P Aceros / Aciers / Steels / Stähle

M Aceros Inox / Aciers Inox / Stainless Steels / Edelstahl

K Fundicion / Fonte / Cast Iron / Gusseisen

N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals / NE-Metalle

S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys / Titan und Superlegierungen

H Materiales Duros / Materiels Durs / Hard materials / Hartmaterialien

7202-7213 M42 Dentado constante

M42 Denture constant / M42 Constant tooth / M42 Konstante Verzahnung

68-69 HRC | M42 (8% CO) | CR 0° | CP 10°

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
○ 55-120	○ 35-75	○ 22-50		○ 18-50		○ 45-85	○ 35-80		● 70-230	● 25-45	● 55-105	● 70-175					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ref.	A mm	e mm	t.p.i. 1,25	2	3	4	6	8	10	14	18	€ m	€ soldadura soudure welding
7202	6,00	0,90					CP		CR	CR		*21,05*	*11,97*
7204	10,00	0,90				CP	CP		CR	CR		*21,05*	*11,97*
7205	13,00	0,65				CP			CR	CR	CR	*19,34*	*11,97*
7206	13,00	0,90			CP	CP			CR	CR		*19,34*	*11,97*
7207	20,00	0,90			CP					CR		*22,11*	*11,97*
7208	27,00	0,90		CP	CP	CP-CR	CR			CR		*22,76*	*11,97*
7209	34,00	1,10	CP									*31,62*	*15,74*
7212	54,00	1,60	CP									*57,94*	*33,49*
7213	67,00	1,60	CP									*98,69*	*61,76*

Axe mm	L	€	
13x0,65	1.138	*33,97*	3
	1.140	*34,01*	3
	1.300	*37,10*	3
	1.325	*37,58*	3
	1.330	*37,69*	3
	1.440	*39,82*	3
	1.470	*40,40*	3
	1.638	*43,65*	3
	1.640	*43,68*	3
	1.735	*45,51*	3
	1.750	*45,81*	3
	2.000	*50,65*	3
13x0,90	1.140	*34,01*	3
	1.325	*37,58*	3
	1.330	*37,69*	3
	1.638	*43,65*	3
	1.640	*43,68*	3
	1.735	*45,51*	3
	1.750	*45,81*	3
	2.000	*50,65*	3
20x0,90	2.000	*56,21*	1
	2.060	*57,53*	1
	2.070	*57,76*	1
	2.080	*57,98*	1
	2.090	*58,20*	1
	2.100	*58,42*	1
	2.110	*58,66*	1
	2.115	*58,76*	1
	2.120	*58,86*	1
	2.140	*59,31*	1
	2.265	*62,07*	1
	2.360	*64,17*	1
	2.362	*64,23*	1
	2.370	*64,40*	1
	2.375	*64,51*	1
	2.400	*65,06*	1
	2.465	*66,50*	1
	2.520	*67,71*	1
	2.530	*67,94*	1

Axe mm	L	€	
	2.550	*68,36*	1
27x0,90	2.000	*57,48*	1
	2.060	*58,83*	1
	2.070	*59,06*	1
	2.080	*59,29*	1
	2.150	*60,88*	1
	2.352	*65,48*	1
	2.360	*65,67*	1
	2.370	*65,88*	1
	2.420	*67,03*	1
	2.450	*67,71*	1
	2.460	*67,94*	1
	2.480	*68,39*	1
	2.500	*68,85*	1
	2.550	*69,99*	1
	2.600	*71,12*	1
	2.650	*72,26*	1
	2.700	*73,41*	1
	2.750	*74,54*	1
	2.755	*74,66*	1
	2.765	*74,87*	1
	2.825	*76,24*	1
	2.835	*76,47*	1
	2.845	*76,69*	1
	2.850	*76,81*	1
	2.895	*77,82*	1
	2.945	*78,97*	1
	2.950	*79,08*	1
	2.960	*79,32*	1
	3.010	*80,45*	1
	3.100	*82,50*	1
	3.180	*84,32*	1
	3.420	*89,78*	1
	3.505	*91,71*	1
	3.660	*95,24*	1
	3.800	*98,43*	1
	4.100	*105,25*	1
	4.250	*108,68*	1
	4.570	*115,95*	1

Axe mm	L	€	
	4.870	*122,78*	1
	5.000	*125,73*	1
34x1,10	3.180	*116,33*	1
	3.420	*123,92*	1
	3.505	*126,61*	1
	3.660	*131,52*	1
	3.720	*133,40*	1
	3.800	*135,94*	1
	4.100	*145,44*	1
	4.115	*145,90*	1
	4.520	*158,72*	1
	4.570	*160,30*	1
	4.640	*162,51*	1
	4.800	*167,56*	1
	4.860	*169,47*	1
	4.990	*173,58*	1
	5.270	*182,42*	1
	5.300	*183,38*	1
	5.550	*191,29*	1
	5.620	*193,50*	1
	5.800	*199,21*	1
	6.000	*205,52*	1
6x0,90	30 M	*631,80*	1
10x0,90	30 M	*631,80*	1

P Aceros / Aciers / Steels / Stähle
M Aceros Inox / Aciers Inox / Stainless Steels / Edelstahl
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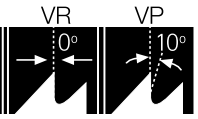
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys / Titan und Superlegierungen
H Materiales Duros / Materiels Durs / Hard materials / Hartmaterialien

Hepyc CUTTING TOOL EXPERTS

7301-7314 M42 Dentado variable

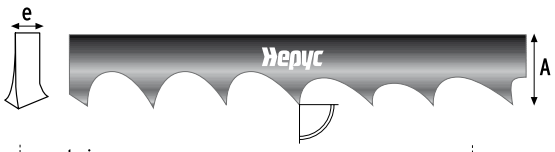
M42 Denture variable / M42 Variable tooth / M42 Variable Verzahnung

68-69 HRC | M42 (8% CO)



