



**Reference list of materials**  
**Liste de référence de matériaux**  
**Bezugsliste der Materialien**

**002**

**Spare parts**  
**Pièces de rechange**  
**Ersatzteile**

**008**

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**Index alphanumérique**  
**Alphanumerischer index**

**023**

Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

Solid carbide

Boring heads

Arbors & adaptors

## Reference list of materials (Steels)

ISO	Germany		U.S.A. AISI/SAE	Japan JIS	Spain UNE	U.K.		Sweden SS	France AFNOR	Italy UNI
	W.-nr.	DIN				BS	EN			
P	1.0038	St.37-2	A570.36	STKM 12A,C	-	4360 40 C	-	131	E 24-2 Ne	-
	1.0038	GS-CK16	1115	-	-	030A04	1A	1325	-	-
	1.0116	St.37-3	A573-81 65	-	F.111	4360 40 B	-	1312	E 24-U	Fe37-3
	1.0401	C15	1015	-	F.112	080M15	-	1350	CC12	C15C16
	1.0402	C22	1020	-	11SMn28	050A20	2C/2D	1450	CC20	C20C21
	1.0715	9SMn28	1213	SUM22	11SMnPb28	230M07	-	1912	S250	CF 9S Mn28
	1.0718	9SMnPb28	12L13	SUM22L	10SPb20	-	-	1914	S250Pb	CF 9S MnP b28
	1.0722	10SPb20	-	-	12SMn35	-	-	-	10PbF2	CF 10P b20
	1.0736	9SMn36	1215	-	12SMnPb36	240M07	1B	-	S300	CF 9S Mn36
	1.0737	9SMnPb36	12L14	-	C15K	-	-	1926	S300Pb	CF 9MnPb36
	1.1141	Ck15	1015	S15C	-	080M15	32C	1370	XC12	C16
	1.1158	Ck25	1025	S25C	-	-	-	-	-	-
	1.8900	StE 380	A572-60	-	-	4360 55 E	-	2145	-	FeE390KG
	-	17 MnV 6	A572-60	-	-	4360 55 E	-	2142	NFA 35-501 E36	-
	1.0501	C35	1035	-	F.113	060A35	-	1550	CC35	C35
	1.0503	C45	1045	-	F.114	080M46	-	1650	CC45	C45
	1.0726	35S20	1140	-	F210G	212M36	8M	1657	35MF4	-
	1.1157	40Mn4	1039	-	-	150M36	15	-	35M5	-
	1.1167	36Mn5	1335	SMn438(H)	36Mn5	-	-	2120	40M5	-
	1.1170	28Mn6	1330	SCMn1	-	150M28	14A	-	20M5	C28Mn
	1.1183	Cf35	1035	S35C	-	060A35	-	1572	XC38TS	C36
	1.1191	Ck45	1045	S45C	C45K	080M46	-	1672	CX42	C45
	1.1213	Cf53	1050	S50C	-	060A52	-	1674	XC48TS	C53
	1.0535	C55	1055	-	-	070M55	-	1655	-	C55
	1.0601	C60	1060	-	-	080A62	43D	-	CC55	C60
	1.1203	Ck55	1055	S55c	C55K	070M55	-	-	XC55	C50
1.1221	Ck60	1060	S58C	-	080A62	43D	1678	XC60	C60	
1.1274	CK 101	1095	-	F-5117	060A96	-	1870	XC100	-	
1.1545	C105W1	W 1	SK 3	F-5118	BW1A	-	1880	Y105	C36KU	
1.1545	C105W1	W210	SUP4	F.515	BW2	-	2900	Y120	C120KU	
P	1.0144	St.44-2	A573-81	SM400A;B;C	-	4360 43C	-	1412	E28-3	-
	1.0570	St.52-3	-	SM490A;B;YA;YB	-	4360 50B	-	2132	E36-3	Fe52BFN/Fe52CFN
	1.0841	St.52-3	5120	-	F-431	150 M 19	-	2172	20 MC 5	Fe52
	1.0904	55Si7	9255	-	56Si7	250A53	45	2085	55S7	55Si8
	1.0961	60SiCr7	9262	-	60SiCr8	-	-	-	60SC7	60SiCr8
	1.3505	100Cr	52100	SUJ2	F.131	534A99	31	2258	100C6	100Cr6
	1.5415	15Mo3	ASTM A204Gr.A	-	16Mo3	1501-240	-	2912	15D3	16Mo3KW
	1.5423	16Mo5	4520	-	16Mo5	1503-245-420	-	-	-	16Mo5
	1.5622	14Ni6	ASTM A350LF5	-	15Ni6	-	-	-	16N6	14Ni6
	1.6523	21NiCrMo2	8620	SNCM220(H)	20NiCrMo2	805M20	362	2506	20NCD2	20NiCrMo2
	1.6546	40NiCrMo22	8740	SNCM240	40NiCrMo2	311-Type7	-	-	-	40NiCrMo2(KB)
	1.6587	17CrNiMo6	-	-	14NiCrMo13	820A16	-	-	18NCD6	-
	1.7015	15Cr3	5015	SCr415(H)	-	523M15	-	-	12C3	-
	1.7045	42Cr4	5140	SCr440	42Cr4	-	-	2245	-	-
	1.7176	55Cr3	5155	SUP9(A)	-	527A60	48	-	55C3	-
	1.7262	15CrMo5	-	SCM415(H)	12CrMo4	-	-	2216	12CD4	-
	1.7335	13CrMo4 4	ASTM A182F11;F12	-	14CrMo45	1501-620Gr27	-	-	15CD3.5	14CrMo4 5
1.7380	10CrMo9 10	ASTM A182F.22	-	TU.H	1501-622Gr31;45	-	2218	12CD9, 10	12CrMo9, 10	



Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

Solid carbide

Boring heads

Arbors & adaptors

## Reference list of materials (Stainless steels)

ISO	Germany		U.S.A.	Japan	Spain	U.K.		Sweden	France	Italy
	W.-nr.	DIN	AISI/SAE	JIS	UNE	BS	EN	SS	AFNOR	UNI
M	1.4000	X7Cr13	403	SUS403	F.3110	403S17	-	2301	Z6Cr13	X6Cr13
	1.4001	X7Cr14	-	-	F.8401	-	-	-	-	-
	1.4005	X12CrS13	416	SUS416	F.3411	416 S 21	-	2380	Z11CF13	X12 CrS 13
	1.4016	X8Cr17	430	SUS430	F.3113	430S15	960	2320	Z8C17	X8Cr17
	1.4006	X10Cr13	410	SUS410	F.3401	410S21	56A	2302	Z10C14	X12Cr13
	-	X8Cr17	430	SUS430	F.3113	430S17	60	2320	Z8C17	X8Cr17
	1.4034	X46Cr13	-	SUS420J2	F.3405	420S45	56D	2304	Z40CM	X40Cr14
	-	-	-	-	-	-	-	-	Z38C13M	-
	1.4003	-	405	-	-	405S17	-	-	Z8CA12	X6CrAl13
	1.4021	-	420	-	-	420S37	-	2303	Z20C13	X20Cr13
	1.4057	X22CrNi17	431	SUS431	F.3427	431S29	57	2321	Z15CNi6.02	X16CrNi16
	1.4104	X12CrMoS17	430F	SUS430F	F.3117	-	-	2383	Z10CF17	X10CrS17
	1.4113	X6CrMo17	434	SUS434	-	434S17	-	2325	Z8CD17.01	X8CrMo17
	1.4313	X5CrNi13 4	CA6-NM	SCS5	-	425C11	-	2385	Z4CND13.4M	(G)X6CrNi304
	1.4724	X10CrAl13	405	SUS405	F.311	403S17	-	-	Z10C13	X10CrAl12
	1.4742	X10CrAl18	430	SUS430	F.3113	430S15	60	-	Z10CAS18	X8Cr17
	1.4747	X80CrNiSi20	HNV6	SUH4	F.320B	443S65	59	-	Z80CSN20.02	X80CrSiNi20
	1.4762	X10CrAl24	446	SUH446	-	-	-	2322	Z10CAS24	X16Cr26
	1.4871	X53CrMnNiN21 9	EV8	SUH35, SUH36	-	349S54	-	-	Z52CMN21.09	X53CrMnNiN219
	1.4521	X1CrMoTi18 2	S44400	-	-	-	-	2326	-	-
1.4922	X20CrMoV12-1	-	-	-	-	-	2317	-	X20CrMoNi 12 01	
1.4542/	-	630	-	-	-	-	-	Z7CNU17-04	-	
1.4548	-	-	-	-	-	-	-	-	-	
M	1.4306	-	304L	-	-	304S11	-	2352	Z2CrNi18 11	X2CrNi18 11
	1.4350	X5CrNi189	304	SUS304	F.3551	304S31	58E	2332/2333	Z6CN18.09	X5CrNi18 10
	-	-	-	-	F.3541	-	-	-	-	-
	-	-	-	-	F.3504	-	-	-	-	-
	1.4305	X12CrNiS18 8	303	SUS303	F.3508	303S21	58M	2346	Z10CNF 18.09	X10CrNiS 18.09
	1.4301	X5CrNi189	304	SUS304	F.3551	304S15	58E	2332	Z6CN18.09	X5CrNi18 10
	-	-	-	SUS304L	-	304C12	-	2333	Z3CN19.10	-
	1.4306	X2CrNi18 9	304L	SCS19	F.3503	304S12	-	2352	Z2CrNi18 10	X2CrNi18 11
	1.4310	X12CrNi17 7	301	SUS301	F.3517	-	-	2331	Z12CN17.07	X12CrNi17 07
	1.4311	X2CrNi18 10	304LN	SUS304LN	-	304S62	-	2371	Z2CN18.10	-
	1.4401	X5CrNiMo18 10	316	SUS316	F.3543	316S16	58J	2347	Z6CND17.11	X5CrNiMo17 12
	1.4429	X2CrNiMoN18 13	316LN	SUS316LN	-	-	-	2375	Z2CND17.13	-
	1.4404	-	316L	-	-	316S13	-	2348	Z2CND17-12	X2CrNiMo1712
	1.4435	X2CrNiMo18 12	316L	SCS16	-	316S13	-	2353	Z2CND17.12	X2CrNiMo17 12
	-	-	-	SUS316L	-	-	-	-	-	-
	1.4436	-	316	-	-	316S33	-	2343	Z6CND18-12-03	X8CrNiMo1713
	-	-	-	-	-	-	-	2347	-	-
	1.4438	X2CrNiMo18 16	317L	SUS317L	-	317S12	-	2367	Z2 NCDU25-20	X2CrNiMo18 16
	1.4539	X1NiCrMo	UNS V 0890A	-	-	-	-	2562	Z6CNT18.10	-
	1.4541	X10CrNiTi18 9	321	SUS321	F.3553	321S12	58B	2337	-	X6CrNiTi18 11
-	-	-	-	F.3523	-	-	-	Z6CNNb18.10	-	
1.4550	X10CrNiNb18 9	347	SUS347	F.3552	347S17	58F	2338	-	X6CrNiNb18 11	
-	-	-	-	F.3524	-	-	-	-	-	
1.4571	X10CrNiMoTi18 10	316Ti	-	F.3535	320S17	58J	2350	Z6NDT17.12	X6CrNiMoNb17 13	
1.4583	X10CrNiMoNb 18 12	318	-	-	-	-	-	Z6CNDNb17 13B	-	
1.4828	X15CrNiSi20 12	309	SUH309	-	309S24	-	-	Z15CNS20.12	X6CrNi25 20	

