

TABLA DE APLICACIONES GUIDE D'APPLICATION / APPLICATION GUIDE / ANWENDUNGSHANDBUCH



$$r.p.m. = \frac{Vc \times 1.000}{\pi \times \phi}$$

Ref./ Réf. / Ref.	2102	2101	2102/5	2101/5	2114	2113	2190	2191	2180	2179	2274	2275	2148	2147	2147/5	2154	2153	2153/5	2189	
Rosca/ Filetage/Thread	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	UNC	UNC	UNC	UNF	UNF	UNF	UN	
DIN	371	376-374	371	376-374	371	376-374	371	376-374	371	376-374	371	376	371	376-374	376-374	374	374	374	374	
Form.	C(2-3)	C(2-3)	C(2-3)	C(2-3)	A(6-8)	A(6-8)	E(1,5-2)	E(1,5-2)	C(2-3)	C(2-3)	D(2-3)	D(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	
Ejec./Exec./Exec.			LH	LH											LH			LH		
Tol.	6H	6H	6H	6H	6H	6H	6H	6H	6H	6H	6H	6H	6H	6H	6H	6H	6H	6H	6H	6H
Mat.	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HM	HM	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE
Rec./Rev./Coat.									TIAISIN+	TIAISIN+	TICN+	TICN+								
Prof./ Depth	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD
Gama/Gamme/Range	1-10	3-63	3-10	5-30	2-10	3-52	3-10	6-16	3-10	8-20	3-10	12-16	N.4-5/16	1/4-1"1/2	1/4-1"	N.4-5/16	1/4-1"1/2	1/4-1"	1"1/8-2"	1"1/8-2"
Pag.	148	149	151	151	152	152	153	153	154	154	155	155	195	195	196	203	203	204	211	211

Mat.		Vc (m/min)																						
P.1	<600	○	○	○	○	○	○									○	○	○	○	○	○	○	○	
P.2	<800		●	●	●	●	●	●	●								●	●	●	●	●	●	●	●
P.3	<1000	○	○	○	○	○	○									○	○	○	○	○	○	○	○	○
P.4	<1200																							
P.5	<1400																							
M.1	<950																							
M.2																								
M.3	<1200																							
M.4																								
K.1	<500									●	●													
K.2																								
K.3	<800									●	●													
K.4.1		○	○	○	○	○	○									○	○	○	○	○	○	○	○	○
K.4.2	<1400																							
N.1.1																								
N.1.2	Al																							
N.1.3																								
N.2.1																								
N.2.2	Cu							●	●	○	○													
N.2.3		○	○	○	○	○	○									○	○	○	○	○	○	○	○	○
N.2.4																								
N.3.1	Mg/Zn																							
N.4.1																								
N.4.2	Plastic																							
N.4.3																								
S.1.1	Ni																							
S.1.2																								
S.2.1																								
S.2.2	Ti																							
S.2.3																								
H.1	50 HRC												●	●										
H.2	55 HRC												●	●										
H.3	60 HRC												●	●										

● Optima / Optimun ○ Alternativo / Alternative

TABLA DE APLICACIONES GUIDE D'APPLICATION / APPLICATION GUIDE / ANWENDUNGSHANDBUCH



$$\text{r.p.m.} = \frac{\text{Vc} \times 1.000}{\pi \times \text{Ø}}$$

Ref./ Réf. / Ref.	2104	2103	2104/5	2103/5	2111	2272	2110	2109	2168	2169	2407	2408	2250	2251	2116	2115	2254	2255	2126	2125	2176	2175	
Rosca/ Filetage/Thread	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF
DIN	371	374 376	371	374 376	371	374 376-EL	371	374 376	371	374 376	371	374 376	371	374 376	371	374 376	371	374 376	371	374 376	371	374 376	371
Form.	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	
Ejec./Exéc./Exec.			LH	LH																			
Tol.	6H	6H	6H	6H	6H	6H	6H+01	6H+0,1	6G	6G	4H	4H	6H	6H	6H	6H	6HX	6HX	6H	6H	6HX	6HX	
Mat.	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE-PM	HSSE-PM	HSSE-PM	HSSE-PM	HSSE-PM	HSSE-PM	HSSE-PM
Rec./Rev./Coat.													VAP	VAP	TIN+	TIN+	HL	HL	TIAISIN+	TIAISIN+	TIAISIN+	TIAISIN+	TIAISIN+
Prof./ Depth	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	2xD	2xD
Gama/Gamme/Range	2-10	3-52	3-10	20-24	3-12	8-16	3-10	8-16	3-10	8-20	3-10	12	2-10	3-24	2-10	3-24	2-10	8-24	3-10	8-24	3-10	8-20	
Pag.	156	156	158	158	159	159	160	160	161	161	162	162	163	163	164	164	165	165	166	166	167	167	