P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 55-120	● 35-75	o 22-50		● 18-50	o 13-30	o 45-85	o 35-80		o 70-230	● 25-45	o 55-105	o 70-175					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ref.	A mm	e mm	t.p.i. 0,75/1,25	1,10/1,40	1,40/2	2/3	3/4	4/6	5/8	6/10	8/12	10/14	€ m	€ soldadura soudure welding
7302	6,00	0,90										VR	*21,05*	*11,97*
7304	10,00	0,90										VR	*21,05*	*11,97*
7305	13,00	0,65								VR	VR	VR	*19,34*	*11,97*
7306	13,00	0,90								VR	VR	VR	*19,34*	*11,97*
7307	20,00	0,90							VR	VR	VR	VR	*22,11*	*11,97*
7308	27,00	0,90				VP	VP-VR	VP-VR	VP-VR	VR	VR	VR	*22,76*	*11,97*
7309	34,00	1,10				VP	VP-VR	VP-VR	VP-VR	VR	VR		*31,65*	*15,74*
7310	41,00	1,30			VP	VP	VP-VR	VP-VR	VP-VR				*39,55*	*19,89*
7311	54,00	1,30			VP	VP	VP-VR						*57,94*	*33,49*
7312	54,00	1,60	VP	VP	VP	VP	VP						*57,94*	*33,49*
7313	67,00	1,60	VP	VP	VP	VP							*98,69*	*61,76*
7314	80,00	1,60	VP										*115,52*	*102,97*

Axe mm	L	€		Axe mm	L	€		Axe mm	L	€	
13x0,65	1.138	*33,97*	3		2.550	*68,36*	1		4.870	*122,78*	1
	1.140	*34,01*	3	27x0,90	2.000	*57,48*	1		5.000	*125,73*	1
	1.300	*37,10*	3		2.060	*58,83*	1	34x1,10	3.180	*116,36*	1
	1.325	*37,58*	3		2.070	*59,06*	1		3.420	*123,97*	1
	1.330	*37,69*	3		2.080	*59,29*	1		3.505	*126,64*	1
	1.440	*39,82*	3		2.150	*60,88*	1		3.660	*131,56*	1
	1.470	*40,40*	3		2.352	*65,48*	1		3.720	*133,45*	1
	1.638	*43,65*	3		2.360	*65,67*	1		3.800	*135,99*	1
	1.640	*43,68*	3		2.370	*65,88*	1		4.100	*145,48*	1
	1.735	*45,51*	3		2.420	*67,03*	1		4.115	*145,95*	1
	1.750	*45,81*	3		2.450	*67,71*	1		4.520	*158,77*	1
	2.000	*50,65*	3		2.460	*67,94*	1		4.570	*160,35*	1
13x0,90	1.140	*34,01*	3		2.480	*68,39*	1		4.640	*162,56*	1
	1.325	*37,58*	3		2.500	*68,85*	1		4.800	*167,63*	1
	1.330	*37,69*	3		2.550	*69,99*	1		4.860	*169,52*	1
	1.638	*43,65*	3		2.600	*71,12*	1		4.990	*173,64*	1
	1.640	*43,68*	3		2.650	*72,26*	1		5.270	*182,51*	1
	1.735	*45,51*	3		2.700	*73,41*	1		5.300	*183,46*	1
	1.750	*45,81*	3		2.750	*74,54*	1		5.550	*191,35*	1
	2.000	*50,65*	3		2.755	*74,66*	1		5.620	*193,57*	1
20x0,90	2.000	*56,21*	1		2.765	*74,87*	1		5.800	*199,28*	1
	2.060	*57,53*	1		2.825	*76,24*	1		6.000	*205,60*	1
	2.070	*57,76*	1		2.835	*76,47*	1	41x1,30	4.100	*182,02*	1
	2.080	*57,98*	1		2.845	*76,69*	1		4.520	*198,63*	1
	2.090	*58,20*	1		2.850	*76,81*	1		4.570	*200,61*	1
	2.100	*58,42*	1		2.895	*77,82*	1		5.300	*229,47*	1
	2.110	*58,66*	1		2.945	*78,97*	1		5.500	*237,38*	1
	2.115	*58,76*	1		2.950	*79,08*	1		5.550	*239,36*	1
	2.120	*58,86*	1		2.960	*79,32*	1		5.800	*249,26*	1
	2.140	*59,31*	1		3.010	*80,45*	1		6.000	*257,16*	1
	2.265	*62,07*	1		3.100	*82,50*	1		6.200	*265,07*	1
	2.360	*64,17*	1		3.180	*84,32*	1		6.300	*269,02*	1
	2.362	*64,23*	1		3.420	*89,78*	1		6.600	*280,89*	1
	2.370	*64,40*	1		3.505	*91,71*	1		6.700	*284,84*	1
	2.375	*64,51*	1		3.660	*95,24*	1		6.900	*292,76*	1
	2.400	*65,06*	1		3.800	*98,43*	1		7.000	*296,71*	1
	2.465	*66,50*	1		4.100	*105,25*	1	6x0,90	30 M	*631,80*	1
	2.520	*67,71*	1		4.250	*108,68*	1	10x0,90	30 M	*631,80*	1
	2.530	*67,94*	1		4.570	*115,95*	1				

P Aceros / Aciers / Steels / Stähle

M Aceros Inox / Aciers Inox / Stainless Steels / Edelstahl

K Fundicion / Fonte / Cast Iron / Gusseisen

N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals / NE-Metalle

S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys / Titan und Superlegierungen

H Materiales Duros / Materiels Durs / Hard materials / Hartmaterialien

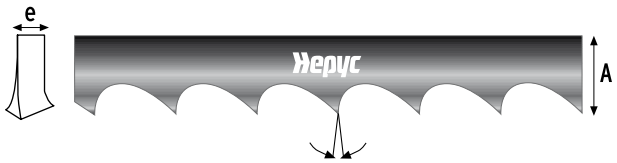
7321-7324 M51 Dentado variable

M51 Denture variable / M51 Variable tooth / M51 Variable Verzahnung

10° | 68-69 HRC | M51 (10% CO)