## Reference list of materials (Stainless steels)

ISO	Germany		U.S.A. AISI/SAE	Japan JIS	Spain UNE	U.K.		Sweden SS	France AFNOR	Italy UNI
	W.-nr.	DIN				BS	EN			
M Stainless steel (Austenitic)	1.4845	X12CrNi25 21	310S	SUH310	F.331	310S24	-	2361	Z12CN25 20	-
	1.4406	X10CrNi18.08	308	SCS17	F.8414	301S21	58C	2370	Z1NCDU25.20	-
	1.4418	X4 CrNiMo16 5	-	-	-	-	-	2387	Z6CND16-04-01	X2CrNiMo1712
	1.4568 /1.4504	-	17-7PH	-	-	316S111	-	-	Z8CNA17-07	-
	1.4563	-	NO8028	-	-	-	-	2584	Z1NCDU31-27-03	-
	-	-	S31254	-	-	-	-	2378	Z1CNDU20-18-06AZ	-
	-	-	-	-	-	-	-	-	-	-
M Stainless steel (Austenitic / Ferritic (Duplex))	1.4417	X2CrNiMoSi19 5	S31500	-	-	-	-	2376	-	-
	-	X8CrNiMo27 5	S32900	-	-	-	-	2324	-	-
	-	X2CrNiN23 4	S322304	-	-	-	-	2327	Z2CN23-04AZ	-
	-	-	-	-	-	-	-	2328	-	-
	-	X2CrNiMoN22 53	S31803	-	-	-	-	2377	Z2CND22-05-03	-
	-	-	-	-	-	-	-	-	-	-

Inserts

Turning

Automatic  
lathesCeramic  
toolsParting &  
grooving

Threading

Drills

Cartridges

Brazed  
toolsMilling  
cuttersSolid  
carbideBoring  
headsArbors &  
adaptors

Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

Solid carbide

Boring heads

Arbors & adaptors

## Reference list of materials (Castings)

ISO	Germany		U.S.A.	Japan	Spain	U.K.		Sweden	France	Italy
	W.-nr.	DIN	AISI/SAE	JIS	UNE	BS	EN	SS	AFNOR	UNI
<b>K</b>	-	-	-	FCMB310	-	8 290/6	-	0814	MN 32-8	-
	-	GTS-35	32510	FCMW330	-	B 340/12	-	0815	MN 35-10	-
	0.8145	GTS-45	40010	FCMW370	-	P 440/7	-	0852	Mn 450	GMN 45
	0.8155	GTS-55	50005	FCMP490	-	P 510/4	-	0854	MP 50-5	GMN 55
	-	GTS-65	70003	FCMP540	-	P 570/3	-	0858	MP 60-3	-
	0.8165	GTS-65-02	A220-70003	FCMP590	-	P570/3	-	0856	Mn 650-3	GMN 65
	0.8170	GTS-70-02	A220-80002	FCMP690	-	P690/2	-	0862	Mn700-2	GMN 70
<b>K</b>	-	-	-	-	-	-	-	0100	-	-
	-	GG10	No 20 B	FC100	-	-	-	0110	Ft 10 D	-
	0.6015	GG15	No 25 B	FC150	FG 15	Grade 150	-	0115	Ft 15 D	G 15
	0.6020	GG20	No 30 B	FC200	-	Grade 220	-	0120	Ft 20 D	G 20
	0.6025	GG25	No 35 B	FC250	FG25	Grade 260	-	0125	Ft 25 D	G 25
	-	-	No 40 B	-	-	-	-	-	-	-
	0.6030	GG30	No 45 B	FC300	FG30	Grade 300	-	0130	Ft 30 D	G 30
	0.6035	GG35	No 50 B	FC350	FG35	Grade 350	-	0135	Ft 35 D	G 35
	0.6040	GG40	No 55 B	-	-	Grade 400	-	0140	Ft 40 D	-
0.6660	GGL-NiCr202	A436 Type 2	-	-	L-NiCuCr202	-	0523	L-NC 202	-	
<b>K</b>	0.7040	GGG 40	60-40-18	FCD400	FGE 38-17	SNG 420/12	-	0717-02	FCS 400-12	GS 370-17
	-	GGG 40.3	-	-	-	SNG 370/17	-	0717-12	FGS 370-17	-
	0.7033	GGG 35.3	-	-	-	-	-	0717-15	-	-
	0.7050	GGG 50	80-55-06	FCD500	FGE 50-7	SNG 500/7	-	0727-02	FGS 500-7	GS 500
	0.7660	GGG-NiCr202	A43D2	-	-	Grade S6	-	0776	S-NC 202	-
	-	GGG 60	-	FCD600	-	SNG 600/3	-	0732-03	FGS 600-3	-
	0.7070	GGG 70	100-70-03	FCD700	FGS 70-2	SNG 700/2	-	0737-01	FGS 700-2	GS 700-2

## Reference list of materials (Non ferrous materials)

ISO	Germany		U.S.A.	Japan	Spain	U.K.		Sweden	France	Italy
	W.-nr.	DIN	AISI/SAE	JIS	UNE	BS	EN	SS	AFNOR	UNI
<b>N</b>	3.2373	G-AISI9MGWA	SC64D	C4BS	-	-	-	4251	A-STG	-
	-	G-ALMG5	GD-AISI12	AC4A	-	LM5	-	4252	A-SU12	-
	-	-	356.1	A5052	-	LM25	-	4244	-	-
	-	GD-AISI12	A413.0	A6061	-	-	-	4247	-	-
	-	GD-AISI8Cu3	A380.1	A7075	-	LM24	-	4250	-	-
	-	G-AISI12(Cu)	A413.1	ADC12	-	LM20	-	4260	-	-
	-	G-AISI12	A413.2	-	-	LM6	-	4261	-	-
-	G-AISI10Mg(Cu)	A360.2	-	-	LM9	-	4253	-	-	

## Reference list of materials (Heat resistant super-alloys)

ISO	Germany		U.S.A. AISI/SAE	Japan JIS	Spain UNE	U.K.		Sweden SS	France AFNOR	Italy UNI
	W.-nr.	DIN				BS	EN			
S Heat resistant super-alloys	1.4864	X12NiCrSi36 16	330	SUH330	-	-	-	-	Z12NCS35.16	F-3313
	1.4865	G-X40NiCrSi38 18	-	SCH15	-	330C11	-	-	-	XG50NiCr39 19
	2.4603	-	5390A	-	-	-	-	-	NC22FeD	-
	2.4856	NiCr22Mo9Nb	5666	-	-	-	-	-	NC22FeDNB	-
	2.4630	NiCr20Ti	-	-	-	HR5,203-4	-	-	NC20T	-
	LW2.4662	NiFe35Cr14MoTi	5660	-	-	-	-	-	ZSNCDT42	-
	LW2.4670	S-NiCr13A16MoNb	5391	-	-	3146-3	-	-	NC12AD	-
	LW2.4668	NiCr19Fe19NbMo	5383	-	-	HR8	-	-	NC19eNB	-
	2.4375	NiCu30Al	4676	-	-	3072-76	-	-	-	-
	2.4631	NiCr20TiAk	-	-	-	Hr401,601	-	-	NC20TA	-
	2.4973	NiCr19Co11MoTi	AMS 5399	-	-	-	-	-	NC19KDT	-
	LW2.4668	NiCr19Fe19NbMo	AMS 5544	-	-	-	-	-	NC20K14	-
	LW2.4674	NiCo15Cr10MoAlTi	AMS 5397	-	-	-	-	-	-	-
LW2.4964	CoCr20W15Ni	5537C	-	-	-	-	-	KC20WN	-	
-	CoCr22W14Ni	AMS 5772	-	-	-	-	-	KC22WN	-	
S Titanium alloys	-	TiAl5Sn2.5	AMS R54520	-	-	TA14/17	-	-	T-A5E	-
	-	TiAl6V4	AMS R56400	-	-	TA10-13/TA28	-	-	T-A6V	-
	-	TiAl6V4ELI	AMS R56401	-	-	TA11	-	-	-	-
	-	TiAl4MoSn4Si0.5	-	-	-	-	-	-	-	-