Mat.		Vc (m/min)																						
P.1	<600	15-25	15-25	15-25	15-25	15-25	15-25	15-25	15-25	15-25	15-25	15-25	15-25	15-25	15-25	20-30	20-30	20-40	20-40					
	P.2	<800	10-20	10-20	10-20	10-20	10-20	10-20	10-20	10-20	10-20	10-20	10-20	10-20	10-20	15-25	15-25	20-40	20-40					
		<1000	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	12-18	12-18	15-30	15-30	10-15	10-15			
	P.4	<1200														8-12	8-12	10-20	10-20	6-10	6-10	6-10	6-10	
	P.5	<1400																5-10	5-10	0-4-6	0-4-6	0-4-6	0-4-6	
M.1	<950	7-10	7-10	7-10	7-10	7-10	7-10	7-10	7-10	7-10	7-10	7-10	7-10	7-10	9-12	9-12	5-15	5-15						
		5-8	5-8	5-8	5-8	5-8	5-8	5-8	5-8	5-8	5-8	5-8	5-8	5-8	6-10	6-10	5-15	5-15						
	<1200														5-8	5-8	6-10	6-10	5-10	5-10	6-12	6-12		
																		5-10	5-10				0-4-6	0-4-6
K.1	<500															10-15	10-15	10-30	10-30					
																10-15	10-15	10-30	10-30					
	<800															15-20	15-20	10-20	10-20					
		10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	15-20	15-20	10-30	10-30					
	K.4.2	<1400																5-15	5-15	0-10-20	0-10-20	10-20	10-20	
N.1.1	Al															15-25	15-25	10-30	10-30					
		10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	15-25	15-25	10-30	10-30						
																15-25	15-25	10-30	10-30					
	Cu																	10-30	10-30	0-4-6	0-4-6	0-4-6	0-4-6	
		10-20	10-20	10-20	10-20	10-20	10-20	10-20	10-20	10-20	10-20	10-20	10-20	10-20	10-20	15-25	15-25	10-30	10-30					
																		10-30	10-30					
	Mg/Zn																	5-15	5-15					
																		10-30	10-30	10-15	10-15	10-15	10-15	
	N.4.1	Plastic	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	12-18	12-18	10-30	10-30					
																	10-30	10-30						
																		10-30	10-30	10-15	10-15	10-15	10-15	
S.1.1	Ni																	2-8	2-8					
	Ti																	10-15	10-15					
																		2-8	2-8	0-6-8	0-6-8	0-6-8	0-6-8	
H.1	50 HRC																			0-4-6	0-4-6	0-4-6	0-4-6	
	55 HRC																							
	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 Superalloys Titanium et Superalloys Titanium and Superalloys Titan und Superlegierungen	H Materiales Duros Materiels Durs Hard materials Hartmaterialien
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M-MF	M-MF	M-MF	M-MF	UNC	UNC	UNC	UNC	UNC	UNC	UNF	UNF	UNF	UNF	UNF	UNF	BSW	BSW	G	G	G	M-MF	M-MF	M-MF	M-MF		
371	374 376	371	374 376	371	376	371	376	371	376	371	374	371	374	371	374	371	376	5156	5156	5156	ISO 529	JIS B4430	JIS B4430	JIS B4430		
B(3,5-5)-AZ	B(3,5-5)-AZ	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)		
6H	6H	6HX	6HX	2B	2B	2B	2B	2B	2B	2B	2B	2B	2B	2B	2B	2B	2B	Med	Med	Med	Med	Med	6H	6H	6H	6H
HSSE	HSSE	HSSE-PM	HSSE-PM	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSS	HSSE	HSSE	HSSE	
		HL	HL			VAP	VAP	TIN+	TIN+			VAP	VAP	TIN+	TIN+			VAP	TIN+				VAP	TIN	TIN	
3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	
3-10	4-16	3-10	12-16	N.4-3/8	1/4-1"1/4	N.4-3/8	7/16-1"	N.4-3/8	7/16-1"	N.4-3/8	1/4-1"	N.4-3/8	7/16-1"	N.4-3/8	7/16-1"	1/8-3/8	1/4-1"	1/8-1"	1/8-1"	1/8-1"	3-30	3-20	3-20	3-20	3-20	
168	168	169	169	197	197	198	198	199	199	205	205	206	206	207	207	214	214	219	219	220	191	192	193	194		