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 55-120	● 35-75	● 22-50	● 13-32	● 18-50	● 13-30	● 45-85	● 35-80	● 22-50	○ 70-230	● 25-45	○ 55-105	○ 70-175	● 13-30	● 13-47			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ref.	A mm	e mm	t.p.i. 0,75/1,25	1,5/2	2/3	3/4	€ m	€ soldadura soudure welding
7321	27,00	0,90			VP	VP	*43,07*	*102,97*
7322	34,00	1,10			VP	VP	*44,10*	*102,97*
7323	41,00	1,30		VP	VP	VP	*53,87*	*102,97*
7324	54,00	1,60	VP	VP	VP	VP	*95,61*	*102,97*

Axe mm	L	€	
27x0,90	2.000	*100,05*	1
	2.060	*102,63*	1
	2.070	*103,06*	1
	2.080	*103,50*	1
	2.150	*106,52*	1
	2.352	*115,23*	1
	2.370	*115,99*	1
	2.360	*115,55*	1
	2.420	*118,14*	1
	2.450	*119,44*	1
	2.460	*119,87*	1
	2.480	*120,73*	1
	2.500	*121,60*	1
	2.550	*123,74*	1
	2.600	*125,89*	1
	2.650	*128,05*	1
	2.700	*130,21*	1
	2.750	*132,36*	1
	2.755	*132,57*	1
	2.765	*133,00*	1
	2.825	*135,58*	1
	2.835	*136,02*	1
	2.845	*136,45*	1
	2.850	*136,66*	1
	2.895	*138,59*	1
	2.945	*140,76*	1
	2.950	*140,98*	1
	2.960	*141,39*	1
	3.010	*143,56*	1
	3.100	*147,45*	1
	3.180	*150,87*	1
	3.420	*161,22*	1
	3.505	*164,88*	1
	3.660	*171,56*	1
	3.800	*177,59*	1
	4.100	*190,52*	1
	4.250	*196,97*	1

Axe mm	L	€	
	4.570	*210,77*	1
	4.870	*223,68*	1
	5.000	*229,28*	1
34x1,10	3.180	*158,50*	1
	3.420	*169,09*	1
	3.505	*172,83*	1
	3.660	*179,66*	1
	3.720	*182,32*	1
	3.800	*185,84*	1
	4.100	*199,07*	1
	4.115	*199,74*	1
	4.520	*217,59*	1
	4.570	*219,80*	1
	4.640	*222,89*	1
	4.800	*229,94*	1
	4.860	*232,59*	1
	4.990	*238,33*	1
	5.270	*250,68*	1
	5.300	*252,00*	1
	5.550	*263,02*	1
	5.620	*266,11*	1
	5.800	*274,06*	1
	6.000	*282,86*	1
41x1,30	4.100	*244,02*	1
	4.520	*266,65*	1
	4.570	*269,35*	1
	5.300	*308,68*	1
	5.500	*319,47*	1
	5.550	*322,15*	1
	5.800	*335,62*	1
	6.000	*346,40*	1
	6.200	*357,18*	1
	6.300	*362,58*	1
	6.600	*378,73*	1
	6.700	*384,12*	1
	6.900	*394,90*	1
	7.000	*400,29*	1

P Aceros / Aciers / Steels / Stähle
M Aceros Inox / Aciers Inox / Stainless Steels / Edelstahl
K Fundicion / Fonte / Cast Iron / Gusseisen
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals / NE-Metalle
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys / Titan und Superlegierungen
H Materiales Duros / Materiels Durs / Hard materials / Hartmaterialien

7801 HSS DIN 1837 N

ISO 2296 | Form. A | Tol. Ø (j15) d (H7) | Tol. l (j11) D1 (j18)

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 15-50	● 10-20	○ 5-10		○ 10-20	○ 5-10	● 15-30	○ 10-20		● 120-2000	● 10-400	○ 40-120	● 500-1000	○ 20-30	○ 10-20			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

D mm	e mm	d mm	z	€
20	0,20	5	80	19,96
	0,25		64	20,08
	0,30		64	18,90
	0,40		64	18,50
	0,50		48	18,50
	0,60		48	17,45
	0,80		48	17,98
	1,00		40	19,03
	1,20		40	19,56
	1,60		40	20,28
	2,00		32	21,67
25	0,20	8	80	20,62
	0,25		80	20,62
	0,30		80	19,56
	0,40		64	18,18
	0,50		64	18,50
	0,60		64	18,71
	0,80		48	18,71
	1,00		48	18,90
	1,20		48	19,56
	1,60		40	20,08
	2,00		40	20,62
	2,50		40	22,94
32	0,20	8	100	19,56
	0,25		100	17,65
	0,30		80	16,26
	0,40		80	15,73
	0,50		80	15,85
	0,60		64	16,05
	0,80		64	16,40
	1,00		64	17,65
	1,20		48	17,65
	1,60		48	18,90
	2,00		48	21,01
	2,50		40	24,19
	3,00		40	26,29
40	0,20	10	128	20,28
	0,25		100	19,23
	0,30		100	17,11
	0,40		100	16,58
	0,50		80	16,58
	0,60		80	16,79
	0,80		80	17,98
	1,00		64	19,56
	1,20		64	19,56
	1,60		64	21,67
	2,00		48	23,31
	2,50		48	27,02
	3,00		48	29,80
50	0,25	13	128	23,31
	0,30		128	19,03
	0,40		100	18,18
	0,50		100	18,90
	0,60		100	18,90
	0,80		80	26,18
	1,00		80	26,18
	1,20		80	26,18
	1,60		64	26,18
	2,00		64	26,18
	2,50		64	29,14
	3,00		48	32,31
	4,00		48	38,66
	5,00		48	43,94
63	0,30	16	128	25,57
	0,40		128	23,14
	0,50		128	23,31
	0,60		100	23,31
	0,80		100	26,23
	1,00		100	28,41
	1,20		80	28,60
	1,60		80	30,00
	2,00		80	31,92
	2,50		64	37,27
	3,00		64	41,10
	4,00		64	49,56
	5,00		48	59,68
	6,00		48	66,53
80	0,50	22	128	29,48
	0,60		128	30,33
	0,80		128	33,50
	1,00		100	32,97
	1,20		100	34,42
	1,60		100	37,59
	2,00		80	39,31
	2,50		80	46,05
	3,00		80	52,41
	4,00		64	64,04
	5,00		64	77,44
	6,00		64	88,75
100	0,60	22	160	38,66
	0,80		128	42,90
	1,00		128	41,50
	1,20		128	41,50
	1,60		100	48,18
	2,00		100	51,34
	2,50		100	61,93
	3,00		80	69,71
	4,00		80	83,45
	5,00		80	102,17
	6,00		64	117,35
125	0,80	22	160	62,97
	1,00		160	66,74
	1,20		128	66,74
	1,60		128	67,93
	2,00		128	71,83
	2,50		100	84,18
	3,00		100	95,82
	4,00		100	116,63
	5,00		80	139,97
	6,00		80	157,94
160	1,20	32	200	85,97
	1,60		160	98,32
	2,00		128	103,95
	2,50		128	122,98
	3,00		128	152,99
	4,00		100	197,46
	5,00		100	246,15
	6,00		100	287,12
200	1,60	32	160	147,03
	2,00		160	158,26
	2,50		160	185,50
	3,00		128	228,89
	4,00		128	308,27
	5,00		128	382,08
	6,00		100	443,14
250	2,00	32	200	205,89
	2,50		160	244,05
	3,00		160	302,65
	4,00		160	379,96
	5,00		128	476,32
	6,00		128	533,47
315	2,50	40	200	387,17
	3,00		200	450,55
	4,00		160	565,59
	5,00		160	701,30
	6,00		160	811,20