## Reference list of materials (Hardened materials)

ISO	Germany		U.S.A. AISI/SAE	Japan JIS	Spain UNE	U.K.		Sweden SS	France AFNOR	Italy UNI
	W.-nr.	DIN				BS	EN			
H Hardened materials	1.4108	X100CrMo13	440A	C4BS	-	-	-	-	-	-
	1.4111	X110CrMoV15	610	AC4A	-	-	-	-	-	-
	-	X65CrMo14	0-2	AC4A	-	-	-	-	-	-

Inserts

Turning

Automatic  
lathesCeramic  
toolsParting &  
grooving

Threading

Drills

Cartridges

Brazed  
toolsMilling  
cuttersSolid  
carbideBoring  
headsArbors &  
adaptors

Screws (Torx) - Vis (Torx) - Schraube (Torx)

Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

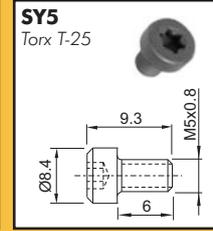
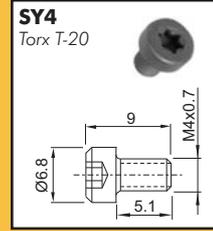
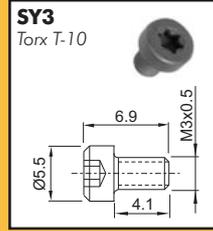
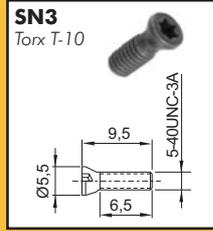
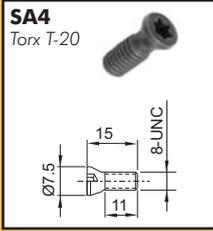
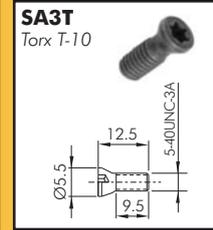
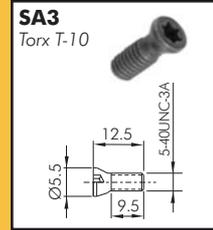
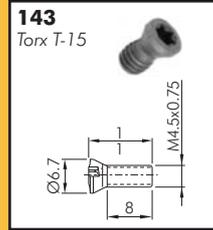
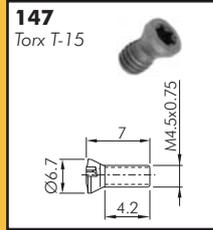
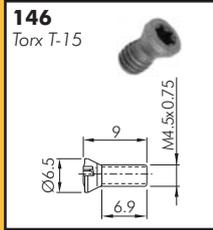
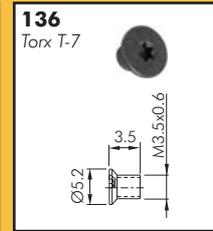
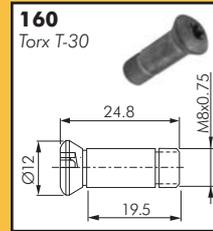
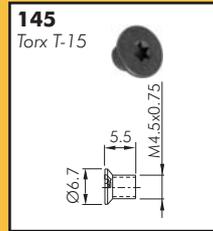
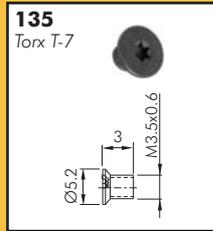
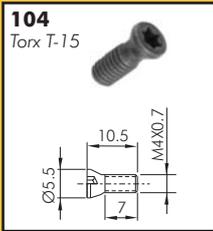
Milling cutters

Solid carbide

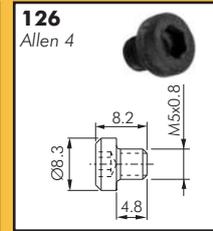
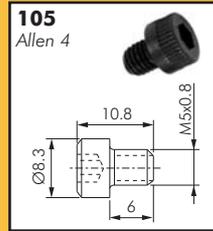
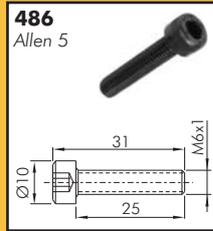
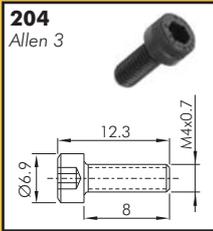
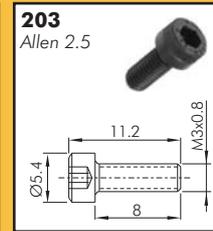
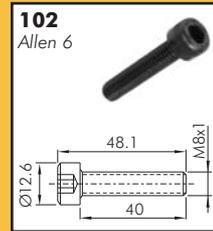
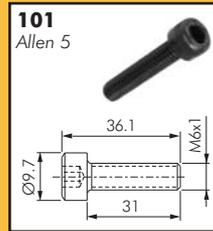
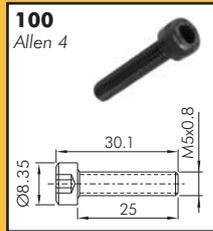
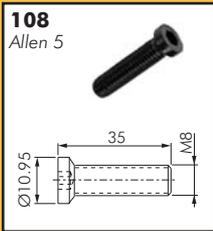
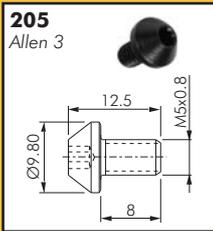
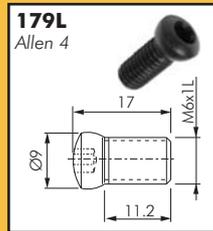
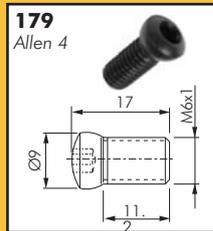
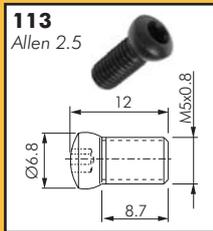
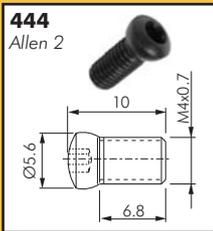
Boring heads

Arbors & adaptors

<b>221</b> Torx T-15 	<b>465</b> Torx T-10 	<b>470</b> Torx T-20 	<b>471</b> Torx T-20 	<b>472</b> Torx T-20 	<b>478</b> Torx T-25 
<b>114</b> Torx T-9 	<b>104</b> Torx T-6 	<b>122</b> Torx T-6 	<b>125</b> Torx T-7 	<b>130</b> Torx T-8 	<b>131</b> Torx T-15 
<b>140</b> Torx T-15 	<b>144</b> Torx T-15 	<b>150</b> Torx T-20 	<b>481</b> Torx T-25 	<b>124</b> Torx T-9 	<b>447</b> Torx T-15 
<b>133</b> Torx T-8 	<b>141</b> Torx T-15 	<b>463</b> Torx T-8 	<b>464</b> Torx T-10 	<b>152</b> Torx T-15 	<b>155</b> Torx T-7 
<b>148</b> Torx T-8 	<b>462</b> Torx T-15 	<b>138</b> Torx T-15 	<b>467</b> Torx T-15 	<b>460</b> Torx T-20 	<b>132</b> Torx T-20 
<b>134</b> Torx T-20 	<b>139</b> Torx T-20 	<b>196</b> Torx T-15 	<b>159</b> Torx T-20 	<b>142</b> Torx T-30 	<b>469</b> Torx T-15 
<b>129</b> Torx T-7 	<b>185</b> Torx T-8 	<b>479</b> Torx T-20 	<b>103</b> Torx T-9 	<b>137</b> Torx T-10 	<b>489</b> Torx T-25 



**Screws (Allen) - Vis (Allen) - Schraube (Allen)**



Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

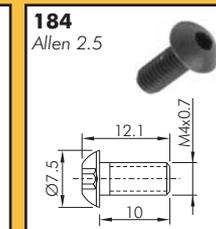
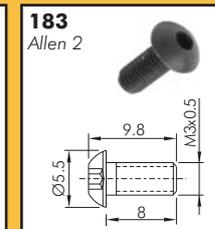
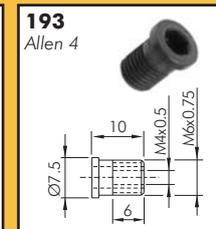
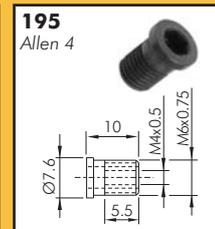
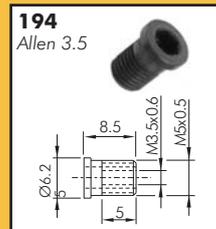
Milling cutters