Vc (m/min)

		20-50	20-50	15-25	15-25	15-25	15-25	20-30	20-30	15-25	15-25	15-25	15-25	20-30	20-30	15-25	15-25	15-25	15-25	20-30	10-20	15-25	15-25	20-30
		20-50	20-50	10-20	10-20	10-20	10-20	15-25	15-25	10-20	10-20	10-20	10-20	15-25	15-25	10-20	10-20	10-20	10-20	15-25	5-15	10-20	10-20	15-25
		15-40	15-40	10-15	10-15	10-15	10-15	12-18	12-18	10-15	10-15	10-15	10-15	12-18	12-18	10-15	10-15	10-15	10-15	12-18		10-15	10-15	12-18
		10-20	10-20					8-12	8-12					8-12	8-12					8-12				
		5-10	5-10																					
		5-15	5-15	7-10	7-10	7-10	7-10	9-12	9-12	7-10	7-10	7-10	7-10	9-12	9-12	7-10	7-10	7-10	7-10	9-12		7-10	7-10	9-12
		5-15	5-15	5-8	5-8	5-8	5-8	6-10	6-10	5-8	5-8	5-8	5-8	6-10	6-10	5-8	5-8	5-8	5-8	6-10		5-8	5-8	6-10
		5-10	5-10			5-8	5-8	6-10	6-10			5-8	5-8	6-10	6-10			5-8	5-8	6-10				
		5-10	5-10																					
		10-40	10-40					10-15	10-15					10-15	10-15					10-15				
		10-40	10-40					10-15	10-15					10-15	10-15					10-15				
		10-20	10-20					15-20	15-20					15-20	15-20					15-20				
		10-40	10-40	10-15	10-15	10-15	10-15	15-20	15-20	10-15	10-15	10-15	10-15	15-20	15-20	10-15	10-15	10-15	10-15	15-20	5-15	10-15	10-15	15-20
		5-15	5-15																					
10-20	10-20	10-40	10-40					15-25	15-25					15-25	15-25					15-25				
10-15	10-15	10-40	10-40	10-15	10-15	10-15	10-15	15-25	15-25	10-15	10-15	10-15	10-15	15-25	15-25	10-15	10-15	10-15	10-15	15-25	10-15	10-15	10-15	15-20
		10-40	10-40					15-25	15-25					15-25	15-25					15-25				
6-8	6-8	10-40	10-40					15-25	15-25					15-25	15-25					15-25				
		10-40	10-40					15-25	15-25					15-25	15-25					15-25				
		10-40	10-40	10-20	10-20	10-20	10-20	15-25	15-25	10-20	10-20	10-20	10-20	15-25	15-25	10-20	10-20	10-20	10-20	15-25	5-15	10-20	10-20	15-25
		10-40	10-40																					
10-20	10-20	5-15	5-15																					
10-15	10-15	10-40	10-40	10-15	10-15	10-15	10-15	12-18	12-18	10-15	10-15	10-15	10-15	12-18	12-18	10-15	10-15	10-15	10-15	12-18	10-15	10-15	10-15	12-18
		10-40	10-40																					
		2-8	2-8																					
		10-15	10-15																					
		2-8	2-8																					