P Aceros / Aciers / Steels / Stähle
M Aceros Inox / Aciers Inox / Stainless Steels / Edelstahl
K Fundicion / Fonte / Cast Iron / Gusseisen
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals / NE-Metalle
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys / Titan und Superlegierungen
H Materiales Duros / Materiels Durs / Hard materials / Hartmaterialien

7802 HSS DIN 1838 N

ISO 2296 | Form. B | Tol. Ø (j15) d (H7) | Tol. l (j11) D1 (j18)

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 15-50	● 10-20	o 5-10		o 10-20	o 5-10	● 15-30	o 10-20		● 120-2000	● 10-400	o 40-120	● 500-1000	o 20-30	o 10-20			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

D mm	e mm	d mm	z	€
50	0,50	13	48	*18,90*
	0,60		48	*18,90*
	0,80		40	*26,18*
	1,00		40	*26,18*
	1,20		40	*26,18*
	1,60		32	*26,18*
	2,00		32	*26,18*
	2,50		32	*29,14*
	3,00		24	*32,31*
	4,00		24	*38,66*
	5,00		24	*43,94*
63	0,50	16	64	*23,31*
	0,60		48	*23,31*
	0,80		48	*26,23*
	1,00		48	*28,41*
	1,20		40	*28,60*
	1,60		40	*30,00*
	2,00		40	*31,92*
	2,50		32	*37,27*
	3,00		32	*41,10*
	4,00		32	*49,56*
	5,00		24	*59,68*
	6,00		24	*66,53*
80	0,60	22	64	*30,33*
	0,80		64	*33,50*
	1,00		48	*32,97*
	1,20		48	*34,42*
	1,60		48	*37,59*
	2,00		40	*39,31*
	2,50		40	*46,05*
	3,00		40	*52,41*
	4,00		32	*64,04*
	5,00		32	*77,44*
	6,00		32	*88,75*
100	0,80	22	64	*42,90*
	1,00		64	*41,50*
	1,20		64	*41,50*
	1,60		48	*48,18*
	2,00		48	*51,34*
	2,50		48	*61,93*

D mm	e mm	d mm	z	€
	3,00		40	*69,71*
	4,00		40	*83,45*
	5,00		40	*102,17*
	6,00		32	*117,35*
125	0,80	22	80	*62,97*
	1,00		80	*66,74*
	1,20		64	*66,74*
	1,60		64	*67,93*
	2,00		64	*71,83*
	2,50		64	*84,18*
	3,00		48	*95,82*
	4,00		48	*116,63*
	5,00		40	*139,97*
	6,00		40	*157,94*
160	1,20	32	80	*85,97*
	1,60		80	*98,32*
	2,00		64	*103,95*
	2,50		64	*122,98*
	3,00		64	*152,99*
	4,00		48	*197,46*
	5,00		48	*246,15*
	6,00		48	*287,12*
200	1,60	32	80	*147,03*
	2,00		80	*158,26*
	2,50		80	*185,50*
	3,00		64	*228,89*
	4,00		64	*308,27*
	5,00		64	*382,08*
	6,00		48	*443,14*
250	2,00	32	100	*205,89*
	2,50		80	*244,05*
	3,00		80	*302,65*
	4,00		80	*379,96*
	5,00		80	*476,32*
	6,00		64	*533,47*
315	2,50	40	100	*387,17*
	3,00		100	*450,55*
	4,00		80	*565,59*
	5,00		80	*701,30*
	6,00		80	*811,20*

P Aceros / Aciers / Steels / Stähle
M Aceros Inox / Aciers Inox / Stainless Steels / Edelstahl
K Fundicion / Fonte / Cast Iron / Gusseisen
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals / NE-Metalle
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys / Titan und Superlegierungen
H Materiales Duros / Materiels Durs / Hard materials / Hartmaterialien

7401 HSS DC

M2 | 0° | DC

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●																	

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

L mm	A mm	e mm	Pulgadas Pouces Inches	Ø Taladro Perceuse Drill	tpi 4	6	8	10	14	€
300	25	1,50	12	8,5				■	■	*21,43*
350	25	1,25	14	8,5				■		*19,61*
350	25	1,50	14	8,5					■	*24,05*
350	30	1,50	14	8,5				■	■	*27,21*
350	30	2,00	14	8,5		■		■		*36,18*
400	25	1,50	16	8,5				■	■	*27,92*
400	30	1,50	16	8,5		■	■	■	■	*33,65*
400	30	2,00	16	8,5		■	■	■	■	*39,03*
450	30	2,00	18	10,5	■	■	■	■		*39,03*
450	35	2,00	18	10,5		■	■	■		*44,94*
450	40	2,00	18	10,5	■	■		■		*50,93*
500	40	2,00	20	10,5	■	■	■	■		*65,87*
600	50	2,50	24	13		■				*99,87*