Solid carbide

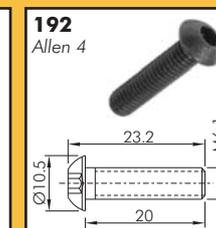
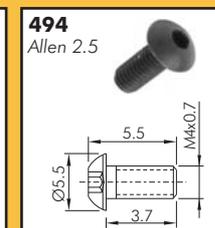
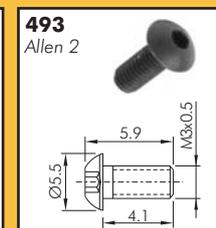
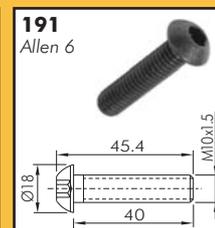
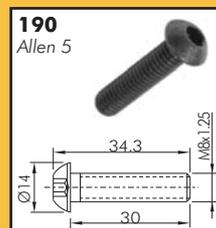
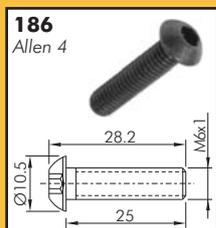
Boring heads

Arbors & adaptors

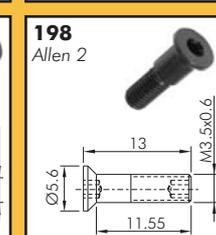
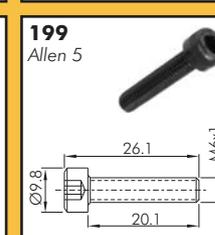
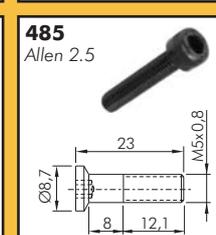
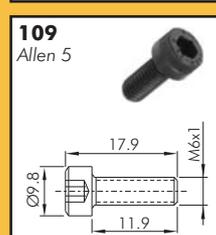
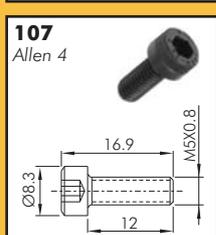
Inserts



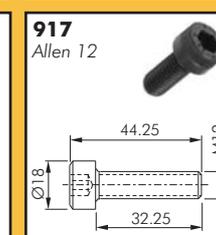
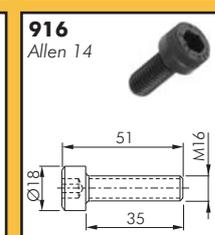
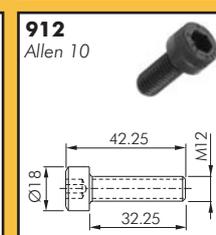
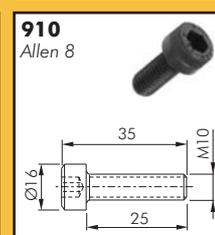
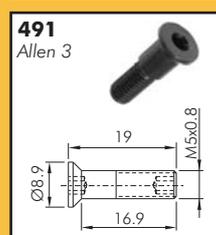
Turning



Automatic lathes



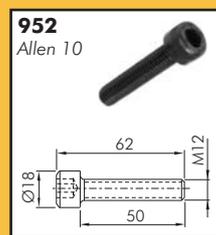
Ceramic tools



Parting & grooving

Threading

Drills

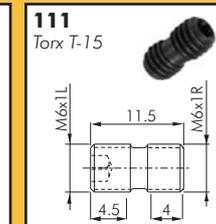
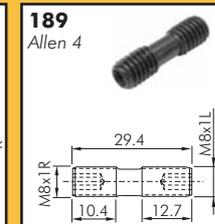


Cartridges

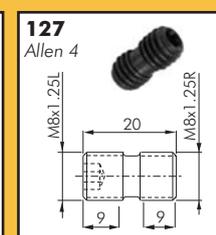
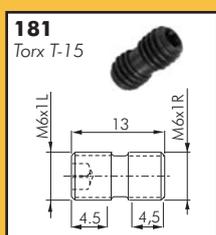
Brazed tools

Clamp screws - ... - ...

Milling cutters



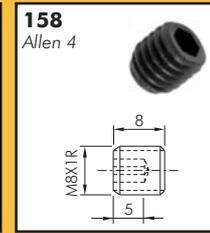
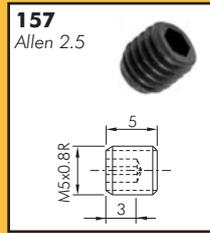
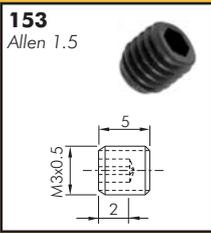
Solid carbide



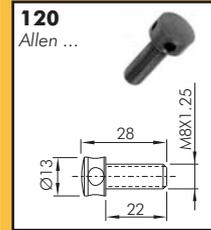
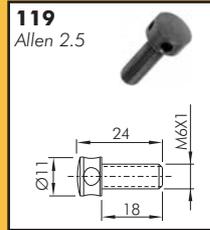
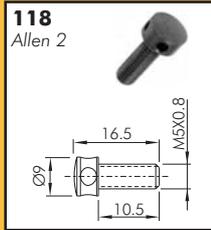
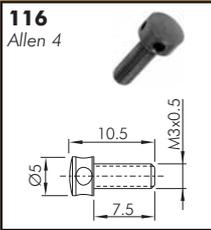
Boring heads

Arbors & adaptors

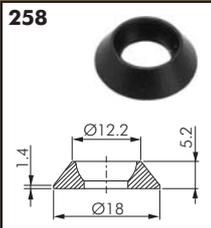
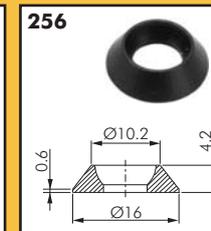
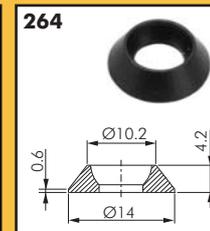
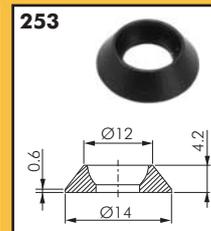
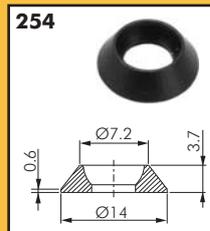
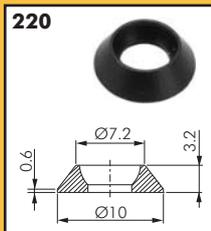
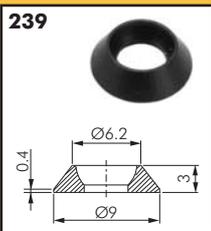
Screws - Vis - Schraube



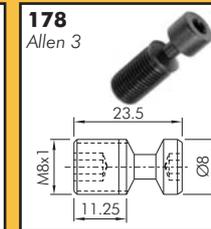
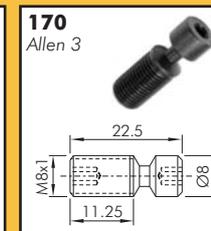
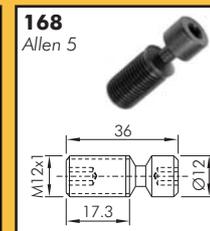
Adj. Screws - ... - ...



Washers - ... - ...



Lever lock system / Screws - ... - ...



Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

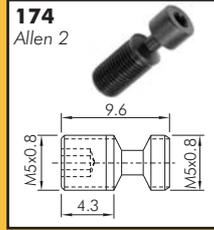
Milling cutters

Solid carbide

Boring heads

Arbors & adaptors

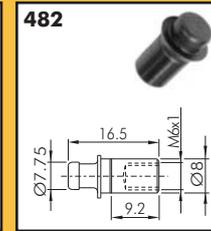
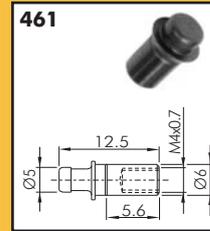
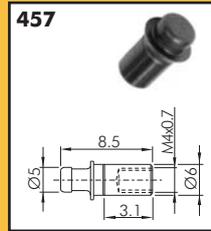
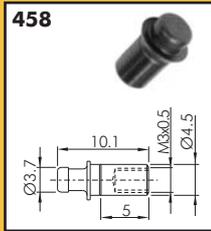
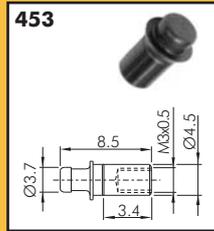
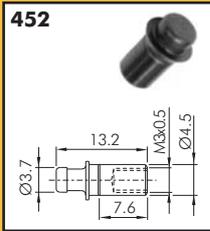
Inserts



Turning

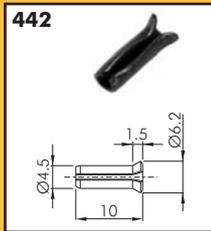
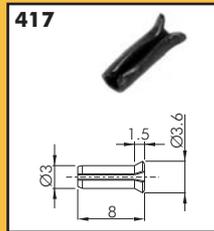
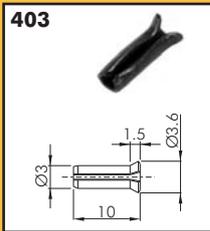
Lock pins - ... - ...