● Optima / Optimun ○ Alternativo / Alternative

TABLA DE APLICACIONES

GUIDE D'APPLICATION / APPLICATION GUIDE / ANWENDUNGSHANDBUCH

$$r.p.m. = \frac{Vc \times 1.000}{\pi \times \emptyset}$$



Ref./ Réf. / Ref.	2106	2105	2106/5	2105/5	2112	2166	2165	2170	2208	2409	2410	2108	2107	2252	2253	2118	2117	2256	2257	2124	2123	2178	2177
Rosca/ Filetage/Thread	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF
DIN	371	374/376	371	374/376	371-EL	376-EL	371	374/376	371	374/376	371	374/376	371	374/376	371	374/376	371	374/376	371	374/376	371	374/376	371
Form.	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)
Ejec./Exéc./Exec.	R35°	R35°	L35°-LH	L35°-LH	R35°	R35°	R35°	R35°	R35°	R35°	R35°	R15°	R15°	R35°	R35°	R35°	R35°	R45°	R45°	R35°	R35°	R15°	R15°
Tol.	6H	6H	6H	6H	6H	6H	6H+0.1	6H+0.1	6G	6G	4H	4H	6H	6H	6H	6H	6H	6HX	6HX	6H	6H	6HX	6HX
Mat.	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE
Rec./Rev./Coat.														VAP	VAP	TIN+	TIN+	HL	HL	TIAISIN+	TIAISIN+	TIAISIN+	TIAISIN+
Prof./ Depth	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	1,5xD	1,5xD
Gama/Gamme/Range	M2-M10	M3-M52	M3-M10	M10-M24	M3-M12	M8-M16	M3-M10	M8-M16	M3-M10	M8-M20	M3-M10	M12	M2-M10	M4-M36	M2-M10	M3-M24	M2-M10	M3-M24	M2-M10	M8-M24	M3-M10	M8-M24	M3-M10
Pag.	170	170	172	172	73	173	174	174	175	175	176	176	177	177	178	178	179	179	180	180	181	181	182

Mat.		Vc (m/min)																								
P.1	<600	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
	P.2	<800	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○	○	○		
		P.3	<1000	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
			P.4	<1200															○	○	○	○	○	○	○	
				P.5	<1400																	○	○	○	○	○
M.1	<950	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
	<1200	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
																							○	○		
K.1	<500																									
	K.4.2	<1400	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
N.1.1	Al																									
	N.2.1	Cu																								
N.3.1	Mg/Zn																									
N.4.1	Plastic																									
S.1.1	Ni																									
S.2.1	Ti																									
H.1	50 HRC																									
H.2	55 HRC																									
H.3	60 HRC																									

● Optima / Optimun ○ Alternativo / Alternative

P Aceros Aciers 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 Superaaleaciones Titaneum et Supeallages Titanium and Superalloys Titan und Superlegierungen	H Materiales Duros Materiels Durs Hard materials Hartmaterialien
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2182	2181	2260	2261	2152	2151	2264	2265	2236	2237	2158	2157	2278	2279	2282	2283	2140	2139	2146	2285	2287	2806	2249	2267	2269	2271
M-MF	M-MF	M-MF	M-MF	UNC	UNC	UNC	UNC	UNC	UNC	UNF	UNF	UNF	UNF	UNF	UNF	BSW	BSW	G	G	G	M-MF	M-MF	M-MF	M-MF	M-MF
371	374 376	371	374 376	371	376	371	376	371	376	371	374	371	374	371	374	371	376	5156	5156	5156	ISO 529	JIS B4430	JIS B4430	JIS B4430	JIS B4430
C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	D(3,5-5)	C(2-3)	C(2-3)	C(2-3)	C(2-3)
R45°	R45°	R45°	R45°	R35°	R35°	R35°	R35°	R35°	R35°	R35°	R35°	R35°	R35°	R35°	R35°	R35°	R35°	R35°	R35°	R35°	R35°	R25°	R35°	R35°	R35°
6H	6H	6HX	6HX	2B	2B	2B	2B	2B	2B	2B	2B	2B	2B	2B	2B	2B	2B	2B	2B	2B	Med	Med	Med	Med	Med
HSSE	HSSE	HSSE-PM	HSSE-PM	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSS	HSSE	HSSE
		HL	HL			VAP	VAP	TIN+	TIN+			VAP	VAP	TIN+	TIN+					VAP	TIN+			VAP	TIN
2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	1,5xD	2,5xD	2,5xD	2,5xD
M3-M10	M6-M16	M3-M10	M12-M16	N.4-3/8	1/4-1/4	N.4-3/8	7/16-1"	N.4-3/8	7/16-1"	N.4-3/8	1/4-1"	N.4-3/8	7/16-1"	N.4-3/8	7/16-1"	1/8-3/8	3/16-1"	1/8-1"	1/8-1"	1/8-1"					
183	183	184	184	200	200	201	201	202	202	208	208	209	209	210	210	215	215	220	221	221	190	191	192	193	194