P Aceros Aciers Steels Stähle
M Aceros Inox Aciers Inox Stainless Steels Edelstahl
K Fundicion Fonte Cast Iron Gusseisen
N Metales no ferrosos Métal non Ferraux Non Ferrous metals NE-Metalle
S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys Titan und Superlegierungen
H Materiales Duros Materiels Durs Hard materials Hartmaterialien

7501 Bimetal

DC

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●																	

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

L mm	A mm	e mm	z	€	
300	13	0,65	18	*2,99*	100
300	13	0,65	24	*2,99*	100
300	13	0,65	32	*2,99*	100

7504 CV

DC FLEX

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●																	

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

L mm	A mm	e mm	z	€	
300	13	0,65	24	*0,75*	100

P Aceros / Aciers / Steels / Stähle
M Aceros Inox / Aciers Inox / Stainless Steels / Edelstahl
K Fundicion / Fonte / Cast Iron / Gusseisen
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals / NE-Metalle
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys / Titan und Superlegierungen
H Materiales Duros / Materiels Durs / Hard materials / Hartmaterialien

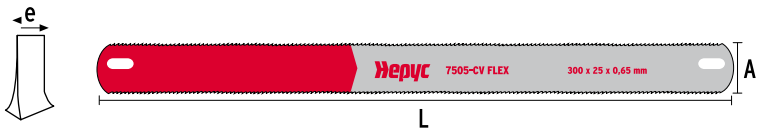
7505 CV

DC

2C

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●																	

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



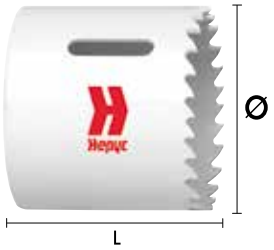
L mm	A mm	e mm	z	€	
300	25	0,65	24	*0,90*	50

7111 Bimetal M42

DV 4/6 Tpi | 0° | M42 (8% CO) | 20mm

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●				o					o			o					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø mm	P.G.	L mm	Ref. 7111 €	Ref. 8157 blister €	
14,00	-	40	*16,21*	*16,81*	1
16,00	9	40	*16,21*	*16,81*	1
17,00	-	40	*16,21*	*16,81*	1
19,00	11	40	*16,21*	*16,81*	1
20,00	-	40	*16,21*	*16,81*	1
21,00	13,50	40	*16,21*	*16,81*	1
22,00	16	40	*16,21*	*16,81*	1
24,00	-	40	*16,21*	*16,81*	1
25,00	-	40	*17,21*	*17,83*	1
27,00	-	40	*18,23*	*18,84*	1
29,00	21	40	*18,23*	*18,84*	1
30,00	-	40	*18,23*	*18,84*	1
32,00	-	40	*18,23*	*18,84*	1
33,00	-	40	*18,23*	*18,84*	1
35,00	-	40	*19,39*	*20,00*	1
37,00	29	40	*19,39*	*20,00*	1
38,00	-	40	*19,39*	*20,00*	1
40,00	-	40	*19,39*	*20,00*	1
41,00	-	40	*19,39*	*20,00*	1
43,00	-	40	*19,39*	*20,00*	1
44,00	-	40	*23,71*	*24,32*	1
46,00	-	40	*23,71*	*24,32*	1
48,00	36	40	*23,71*	*24,32*	1
50,00	-	40	*23,71*	*24,32*	1
51,00	-	40	*23,71*	*24,32*	1
52,00	-	40	*28,05*	*28,66*	1
54,00	42	40	*28,05*	*28,66*	1
56,00	-	40	*28,05*	*28,66*	1
57,00	-	40	*28,05*	*28,66*	1
59,00	-	40	*28,05*	*28,66*	1

Ø mm	P.G.	L mm	Ref. 7111 €	Ref. 8157 blister €	
60,00	-	40	*28,05*	*28,66*	1
64,00	-	40	*31,08*	*31,69*	1
65,00	-	40	*31,08*	*31,69*	1
67,00	-	40	*31,08*	*31,69*	1
68,00	-	40	*31,08*	*31,69*	1
70,00	-	40	*31,08*	*31,69*	1
73,00	-	40	*31,08*		1
76,00	-	40	*31,75*		1
79,00	-	40	*31,75*		1
83,00	-	40	*31,75*		1
86,00	-	40	*31,75*		1
89,00	-	40	*31,75*		1
92,00	-	40	*36,78*		1
95,00	-	40	*42,74*		1
98,00	-	40	*45,24*		1
102,00	-	40	*47,55*		1
105,00	-	40	*51,25*		1
108,00	-	40	*67,32*		1
111,00	-	40	*79,57*		1
114,00	-	40	*92,85*		1
121,00	-	40	*103,15*		1
127,00	-	40	*114,37*		1
133,00	-	40	*125,72*		1
140,00	-	40	*137,07*		1
152,00	-	40	*160,02*		1
160,00	-	40	*247,32*		1
168,00	-	40	*271,80*		1
177,00	-	40	*276,83*		1
210,00	-	40	*292,58*		1
250,00	-	40	*309,24*		1

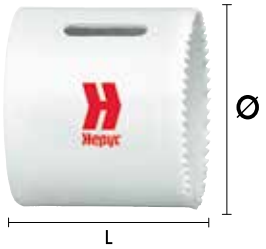
P Aceros / Aciers / Steels / Stähle
M Aceros Inox / Aciers Inox / Stainless Steels / Edelstahl
K Fundicion / Fonte / Cast Iron / Gusseisen
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals / NE-Metalle
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys / Titan und Superlegierungen
H Materiales Duros / Materiels Durs / Hard materials / Hartmaterialien

7110 Bimetal Dentado Fino M42
Dentura Fine / Fine Tooth Pitch

10 Tpi | 0° | M42 (8% CO) | 20mm

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●				●					o			o					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø mm	P.G.	L mm	€	
16,00	9	40	*16,21*	1
19,00	11	40	*16,21*	1
20,00	-	40	*16,21*	1
22,00	16	40	*16,21*	1
25,00	-	40	*17,21*	1
27,00	-	40	*18,23*	1
29,00	21	40	*18,23*	1
30,00	-	40	*18,23*	1
32,00	-	40	*18,23*	1
35,00	-	40	*19,39*	1
38,00	-	40	*19,39*	1
40,00	-	40	*19,39*	1
43,00	-	40	*19,39*	1