Automatic lathes

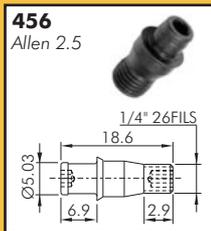


Ceramic tools

Parting & grooving



Threading

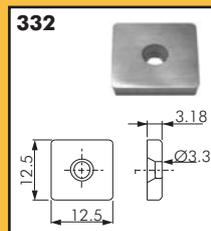
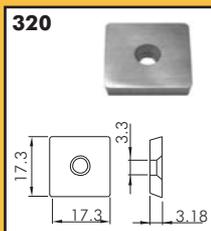
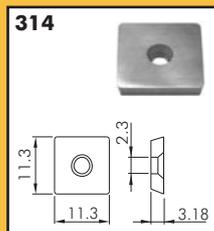
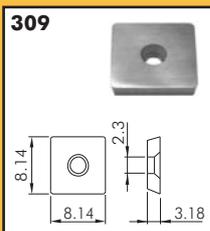


Drills

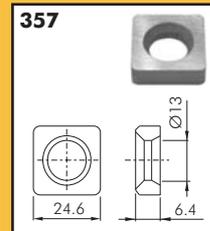
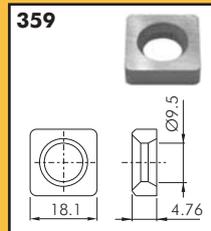
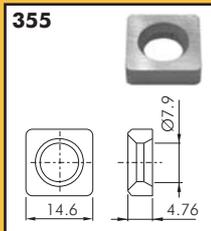
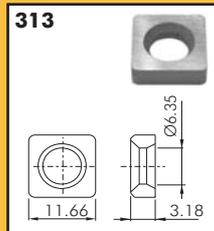
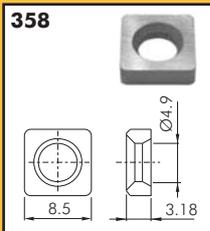
Cartridges

Square / Shim seats - ... - ...

Brazed tools

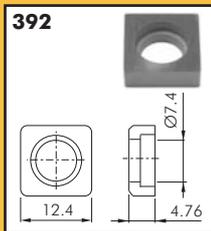
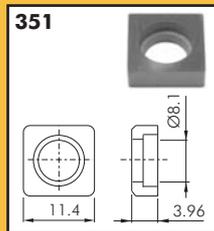
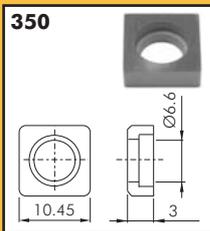


Milling cutters

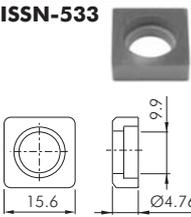
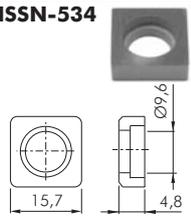
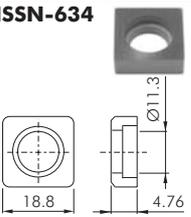
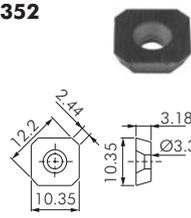
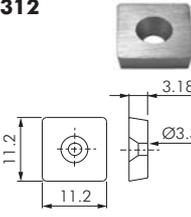


Solid carbide

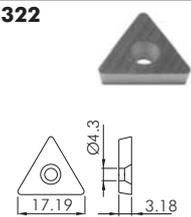
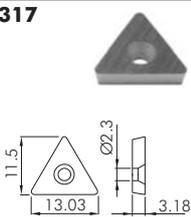
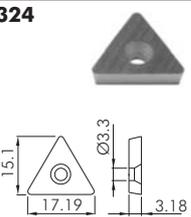
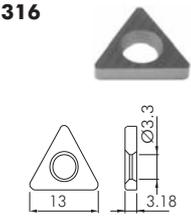
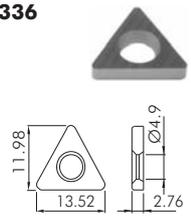
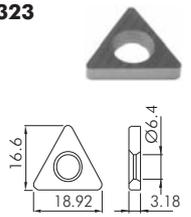
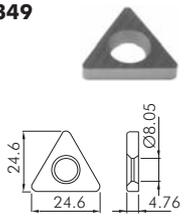
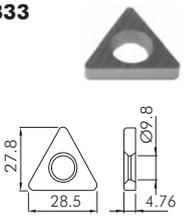
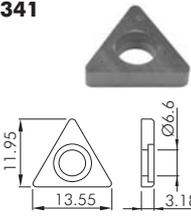
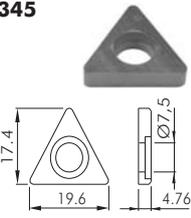
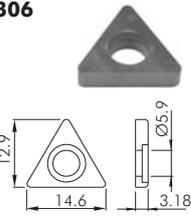
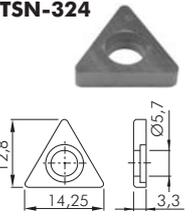
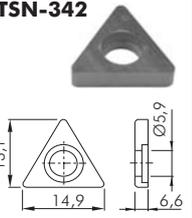
Boring heads



Arbors & adaptors

<b>ISSN-533</b> 	<b>ISSN-534</b> 	<b>ISSN-634</b> 			
<b>352</b> 					
<b>312</b> 					

Square / Shim seats - ... - ...

<b>322</b> 	<b>317</b> 	<b>324</b> 			
<b>316</b> 	<b>336</b> 	<b>323</b> 	<b>349</b> 	<b>333</b> 	
<b>341</b> 	<b>345</b> 	<b>306</b> 	<b>ITSN-324</b> 	<b>ITSN-342</b> 	

- Inserts
- Turning
- Automatic lathes
- Ceramic tools
- Parting & grooving
- Threading
- Drills
- Cartridges
- Brazed tools
- Milling cutters
- Solid carbide
- Boring heads
- Arbors & adaptors

Seats - ... - ...

Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

Solid carbide

Boring heads

Arbors & adaptors

<b>600</b> 	<b>601</b> 	<b>613</b> 	<b>631</b> 	<b>633</b> 	<b>636</b> 
<b>637</b> 	<b>614</b> 	<b>610</b> 	<b>611</b> 	<b>666</b> 	<b>641</b> 
<b>602</b> 	<b>634</b> 	<b>603</b> 	<b>635</b> 	<b>647</b> 	<b>648</b> 
<b>639</b> 	<b>640</b> 	<b>604</b> 	<b>605</b> 	<b>608</b> 	<b>609</b> 
<b>630</b> 	<b>620</b> 	<b>625</b> 	<b>674</b> 	<b>685</b> 	<b>686</b> 
<b>652</b> 	<b>612</b> 	<b>694</b> 	<b>615</b> 	<b>632</b> 	<b>692</b> 
<b>616</b> 	<b>622</b> 				

<b>662</b> 	<b>663</b> 	<b>664</b> 	<b>665</b> 		
<b>646</b> 	<b>656</b> 				
<b>621</b> 	<b>626</b> 	<b>695</b> 	<b>696</b> 	<b>697</b> 	

Top clamp (C) system / Clamps - ... - ...

<b>200</b> 	<b>207</b> 	<b>209</b> 	<b>210</b> 	<b>227</b> 	<b>229</b> 
<b>231</b> 	<b>234</b> 	<b>235</b> 	<b>230</b> 	<b>240</b> 	<b>257</b> 
<b>260</b> 	<b>262</b> 	<b>216</b> 	<b>214</b> 	<b>217</b> 	

Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

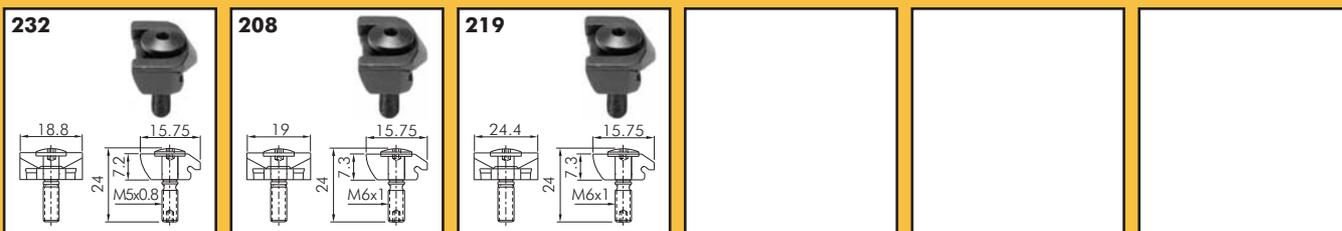
Solid carbide

Boring heads

Arbors & adaptors

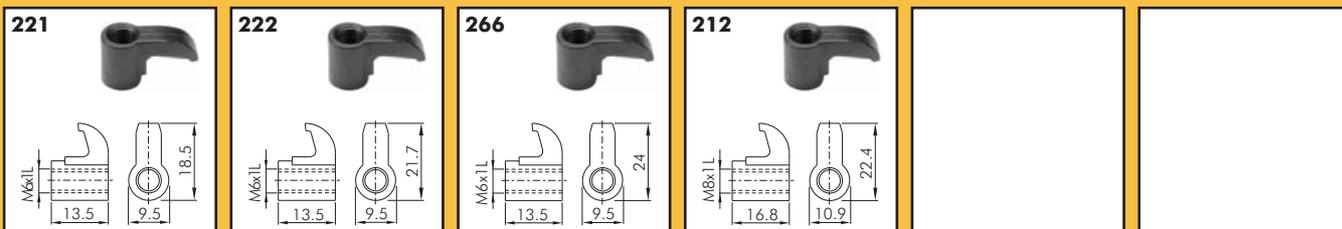
Wedge clamp (M-K) system / Clamps - ... - ...