Vc (m/min)

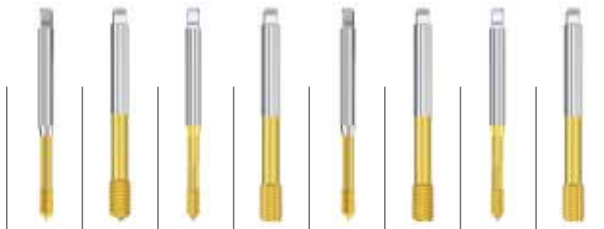
		● 20-50	● 20-50	○ 15-25	○ 15-25	● 15-25	● 15-25	● 20-30	● 20-30	○ 15-25	○ 15-25	● 15-25	● 15-25	● 20-30	● 20-30	○ 15-25	○ 15-25	○ 15-25	○ 15-25	● 20-30	○ 15-25	○ 10-20	○ 15-25	○ 15-25	○ 20-30
		● 20-50	● 20-50	● 10-20	● 10-20	● 10-20	● 10-20	● 15-25	● 15-25	● 10-20	● 10-20	● 10-20	● 10-20	● 15-25	● 15-25	● 10-20	● 10-20	● 10-20	● 10-20	● 15-25	● 10-20	● 5-15	● 10-20	● 10-20	● 15-25
		● 15-40	● 15-40	○ 10-15	○ 10-15	○ 10-15	○ 10-15	● 12-18	● 12-18	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 12-18	○ 12-18	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 12-18			○ 10-15	○ 10-15	○ 12-18
		● 10-20	● 10-20					○ 8-12	○ 8-12					○ 8-12	○ 8-12					○ 8-12					
		● 5-10	● 5-10																						
		● 5-15	● 5-15	○ 7-10	○ 7-10	● 7-10	● 7-10	● 9-12	● 9-12	○ 7-10	○ 7-10	● 7-10	● 7-10	● 9-12	● 9-12	○ 7-10	○ 7-10	○ 7-10	○ 7-10	● 7-10	● 9-12		○ 7-10	○ 7-10	○ 9-12
		● 5-15	● 5-15	○ 5-8	○ 5-8	● 5-8	● 5-8	● 6-10	● 6-10	○ 5-8	○ 5-8	● 5-8	● 5-8	● 6-10	● 6-10	○ 5-8	○ 5-8	○ 5-8	○ 5-8	● 5-8	● 6-10		○ 5-8	○ 5-8	○ 6-10
		● 5-10	● 5-10			○ 5-8	○ 5-8	○ 6-10	○ 6-10			○ 5-8	○ 5-8	○ 6-10	○ 6-10					○ 5-8	○ 6-10				
		● 5-10	● 5-10																						
		● 10-40	● 10-40																						
		● 10-40	● 10-40																						
		● 10-20	● 10-20					● 15-20	● 15-20					● 15-20	● 15-20						15-20				
		● 10-40	● 10-40	○ 10-15	○ 10-15	○ 10-15	○ 10-15	● 15-20	● 15-20	○ 10-15	○ 10-15	○ 10-15	○ 10-15	● 15-20	● 15-20	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	15-20	10-15	5-15	10-15	15-20
		● 5-15	● 5-15																						
● 10-20	● 10-20	● 10-40	● 10-40																						
○ 10-15	○ 10-15	● 10-40	● 10-40	○ 10-15	○ 10-15					○ 10-15	○ 10-15					○ 10-15	○ 10-15	○ 10-15	○ 10-15		○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 15-20
		● 10-40	● 10-40																						
○ 6-8	○ 6-8	● 10-40	● 10-40					● 15-25	● 15-25					● 15-25	● 15-25					● 15-25					
		● 10-40	● 10-40																						
		● 10-40	● 10-40	● 10-20	● 10-20	● 10-20	● 10-20	● 15-25	● 15-25	● 10-20	● 10-20	● 10-20	● 10-20	● 15-25	● 15-25	● 10-20	● 10-20	● 10-20	● 10-20	● 15-25	● 10-20	● 5-15	● 10-20	● 10-20	● 15-25
		● 10-40	● 10-40																						
○ 10-20	○ 10-20	● 5-15	● 5-15																						
○ 10-15	○ 10-15	● 10-40	● 10-40	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 12-18	○ 12-18	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 12-18	○ 12-18	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 12-18	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 12-18
		● 10-40	● 10-40																						
		● 2-8	● 2-8																						
		● 10-15	● 10-15																						
		● 2-8	● 2-8																						