Ø mm	P.G.	L mm	€	
46,00	-	40	*23,71*	1
48,00	36	40	*23,71*	1
51,00	-	40	*23,71*	1
54,00	42	40	*28,05*	1
57,00	-	40	*28,05*	1
60,00	-	40	*28,05*	1
68,00	-	40	*31,08*	1
70,00	-	40	*31,08*	1
76,00	-	40	*31,75*	1
83,00	-	40	*31,75*	1
98,00	-	40	*45,24*	1
102,00	-	40	*47,55*	1

7142 Bimetal Cambio Rápido M42
Changement Rapide / Quick Change

DV4/6Tpi | 0° | M42 (8% CO) | 20mm

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●				o					o			o					

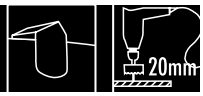
Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø mm	L mm	€	
19,00	40	*19,93*	1
20,00	40	*19,93*	1
22,00	40	*19,93*	1
25,00	40	*20,95*	1
29,00	40	*21,99*	1
32,00	40	*21,99*	1
35,00	40	*23,11*	1
38,00	40	*23,11*	1
41,00	40	*23,11*	1
44,00	40	*23,11*	1

Ø mm	L mm	€	
48,00	40	*27,46*	1
51,00	40	*27,46*	1
54,00	40	*31,78*	1
57,00	40	*31,78*	1
60,00	40	*31,78*	1
64,00	40	*34,81*	1
68,00	40	*34,81*	1
70,00	40	*34,81*	1
76,00	40	*35,49*	1

P Aceros / Aciers / Steels / Stähle
M Aceros Inox / Aciers Inox / Stainless Steels / Edelstahl
K Fundicion / Fonte / Cast Iron / Gusseisen
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals / NE-Metalle
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys / Titan und Superlegierungen
H Materiales Duros / Materiels Durs / Hard materials / Hartmaterialien

7157 Bimetal TCT
Métal Dur / Hard Metal



P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
o				●	●							o					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø mm	L mm	€	
19,00	40	*59,53*	1
22,00	40	*59,53*	1
25,00	40	*63,26*	1
29,00	40	*69,26*	1
32,00	40	*69,26*	1
35,00	40	*69,26*	1
38,00	40	*69,26*	1
44,00	40	*89,36*	1
48,00	40	*89,36*	1
51,00	40	*89,36*	1
54,00	40	*105,34*	1

Ø mm	L mm	€	
57,00	40	*105,34*	1
60,00	40	*105,34*	1
64,00	40	*114,22*	1
70,00	40	*114,22*	1
76,00	40	*116,68*	1
83,00	40	*116,68*	1
86,00	40	*116,68*	1
89,00	40	*116,68*	1
95,00	40	*157,04*	1
102,00	40	*174,77*	1

P Aceros / Aciers / Steels / Stähle
M Aceros Inox / Aciers Inox / Stainless Steels / Edelstahl
K Fundicion / Fonte / Cast Iron / Gusseisen
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals / NE-Metalle
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys / Titan und Superlegierungen
H Materiales Duros / Materiels Durs / Hard materials / Hartmaterialien

Accesorios
Accessoires / Accessories

› Ref. 7112 Husillo eje hexagonal / Arbre axe hexagonal / Hexagonal axis spindle

Rosca Filetage Thread	Ø mm	Hex.	€	
1/2 UNF	14,00 - 30,00	8,5	*17,85*	1
1/2 UNF	14,00 - 30,00	11	*17,85*	1
5/8 UNF	32,00 - 250,00	8,5	*35,56*	1
5/8 UNF	32,00 - 250,00	11	*35,56*	1

› Ref. 7112 Husillo eje SDS+ / Arbre axe SDS+ / SDS+ axis spindle

Rosca Filetage Thread	Ø mm	Hex.	€	
1/2 UNF	14,00 - 30,00	SDS+	*17,85*	1
5/8 UNF	32,00 - 250,00	SDS+	*35,56*	1

› Ref. 7113 Broca de Centrar eje L=85 / Foret de centrage axe L=85 / L=85 axis centre drill-bit

Ø mm	Hex.	€	
14,00 - 250,00	Ø 6,35	*5,61*	1

› Ref. 7114 Extensión eje L=330 / Extension axe L=330 / L=330 axis extension

Ø mm	Hex.	€	
14,00 - 250,00	11	*29,24*	1

› Ref. 7143 Husillo cambio rápido eje hexagonal / Arbre changement rapide axe hexagonal / Hexagonal axis quick-change spindle

Ø mm	Hex.	€	
14,00 - 210,00		*54,71*	1

› Ref. 7144 Adaptador / Adaptateur / Adaptor

Ø mm	Hex.	€	
14,00 - 30,00	-	*4,65*	1
32,00 - 210,00	-	*5,20*	1

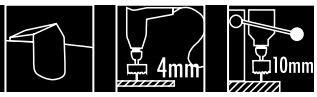
› Ref. 7145 Broca de Centrar eje L= 100 / Foret de centrage axe L=100 / L=100 axis centre drill-bit

Ø mm	Hex.	€	
14,00 - 210,00	6,25	*5,48*	1

› Ref. 7146 Kit cambio rápido husillo+adaptador / Kit changement rapide arbre+adaptateur / Spindle+adaptor quick-change kit