Inserts



Turning

Automatic lathes



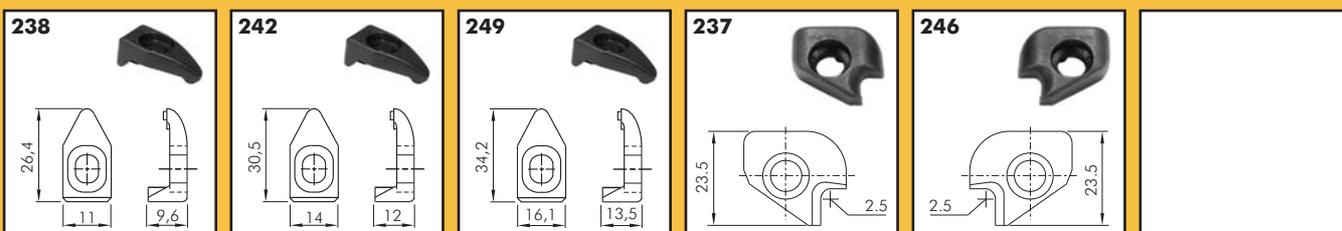
Ceramic tools

Parting & grooving

Top clamp (C) system / Clamps - ... - ...

Top clamp (C) system / Clamps - ... - ...

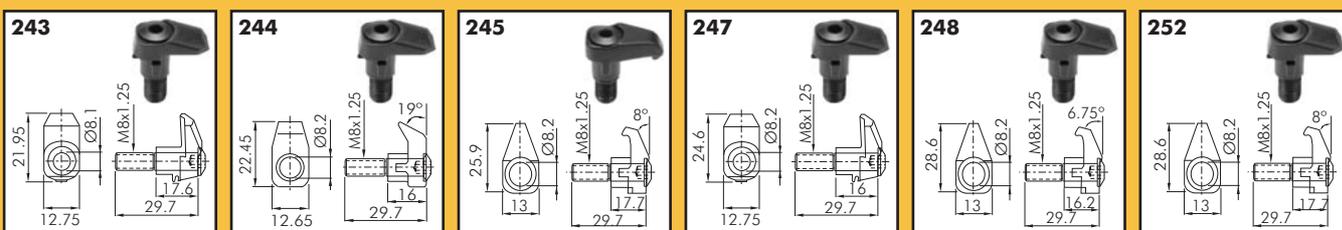
Threading



Drills

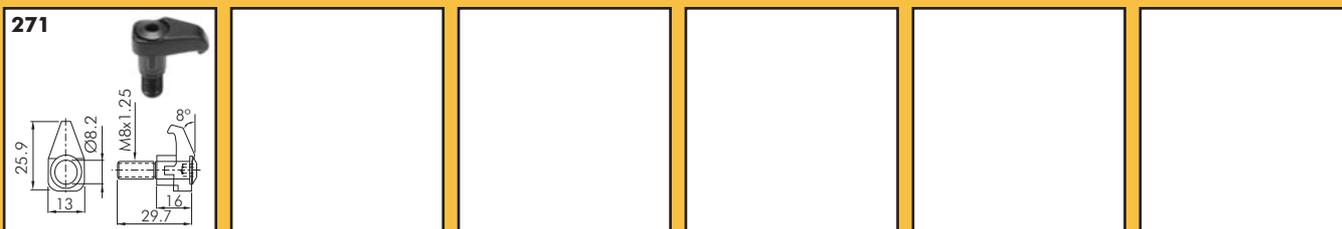
Ceramic tools / Clamps - ... - ...

Cartridges



Brazed tools

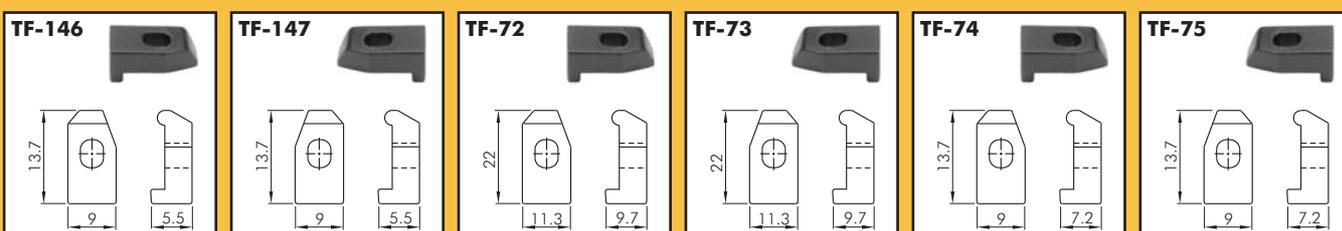
Milling cutters



Solid carbide

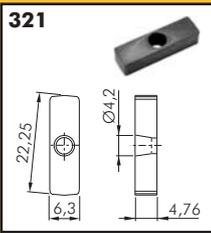
Notch tools / Clamps - ... - ...

Boring heads

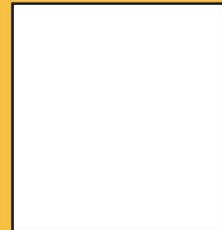
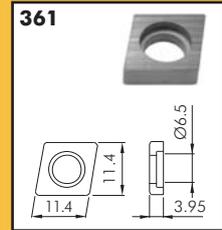
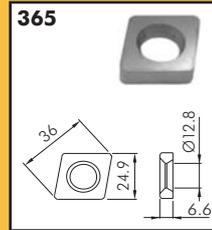
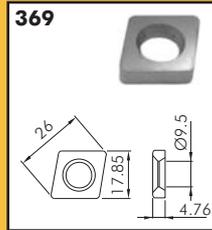
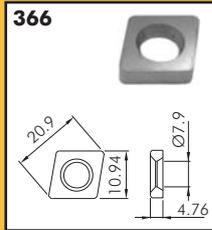
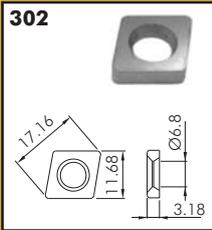
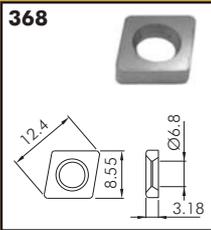


Arbors & adaptors

Shim seat - ... - ...



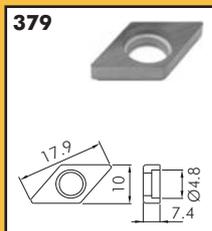
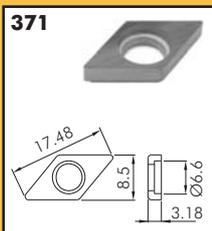
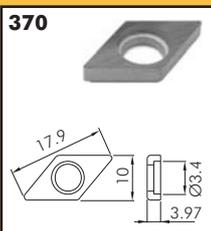
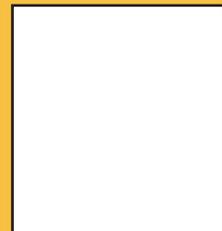
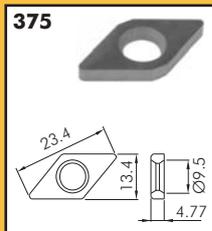
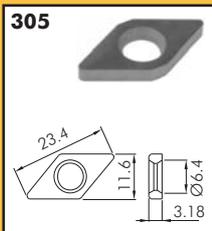
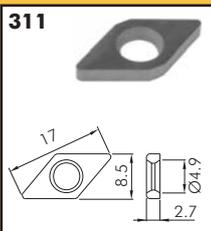
80° Rhombic / Shim seats - ... - ...



75° Rhombic / Shim seats - ... - ...



55° Rhombic / Shim seats - ... - ...



Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

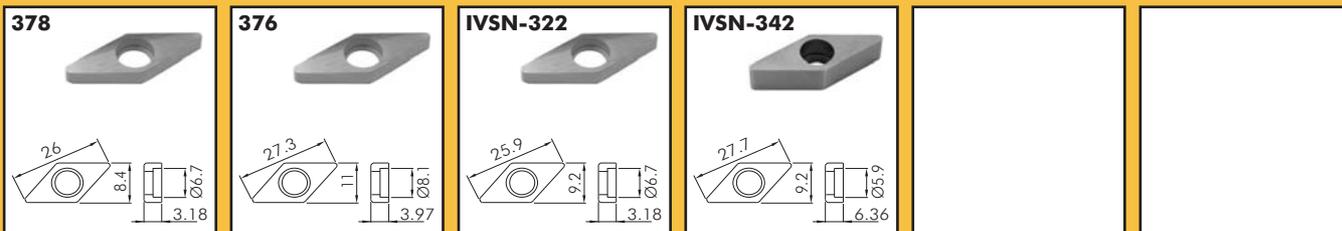
Solid carbide

Boring heads

Arbors & adaptors

35° Rhombic / Shim seats - ... - ...