● 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 Superalaciones Titanium et Supealliajes Titanium and Superalloys Titan und Superlegierungen	H Materiales Duros Materiels Durs Hard materials Hartmaterialien
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TABLA DE APLICACIONES GUIDE D'APPLICATION / APPLICATION GUIDE / ANWENDUNGSHANDBUCH

$$\text{r.p.m.} = \frac{V_c \times 1.000}{\pi \times \phi}$$



Ref./ Réf. / Ref.	2188	2187	2214	2213	2216	2215	2218	2217
Rosca/ Filetage/Thread	M	M	M	M	M	M	M	M
DIN	371	374 376	371	374 376	371	374 376	371	374 376
Form.	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)
Ejec./Exéc./Exec.	A>12%	A>12%	A>12%	A>12%	A>12%	A>12%	A>12%	A>12%
Tol.	6HX	6HX	6HX	6HX	6GX	6GX	6GX	6GX
Mat.	HSSE-PM	HSSE-PM	HSSE-PM	HSSE-PM	HSSE-PM	HSSE-PM	HSSE-PM	HSSE-PM
Rec./Rev./Coat.	TIN	TIN	TIN	TIN	TIN	TIN	TIN	TIN
Prof./ Depth	1,5xD	1,5xD	3xD	3xD	1,5xD	1,5xD	3xD	3xD
Gama/Gamme/Range	M3-M10	M12-M16	M3-M10	M8-M16	M3-M10	M12	M3-M10	M12
Pag.	185	185	186	186	187	187	188	188

Mat.		Vc (m/min)									
P.1	<600	•	•	•	•	•	•	•	•		
	P.2	<800	•	•	•	•	•	•	•		
		P.3	<1000	•	•	•	•	•	•	•	
			P.4	<1200							
			P.5	<1400							
M.1	<950	•	•	•	•	•	•	•	•		
		•	•	•	•	•	•	•	•		
	M.2	•	•	•	•	•	•	•	•		
		M.3	<1200								
M.4	<1200										
K.1	<500										
		K.2									
		K.3									
		K.4.1									
	K.4.2	<1400									
N.1.1	Al	•	•	•	•	•	•	•	•		
		•	•	•	•	•	•	•	•		
		N.1.2	•	•	•	•	•	•	•	•	
	Cu	N.2.1	•	•	•	•	•	•	•	•	
		N.2.2	•	•	•	•	•	•	•	•	
		N.2.3	•	•	•	•	•	•	•	•	
		N.2.4									
	N.3.1	Mg/Zn	•	•	•	•	•	•	•	•	
	N.4.1	Plastic									
N.4.2											
N.4.3											
S.1.1	Ni										
		S.1.2									
	Ti	○	○	○	○	○	○	○	○		
		S.2.1	○	○	○	○	○	○	○	○	
		S.2.2									
S.2.3											
H.1	50 HRC										
	H.2	55 HRC									
	H.3	60 HRC									

● Optima / Optimun ○ Alternativo / Alternative



Aceros
Aciers
Steele
Stähle



Aceros Inox
Aciers Inox
Stainless Steels
Edelstahl



Fundición
Fonte
Cast Iron
Gusseisen



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



Titanio y Superalloys
Titanium et Superalloys
Titanium and Superalloys
Titan und Superlegierungen