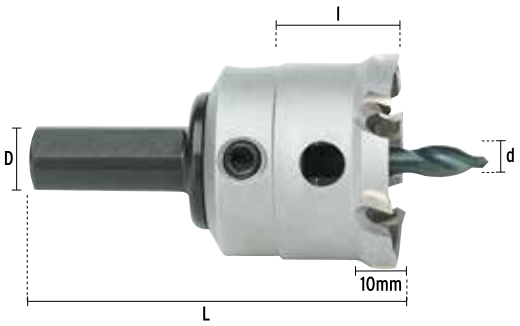
Ø mm	Hex.	€	
-	-	*64,56*	1

7101 TCT Metal Duro
Métal Dur / Hard Metal



P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
o	o	o		●	●				o			o					

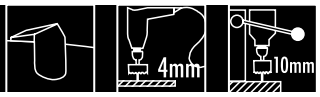
Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø mm	L mm	l mm	z	d mm	D mm	€	
18,00	67,50	22	4	6	10	*101,95*	1
19,00	67,50	22	4	6	10	*99,55*	1
20,00	67,50	22	4	6	10	*99,55*	1
21,00	67,50	22	4	6	10	*102,61*	1
22,00	67,50	22	4	6	10	*102,61*	1
23,00	67,50	22	4	6	10	*104,18*	1
24,00	67,50	22	4	6	10	*104,18*	1
25,00	67,50	22	4	6	10	*104,18*	1
26,00	67,50	22	6	6	10	*110,29*	1
27,00	67,50	22	6	6	10	*111,79*	1
28,00	67,50	22	6	6	10	*111,79*	1
29,00	67,50	22	6	6	10	*111,79*	1
30,00	67,50	22	6	6	10	*111,79*	1
31,00	67,50	22	6	6	10	*131,75*	1
32,00	67,50	22	6	6	10	*131,75*	1
33,00	67,50	22	6	6	10	*136,33*	1
34,00	67,50	22	6	6	10	*137,83*	1
35,00	67,50	22	6	6	10	*137,83*	1
36,00	67,50	22	6	6	10	*139,36*	1
38,00	67,50	22	6	6	13	*139,36*	1
39,00	67,50	22	6	6	13	*140,91*	1
40,00	67,50	22	6	6	13	*140,91*	1
41,00	67,50	22	6	6	13	*166,94*	1
42,00	67,50	22	6	6	13	*166,94*	1
43,00	67,50	22	6	6	13	*171,56*	1
44,00	67,50	22	6	6	13	*171,56*	1
45,00	67,50	22	6	6	13	*171,56*	1
46,00	67,50	22	6	6	13	*177,67*	1
48,00	67,50	22	6	6	13	*177,67*	1
49,00	67,50	22	6	6	13	*179,18*	1
50,00	67,50	22	6	6	13	*179,18*	1
51,00	67,50	22	6	6	13	*206,76*	1
52,00	67,50	22	6	6	13	*206,76*	1
53,00	67,50	22	6	6	13	*208,32*	1
55,00	67,50	22	6	6	13	*208,32*	1
56,00	67,50	22	6	6	13	*228,22*	1
57,00	67,50	22	6	6	13	*228,22*	1
58,00	67,50	22	6	6	13	*228,22*	1
59,00	67,50	22	6	6	13	*231,29*	1

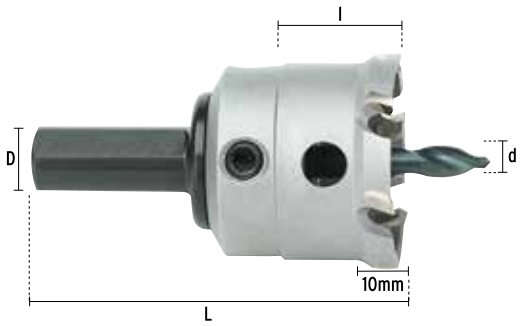
P Aceros / Aciers / Steels / Stähle
M Aceros Inox / Aciers Inox / Stainless Steels / Edelstahl
K Fundicion / Fonte / Cast Iron / Gusseisen
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals / NE-Metalle
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys / Titan und Superlegierungen
H Materiales Duros / Materiels Durs / Hard materials / Hartmaterialien

7101 TCT Metal Duro
Métal Dur / Hard Metal



P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
o	o	o		●	●				o			o					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø mm	L mm	l mm	z	d mm	D mm	€	
60,00	67,50	22	6	8	13	*231,29*	1
61,00	67,50	22	8	8	13	*260,37*	1
62,00	67,50	22	8	8	13	*260,37*	1
63,00	67,50	22	8	8	13	*260,37*	1
64,00	67,50	22	8	8	13	*260,37*	1
65,00	67,50	22	8	8	13	*260,37*	1
66,00	67,50	22	8	8	13	*283,36*	1
67,00	67,50	22	8	8	13	*283,36*	1
68,00	67,50	22	8	8	13	*286,43*	1
69,00	67,50	22	8	8	13	*286,43*	1
70,00	67,50	22	8	8	13	*286,43*	1
75,00	67,50	22	10	8	13	*298,67*	1
80,00	67,50	22	10	8	13	*310,92*	1
85,00	67,50	22	10	8	13	*314,02*	1
90,00	67,50	22	12	8	13	*330,84*	1
95,00	67,50	22	12	8	13	*335,42*	1
100,00	67,50	22	12	8	13	*344,61*	1

Accesorios / Accessoires / Accessories

› Ref. 7102 Broca de Centrar / Centre drill-bit / Foret de centrage

Ø mm	Hex.	L mm	€	
18,00 - 60,00	6	50	*4,61*	1
61,00 - 100,00	8	50	*6,76*	1

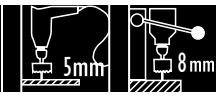
› Ref. 7103 Cono morse / Cône morse / Morse taper

Ø mm	Hex.	L mm	€	
61,00 - 100,00	-	-	*157,62*	1

P Aceros / Aciers / Steels / Stähle
M Aceros Inox / Aciers Inox / Stainless Steels / Edelstahl
K Fundicion / Fonte / Cast Iron / Gusseisen
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals / NE-Metalle
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys / Titan und Superlegierungen
H Materiales Duros / Materiels Durs / Hard materials / Hartmaterialien