Inserts

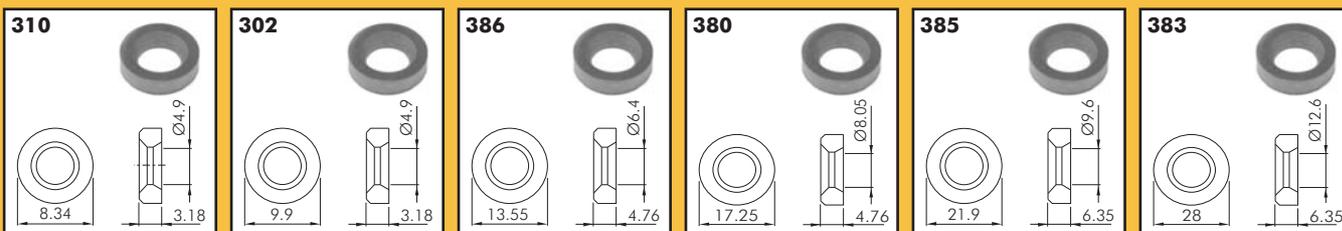


Turning

Automatic lathes

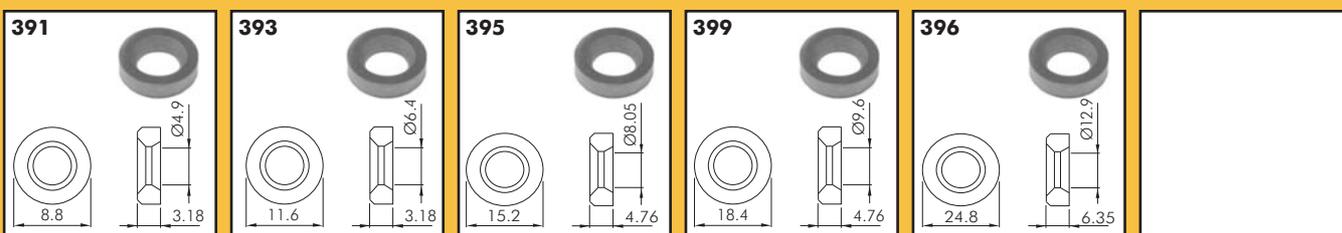
Round / Shim seats - ... - ...

Ceramic tools

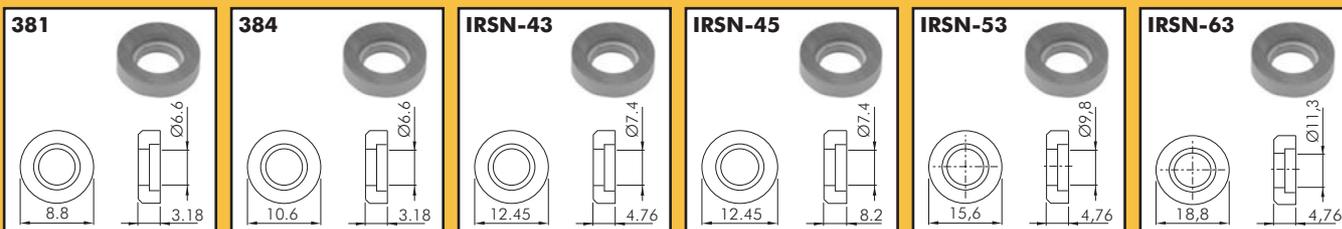


Parting & grooving

Threading

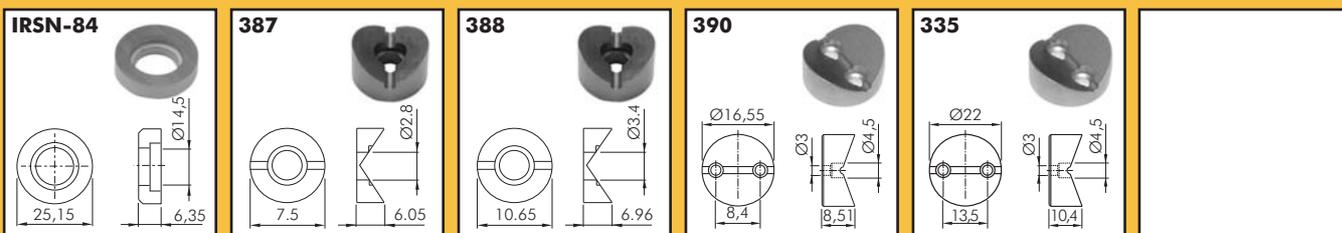


Drills



Cartridges

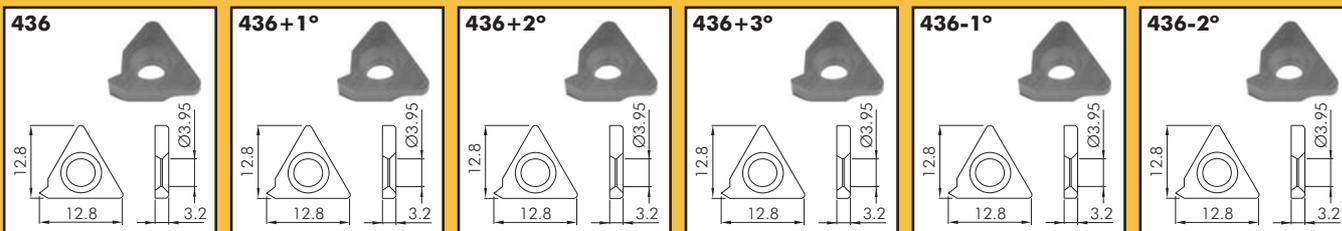
Brazed tools



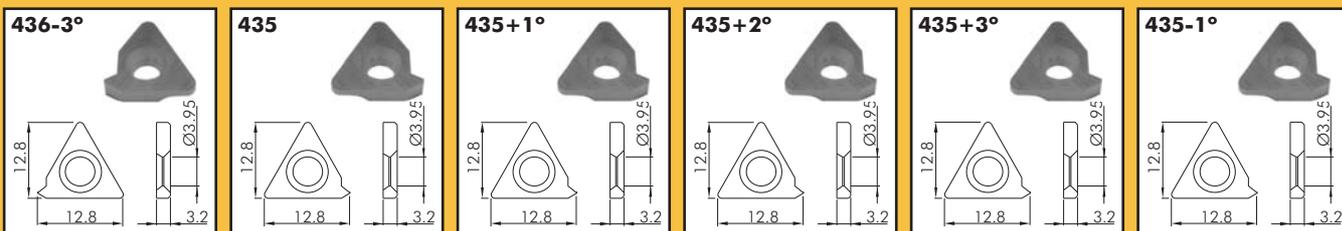
Milling cutters

Threading / Shim seats - ... - ...

Solid carbide



Boring heads



Arbors & adaptors

<b>435-2°</b> 	<b>435-3°</b> 	<b>343</b> 	<b>346</b> 	<b>YE3</b> 	<b>YE4</b> 
<b>YI3</b> 	<b>YI4</b> 	<b>YI5</b> 			
<b>318R</b> 	<b>318L</b> 	<b>330R</b> 	<b>330L</b> 		

Trigon / Shim seats - ... - ...

<b>307</b> 	<b>308</b> 		<b>304</b> 	<b>329</b> 	
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KNUX/ Shim seats - ... - ...

<b>327</b> 	<b>328</b> 				
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Others - D'autres - Andere

<b>009</b> 	<b>002</b> 	<b>005</b> 	<b>029</b> 	<b>035</b> 	
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- Inserts
- Turning
- Automatic lathes
- Ceramic tools
- Parting & grooving
- Threading
- Drills
- Cartridges
- Brazed tools
- Milling cutters
- Solid carbide
- Boring heads
- Arbors & adaptors

Inserts

<b>293</b>  Ø6.8 0.5 Ø3.25	<b>294</b>  Ø9 0.8 Ø4.3	<b>286</b>  Ø12 1.5 Ø6.4	<b>288</b>  Ø16 1.6 Ø8.4	<b>290</b>  Ø21 2.5 Ø10.5	
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Turning

Automatic lathes

<b>402</b>  Ø2.7 10 Ø2.1	<b>403</b>  Ø3.6 10 Ø3	<b>442</b>  Ø6.2 10 Ø4.5			
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Ceramic tools

Parting & grooving

<b>409</b>  4.6 Ø5.76 Ø4.9	<b>410</b>  6.1 Ø5.6 Ø4.9	<b>412</b>  5.2 Ø7 Ø6.6	<b>415</b>  7.7 Ø9 Ø8.2	<b>416</b>  8.5 Ø6.82 Ø6.5	<b>419</b>  9.8 Ø10.57 Ø9.7
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Threading

Drills

<b>425</b>  9.7 Ø14.7 Ø13.2	<b>429</b>  6.9 Ø10.5 Ø9.8	<b>433</b>  8.4 Ø10.4 Ø9.8	<b>438</b>  6.8 Ø7.2 Ø6.6		
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Cartridges

<b>421</b>  5.9 Ø4.8 Ø2.5	<b>422</b>  8.1 Ø4.8 Ø2.5	<b>423</b>  12.5 Ø4.8 Ø2.5	<b>424</b>  14.5 Ø4.8 Ø2.5		
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Brazed tools

Milling cutters

<b>496</b>  3 Ø6.5 11.2	<b>495</b>  3.5 Ø9.5 13				
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Solid carbide

<b>646</b>  32 13 10.9	<b>656</b>  40 16.5 10.9				
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Boring heads

Arbors & adaptors

<b>805</b>  10.1 7.8 2.3	<b>809</b>  10.2 12 3.4	<b>812</b>  13.5 13.1 4.2	<b>815</b>  19.2 17.2 5.3	<b>816</b>  16.5 17.1 5.4	<b>819</b>  20.4 20.8 7.3
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<b>825</b> 	<b>820</b> 	<b>822</b> 	<b>826</b> 	<b>830</b> 	<b>835</b> 
<b>852</b> 	<b>832</b> 	<b>836</b> 	<b>839</b> 	<b>842</b> 	<b>845</b> 
<b>980</b> 	<b>981</b> 	<b>982</b> 	<b>906</b> 	<b>983</b> 	<b>984</b> 
<b>985</b> 	<b>986</b> 	<b>926</b> 	<b>987</b> 	<b>988</b> 	<b>989</b> 
<b>990</b> 	<b>991</b> 	<b>992</b> 	<b>993</b> 	<b>994</b> 	<b>995</b> 
<b>9612</b> 	<b>944</b> 	<b>946</b> 			

- Inserts
- Turning
- Automatic lathes
- Ceramic tools
- Parting & grooving
- Threading
- Drills
- Cartridges
- Brazed tools
- Milling cutters
- Solid carbide
- Boring heads
- Arbors & adaptors

Allen Wrenches - ... - ...