Materiales Duros
Materiels Durs
Hard materials
Hartmaterialien

TABLA DE APLICACIONES GUIDE D'APPLICATION / APPLICATION GUIDE / ANWENDUNGSHANDBUCH

$$r.p.m. = \frac{Vc \times 1.000}{\pi \times \phi}$$



Ref./ Réf. / Ref.	2411	2412
Rosca/ Filetage/Thread	M-MF	G
DIN	6535	6535
Form.		
Ejec./Exéc./Exec.	R15°	R15°
Tol.	h6	h6
Mat.	HM	HM
Rec./Rev./Coat.	TiAlCN	TiAlCN
Prof./ Depth		
Gama/Gamme/Range	M2-M24	G1/16-1"
Pag.	225	226
Mat.	Vc (m/min)	
P.1	<600	150-200
P.2	<800	120-170
P.3	<1000	100-140
P.4	<1200	80-120
P.5	<1400	70-110
M.1	<950	130-180
M.2		90-140
M.3	<1200	80-120
M.4		70-110
K.1	<500	130-180
K.2		120-160
K.3	<800	100-150
K.4.1		100-150
K.4.2	<1400	80-120
N.1.1	Al	500-900
N.1.2		300-500
N.1.3		200-400
N.2.1	Cu	150-250
N.2.2		130-180
N.2.3		100-140
N.2.4		60-80
N.3.1	Mg/Zn	100-140
N.4.1	Plastic	120-170
N.4.2		70-100
N.4.3		
S.1.1	Ni	60-80
S.1.2		50-70
S.2.1	Ti	60-80
S.2.2		50-70
S.2.3		30-50
H.1	50 HRC	60-100
H.2	55 HRC	30-60
H.3	60 HRC	20-40



TABLA DE APLICACIONES GUIDE D'APPLICATION / APPLICATION GUIDE / ANWENDUNGSHANDBUCH

$$r.p.m. = \frac{Vc \times 1.000}{\pi \times \phi}$$



Ref./ Réf. / Ref.	2301	2301/5	2302	2314	2303	2324	2304	2304/5	2305	2306	2306/5	2316	2317
Rosca/ Filetage/Thread	M-MF	M	M	M	M	M	BSW	BSW	BSF	G	G	G	G
DIN	352-2181	352	352	352	352	352	352	352	2181	5157	5157	5157	5157
Form.												E(1,5-2)	E(1,5-2)
Ejec./Exéc./Exec.		LH						LH			LH		
Tol.	6H	6H	6H	6HX	6HX	6HX	Med	Med	Med	Med	Med	Med	+0,1
Mat.	HSS	HSS	HSS	HSSE	HSSE	HSSE-PM	HSS	HSS	HSS	HSS	HSS	HSS	HSS
Rec./Rev./Coat.			TIN		VAP	TICN							
Prof./ Depth													
Gama/Gamme/Range	M1-M64	M3-M30	M3-M20	M3-M16	M3-M20	M4-M16	3/32-3"	1/8-1"	3/16-1"1/2	1/8-3"	1/8-1"	1/8-1"	1/8-1"
Pag.	227	229	231	230	230	231	232	233	233	234	234	235	235

Mat.		Vc (m/min)												
P.1	<600	●	●	●	○	○		●	●	●	●	●		
P.2	<800	●	●	●	●	●	○	●	●	●	●	●		
P.3	<1000			○	●	●	●							
P.4	<1200				○	○	●							
P.5	<1400						●							
M.1	<950				○	●								
M.2					○	●								
M.3							○							
M.4	<1200						○							
K.1	<500													
K.2														
K.3	<800													
K.4.1		○	○	○	○		○	○	○	○	○	○		
K.4.2	<1400						○							
N.1.1														
N.1.2	Al	○	○	○				○	○	○	○	○		
N.1.3		●	●	●				●	●	●	●	●		
N.2.1														
N.2.2	Cu												●	●
N.2.3		●	●	●	○	○	○	●	●	●	●	●		
N.2.4														
N.3.1	Mg/Zn													
N.4.1														
N.4.2	Plastic													
N.4.3														
S.1.1	Ni													
S.1.2														
S.2.1						●								
S.2.2	Ti													
S.2.3														
H.1	50 HRC													
H.2	55 HRC													
H.3	60 HRC													

● Optima / Optimun ○ Alternativo / Alternative



Aceros
Aciers
Steele
Stähle



Aceros Inox
Aciers Inox
Stainless Steels
Edelstahl



Fundicion
Fonte
Cast Iron
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Metales no ferrosos
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Non Ferrous metals
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Titan und Superlegierungen



Materiales Duros
Materiels Durs
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Hartmaterialien