7104 HSS Reafilable
HSS Réaffûtable / Resharpenable HSS

M2



P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
o	o	o		●	●				o			o					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø mm	L mm	z	d mm	D mm	€	
10,00	25	6	5	8	*21,04*	1
11,00	25	6	5	8	*22,16*	1
12,00	25	6	5	8	*23,37*	1
13,00	25	6	5	8	*24,54*	1
14,00	25	6	6	8	*25,23*	1
15,00	25	6	6	8	*26,02*	1
16,00	25	6	6	8	*26,66*	1
17,00	25	6	6	8	*27,08*	1
18,00	25	8	6	10	*27,45*	1
19,00	25	8	6	10	*27,66*	1
20,00	25	8	6	10	*28,01*	1
21,00	25	8	6	10	*29,41*	1
22,00	25	8	6	10	*30,81*	1
23,00	25	8	6	10	*32,21*	1
24,00	25	8	6	10	*33,60*	1
25,00	25	10	6	10	*35,01*	1
26,00	25	10	6	10	*36,44*	1
27,00	25	10	6	10	*37,84*	1
28,00	25	10	6	10	*39,23*	1
29,00	25	10	6	10	*40,61*	1
30,00	25	10	6	10	*42,01*	1
31,00	25	10	6	12	*43,41*	1
32,00	25	12	6	12	*44,83*	1
33,00	25	12	6	12	*46,24*	1
34,00	25	12	6	12	*47,65*	1
35,00	25	12	6	12	*49,03*	1
36,00	25	12	6	12	*50,43*	1
37,00	25	12	6	12	*51,82*	1
38,00	25	12	6	12	*53,25*	1
39,00	25	14	6	12	*54,66*	1
40,00	25	14	6	12	*56,04*	1
41,00	25	14	6	12	*57,43*	1
42,00	25	14	6	12	*58,83*	1
43,00	25	14	6	12	*60,29*	1
44,00	25	14	6	12	*61,67*	1
45,00	25	14	6	12	*63,06*	1
46,00	25	16	6	12	*64,48*	1
47,00	25	16	6	12	*65,87*	1
48,00	25	16	6	12	*67,25*	1
49,00	25	16	6	12	*68,68*	1
50,00	25	16	6	12	*70,07*	1
51,00	25	18	8	12	*89,32*	1
52,00	25	18	8	12	*91,06*	1
53,00	25	18	8	12	*92,85*	1
54,00	25	18	8	12	*94,55*	1
55,00	25	18	8	12	*96,33*	1

P Aceros / Aciers / Steels / Stähle
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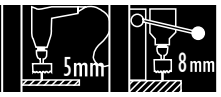
H Materiales Duros / Materiels Durs / Hard materials / Hartmaterialien

7104 HSS Reafilable
HSS Réaffûtable / Resharpenable HSS

M2



P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
o	o	o		●	●				o			o					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø mm	L mm	z	d mm	D mm	€	
56,00	25	18	8	12	*98,08*	1
57,00	25	18	8	12	*99,82*	1
58,00	25	22	8	12	*101,58*	1
59,00	25	22	8	12	*103,36*	1
60,00	25	22	8	12	*105,07*	1
61,00	25	22	8	12	*121,08*	1
62,00	25	22	8	12	*123,07*	1
63,00	25	22	8	12	*125,07*	1
64,00	25	22	8	12	*127,02*	1
65,00	25	22	8	12	*129,01*	1
66,00	25	22	8	12	*131,01*	1
67,00	25	22	8	12	*132,97*	1
68,00	25	24	8	12	*134,95*	1
69,00	25	24	8	12	*136,98*	1
70,00	25	24	8	12	*138,98*	1
75,00	25	24	8	12	*148,85*	1
80,00	25	24	8	12	*158,81*	1
85,00	25	26	8	12	*183,28*	1
90,00	25	26	8	12	*192,66*	1
95,00	25	28	8	12	*204,32*	1
100,00	25	28	8	12	*216,00*	1

Accesorios / Accessoires / Accessories

› Ref. 7105 Husillo / Arbre / Spindle

Ø mm	D mm	Hex.	€	
14,00 - 17,00	8	-	*10,75*	1
18,00 - 30,00	10	-	*10,75*	1
31,00 - 50,00	12	-	*11,47*	1
51,00 - 100,00	12	-	*13,90*	1

› Ref. 7106 Cono Morse / Cône morse / Morse taper

Ø mm	D mm	Hex.	€	
18,00 - 30,00	CM2	-	*37,39*	1
31,00 - 100,00	CM2	-	*37,39*	1

› Ref. 7107 Broca de Centrar / Foret de centrage / Centre drill-bit

Ø mm	D mm	Hex.	€	
10,00 - 13,00	-	6	*3,26*	1
14,00 - 50,00	-	6	*3,51*	1
51,00 - 100,00	-	8	*3,74*	1

P Aceros / Aciers / Steels / Stähle
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Bimetal M42

Ref.	Ø mm	Husillos Arbres Spindles	L mm	€	
7163	22,00-25,00-29,00-32,00-38,00	14-30/32-250	-	*206,39*	1
7164	22,00-29,00-35,00-44,00-51,00-64,00	14-30/32-250	-	*249,44*	1
7165	19,00-22,00-29,00-38,00-44,00-57,00	14-30/32-250	-	*238,89*	1
7166	19,00-22,00-25,00-29,00-35,00 38,00-44,00-51,00-57,00	14-30/32-250	-	*305,13*	1
7115/1	25,00-35,00-43,00-51,00-64,00	14-30/32-210	-	*227,22*	1
7116/1	19,00-22,00-25,00-29,00-38,00-48,00	14-30/32-210	-	*227,03*	1
7117	19,00-22,00-25,00-32,00-35,00-38,00 43,00-51,00-57,00-60,00-64,00-76,00	14-30/32-210	330	*446,68*	1
7148	22,00-25,00-33,00-35,00-41,00-51,00	14-30/32-210	-	*262,92*	1

Bimetal Dentado Fino M42
Denture Fine / Fime Tooth Pitch

Ref.	Ø mm	Husillos Arbres Spindles	L mm	€	
7115/2	25,00-35,00-43,00-51,00-60,00	14-30/32-210	-	*227,22*	1
7116/2	19,00-22,00-25,00-29,00-38,00-48,00	14-30/32-210	-	*227,30*	1

Bimetal Cambio Rápido M42
Changement Rapide / Quick Change

Ref.	Ø mm	Husillo cambio rápido Arbre changement rapide Quick-change spindle	€	
7147	19,00-22,00-25,00-32,00-35,00-38,00 43,00-51,00-57,00-60,00-64,00-76,00	14-210	*443,63*	1