<b>502</b>  Allen 2	<b>503</b>  Allen 3	<b>504</b>  Allen 4	<b>505</b>  Allen 5	<b>526</b>  Allen 6	<b>545</b>  Allen 1.5
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Inserts

525  Allen 2.5					
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Turning

Torx Wrenches - ... - ...

Automatic lathes

506  Torx T6	507  Torx T7	508  Torx T8	509  Torx T9	530  Torx T10	515  Torx T15
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Ceramic tools

521  Torx T15 Allen 3,5	523  Torx T15 Allen 4	520  Torx T20	552  Torx T25	537  Torx T30	
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Threading

517  Torx T7	518  Torx T8	535  Torx T15	522  Torx T20	562  Torx T25	
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Drills

Cartridges

CLS Wrenches - ... - ...

501 	524  Allen 4	500  Allen 5			
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Brazed tools

Milling cutters

Others - D'autres - Andere

Solid carbide

532 	533 				
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Boring heads

Arbors & adaptors

**Inserts**

Ref.	Page
ADMT	A.36
ADMW	A.36
ADMW-C	A.36
ADMW-R	A.36
APFT	A.36
APHT-AL	A.36
APKT	A.37
APKT-26	A.37
APLT	A.37
APLX	A.37
APMT	A.37
APMT-26	A.37
APMW	A.38
CCGT-AL	A.38
CCGT-AP	A.38
CCKT	A.38
CCMT-03	A.38
CCMW	A.38
CNGP	A.39
CNMA	A.39
CNMG-CF	A.39
CNMG-CFC	A.39
CNMG-CFM	A.39
CNMG-CM	A.39
CNMG-CMC	A.40
CNMG-CMF	A.40
CNMG-CMR	A.40
CNMG-CR	A.40
CNMG-CS	A.40
CNMM	A.40
DCGT-AL	A.41
DCGT-AP	A.41
DCMT-03	A.41
DCMW	A.41
DNGP	A.41
DNMA	A.41
DNMG-CF	A.42
DNMG-CFC	A.42
DNMG-CFM	A.42
DNMG-CM	A.42
DNMG-CMC	A.42
DNMG-CMF	A.42
DNMG-CMR	A.43
DNMG-CS	A.43
DNMX	A.43
ECMT	A.43
EPMT	A.43
EPMW	A.43
EPMX	A.44
FRC	A.44
FRCR	A.44
GXGP-AL	A.44
HPR	A.44
INT	A.44
INW	A.45
KNUX	A.45
MTK	A.45
ODMT	A.45
ODMW	A.45
RCGT-AL	A.45
RCGT-AP	A.46
RCMT	A.46
RDHW	A.46
RDMT	A.46
RDMW	A.46
RNMG	A.46
RPMT	A.47
RPMW	A.47
RPR	A.47
SCGT-AL	A.47
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**Eines Canela, S.A.**

**Conditions of sale:**

All sales are made in accordance with our standard conditions of sale, current at the time orders are accepted. Specifications and prices subject to change without notice.

**Product warranty:**

Eines Canela will repair or replace any of its products, which in its judgement, are found to be defective in material of workmanship. All claims must be made in writing within thirty days after receipt of product. No claims for labor or damages will be allowed. In no event shall Eines Canela be liable for consequential or special damages of any kind.

**Special tool quotation:**

Orders for special tools must be confirmed in writing before manufacturing can begin. Special items and non-stock standard items cannot be cancelled or returned for exchange or credit.

**Delivery terms:**

Barcelona. Full transportation costs will be charged to the buyer. Specify shipment to be made by other than regular means of transportation.

**Claims:**

Claims for loss in transit must be made against the transportation company. The foregoing shall constitute the sole and exclusive remedies of the customer and are in lieu of all other warranties, expressed, implied or statutory, including but not limited to any implied warranty of merchantability or fitness.

**Returns:**

No merchandise will be accepted for return after 30 days of shipment. All returns must be pre-paid and must be accompanied by our Return Goods Authorization (RGA) number. This number must appear on the outside of the box. Merchandise must be received in good condition or will be refused.

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Eines Canela will repair or replace any of its products, which in its judgement, are found to be defective in material of workmanship. All claims must be made in writing within thirty days after receipt of product. No claims for labor or damages will be allowed. In no event shall Eines Canela be liable for consequential or special damages of any kind.

**Special tool quotation:**

Orders for special tools must be confirmed in writing before manufacturing can begin. Special items and non-stock standard items cannot be cancelled or returned for exchange or credit.

**Delivery terms:**

Barcelona. Full transportation costs will be charged to the buyer. Specify shipment to be made by other than regular means of transportation.

**Claims:**

Claims for loss in transit must be made against the transportation company. The foregoing shall constitute the sole and exclusive remedies of the customer and are in lieu of all other warranties, expressed, implied or statutory, including but not limited to any implied warranty of merchantability or fitness.

**Returns:**

No merchandise will be accepted for return after 30 days of shipment. All returns must be pre-paid and must be accompanied by our Return Goods Authorization (RGA) number. This number must appear on the outside of the box. Merchandise must be received in good condition or will be refused.

Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

Solid carbide

Boring heads

Arbors & adaptors

Inserts

Turning

Automatic  
lathesCeramic  
toolsParting &  
grooving

Threading

Drills

Cartridges

Brazed  
toolsMilling  
cuttersSolid  
carbideBoring  
headsArbors &  
adaptors**Eines Canela, S.A.****Conditions of sale:**

All sales are made in accordance with our standard conditions of sale, current at the time orders are accepted. Specifications and prices subject to change without notice.

**Product warranty:**

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## Eines Canela, S.A.

This catalog contains information and specifications concerning cutting tools sold by Eines Canela. Although some of the cutting tools made from carbides are very tough and resist breakage, most are brittle and special safety precautions are required when using them.

Small fragments and chips may be thrown from a cutting tool when a fracture occurs. Since these fragments or chips are thrown at very high speeds and are very hot, contact with the skin or eyes could cause severe injury. Also, the grinding of these cutting tools will produce fine carbide and cobalt or nickel dust which may be harmful to the lungs. Listed below are some suggestions on how to minimize the potential for injury while using cutting tools.

For more information about the product hazards and safety precautions that must be taken to minimize the possibility of injury while using cutting tools, please call your Eines Canela Sales Engineer.

Eines Canela has no control over use of these cutting tools. The user must determine the suitability of these tools in its particular application.

**WARNING: Very hot chip fragments may be thrown from cutting tools at very high speeds. These chips can cause severe burns, cuts or punctures to the skin, or damage to the eyes. The following are some of the safety precautions that must be followed by operators and observers while using cutting tools:**

1. Make sure that the insert size and shape are adequate for use to which it is being put.
2. Chip control is necessary to prevent a continuous chip catching in the workpiece.
3. Chips are very hot and have sharp edges and should not be moved by hand.
4. Turn off the machine whenever chips are removed or when the cutting tools are changed.
5. Do not use air hoses to blow chips away from the machine.
6. To prevent tool breakage use the correct size toolholder.
7. Make sure that the overhang on the toolholder is as short as possible. Too much overhang can result in chatter and tool breakage.
8. To prevent the workpiece from coming loose during use, be sure the workpiece is tight and secure in its holder.
9. Overloading of tungsten carbide cutting tools may cause fractures of these tools.
10. A slug may be ejected at high speeds during drilling.

To protect the operator and observer from possible flying objects which could result in severe injury, the following protective devices should be worn or used while using cutting tools:

1. Wear hard hats.
2. Wear safety glasses with side shields.
3. Wear closed shoes with steel toes.
4. Keep protective enclosure on machine in place during operation.

**WARNING: Grinding or finishing carbide produces fine carbide and cobalt or nickel dust. This dust may cause injury to the lungs. Operators and observers must take the following safety precautions to minimize the possibility of such injury:**

1. Use with adequate ventilation.
2. Maintain the dust or mist level below recommended levels.
3. Avoid breathing dust or mist. If not possible, wear appropriate respirators, particularly when grinding tungsten carbide.
4. Minimize prolonged skin contact.
5. Wash hands thoroughly after handling.

**WARNING: Use of cutting fluids and work materials create hazards. Be careful at all times.**

1. Keep the cutting fluid clean so no particles can be carried back across the workpiece and possibly scratch it.
2. Cutting fluids may catch on fire when exposed to high temperatures generated during cutting.
3. Work materials such as aluminium, magnesium, uranium and titanium are flammable and could catch on fire.
4. Cutting fluids should be treated or replaced to reduce bacterial levels which may cause illness.

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