2307	2307/5	2308	2308/5	2315	2309	2310	2312	2313	2321	2322	2323	2701	2702	2703	2704	2715
UNC	UNC	UNF	UNF	UN	Rc	UNEF	Pg	NPT	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF
352	352	2181	2181	2181	5157	2181	40432	2181	352-2181	352-2181	352-2181	ISO 529	ISO 529	ISO 529	ISO 529	ISO 529
									No Prog	No Prog	No Prog	D(3-5)	D(3-5)	D(3-5)	D(3-5)	D(3-5)
	LH		LH													
2B	2B	2B	2B	2B		2B			6H	6H	6H	4H	4H	4H	4H	4H
HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS
N.4-2"	1/4-1"	N.4-1"1/2	1/4-1"	1"1/8-2"	1/8-1"	1/4-1"	7-48	1/16-2"	M2-M42	N.4-2"	N.4-1"1/2	M2-M24	N.2-1"	N.4-1"	1/8-1"	1/8-1/2"
236	237	237	238	238	239	239	240	240	241	242	242	256	257	257	258	258

Vc (m/min)

•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

● Optima / Optimun ○ Alternativo / Alternative

- P** Aceros
Aciers
Steels
Stähle
- M** Aceros Inox
Aciers Inox
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Edelstahl
- K** Fundicion
Fonte
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- N** Metales no ferrosos
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- S** Titanio y Superalaciones
Titanium et Superaliages
Titanium and Superalloys
Titan und Superlegierungen
- H** Materiales Duros
Materiels Durs
Hard materials
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TABLA DE APLICACIONES GUIDE D'APPLICATION / APPLICATION GUIDE / ANWENDUNGSHANDBUCH

$$r.p.m. = \frac{Vc \times 1.000}{\pi \times \phi}$$



Ref./ Réf. / Ref.	2501	2501/5	2514	2512	2502	2502/5	2503	2504	2504/5	2522	2521
Rosca/ Filetage/Thread	M-MF	M	M	M	BSW	BSW	BSF	G	G	G	G
DIN	22568	22568	22568	22568	22568	22568	22568	24231	24231	24231	24231
Form.											
Ejec./Exéc./Exec.		LH				LH			LH		
Tol.	6g	6g	6g	6g	Med	Med	Med	Med	Med	Med	-0,1
Mat.	HSS	HSS	HSSE	HSSE	HSS	HSS	HSS	HSS	HSS	HSS	HSS
Rec./Rev./Coat.			NIT	VAP							
Prof./ Depth											
Gama/Gamme/Range	M1-M64	M3-M30	M3-M16	M3-M20	3/32-2"	1/8-1"	3/16-1"	1/8-2"	1/8-1"	1/8-1"	1/8-1"
Pag.	243	245	246	246	247	247	248	248	249	250	250

Mat.		Vc (m/min)										
P.1	<600	●	●	○	○	●	●	●	●	●		
P.2	<800	●	●	●	●	●	●	●	●	●		
P.3	<1000			●	●							
P.4	<1200			○	○	○						
P.5	<1400											
M.1	<950			○	●							
M.2				○	●							
M.3	<1200											
M.4												
K.1	<500											
K.2												
K.3	<800											
K.4.1												
K.4.2	<1400											
N.1.1												
N.1.2	Al	○	○			○	○	○	○	○		
N.1.3		●	●			●	●	●	●	●		
N.2.1												
N.2.2	Cu										●	●
N.2.3		●	●	○	○	●	●	●	●	●		
N.2.4												
N.3.1	Mg/Zn											
N.4.1												
N.4.2	Plastic											
N.4.3												
S.1.1	Ni											
S.1.2												
S.2.1												
S.2.2	Ti				●							
S.2.3												
H.1	50 HRC											
H.2	55 HRC											
H.3	60 HRC											

● Optima / Optimun ○ Alternativo / Alternative

2505	2505/5	2506	2506/5	2520	2507	2508	2510	2509
UNC	UNC	UNF	UNF	UN	R	UNEF	Pg	NPT
22568	22568	22568	22568	22568	24231	22568	40434	24230
	LH		LH					
2A	2A	2A	2A	2A		2A		
HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS
N.4-2"	1/4-1"	N.4-1"1/2	1/4-1"	1"1/8-2"	1/8-1"	1/4-1"	7-48	1/16-2"
251	251	252	252	254	253	253	254	255
•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•
◦	◦	◦	◦	◦	◦	◦	◦	◦
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● Optima / Optimun ○ Alternativo / Alternative

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