

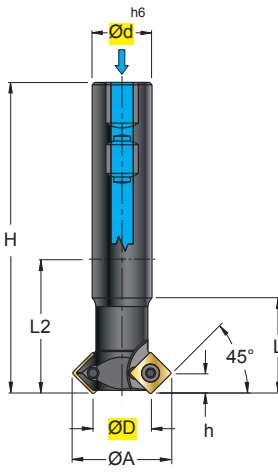
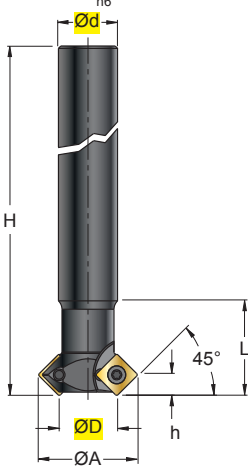
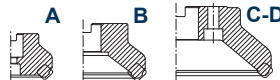

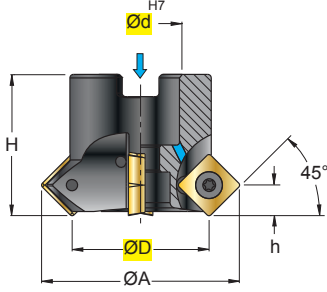









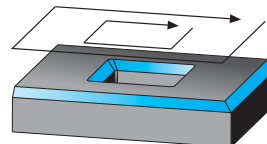
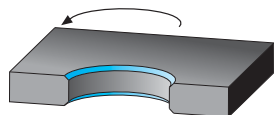


S676 Pag. B 166		S678 Pag. B 166					
	$\text{ØD} = 9 - 32$		$\text{ØD} = 9 - 32$		$\text{ØD} = 40 - 50$		
S 676W..		S 676XLZ ..		S 678W .. 12			
	45°	SP..0603 SP..09T3 SP..1204	h = 4,0 h = 5,8 h = 8,0				
S616 Pag. B 167							
	$\text{ØD} = 16$		$\text{ØD} = 1,2 - 25$		$\text{ØD} = 5,4 - 17$		
S 616.30 ..		S 616.45 .. S 6165XLZ.4 ..		S 616.60 .. S 616XLZ.60 ..			
	30° 45° 60°	TC..1102 TC..16T3 TC..2204	h = 6,9/9,0 h = 7,3/13,0 h = 13,8				
S618.3 Pag. B 168		S618.4 Pag. B 169					
	$\text{ØD} = 4,9 - 23,8$		$\text{ØD} = 7,8 - 27,2$				
S 618 ..11.3 S 618 ..16.3		S 618 ..12.4					
	$10^\circ - 80^\circ$	TC..1102 TC..16T3	SC..1204				
S613 Pag. B 170		S614 Pag. B 171					
	$\text{ØD} = 0$		$\text{ØD} = 0$				
S 613.45W-0-16		S 614.45W-0-12					
	45°	TC..16T3 h = 10		SC..1204 h = 7,8			



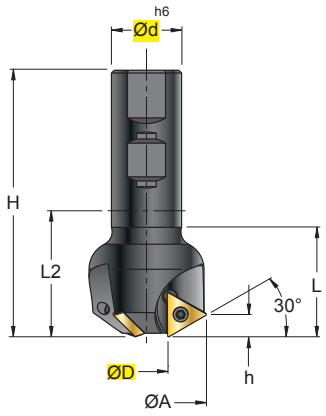
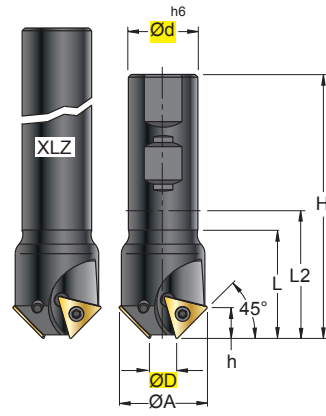
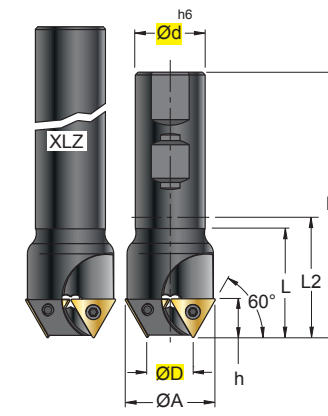

S 676W ..	S 676XLZ ..	S 678W .. 12	SPHTA57P	
Ø 09-032	Ø 09-032	Ø 040-050	SPMWA51	
		ISO 6462 ... 	SPMWA52	
			SPMTA53	
			SPMTA56	
			 INSERTI - INSERTS PAG. B 271	




(mm)															
ART.	ØD	Ød	ØA	H	h	L	L2	Z	kg	Nm	ISO 6462				
S 676W 009 - 06	9	16	17,0	90	4,0	29	42	1	0,107	1,1+1,3	-	060304	12256P	5608P	-
S 676W 016 - 09	16	20	28,0	110	5,8	42	60	2	0,209	3,0+3,5	-	09T308	123509P	5615P	-
S 676W 025 - 12	25	25	41,5	130	8	40	74	2	0,434	4,0+5,0	-	120408	124510	5620	-
S 676W 032 - 12	32	32	48,5	130	8	50	70	3	0,716	4,0+5,0	-				
S 676XLZ 009 - 06	9	16	17,0	150	4,0	29	-	1	0,205	1,1+1,3	-	060304	12256P	5608P	-
S 676XLZ 016 - 09	16	20	28,0	200	5,8	42	-	2	0,444	3,0+3,5	-	09T308	123509P	5615P	-
S 676XLZ 025 - 12	25	25	41,5	200	8	40	-	2	0,723	4,0+5,0	-	120408	124510	5620	-
S 676XLZ 032 - 12	32	32	48,5	250	8	50	-	3	1,491	4,0+5,0	-				
S 678W 040 - 12	40	22	56,0	40	8	-	-	4	0,252	4,0+5,0	A	120408	124510	5620	VBSF10
S 678W 050 - 12	50	22	66,0	40	8	-	-	5	0,403	4,0+5,0	A				



W = FORO PER LIQUIDO REFRIGERANTE - COOLANT BORE - KÜHLMITTELBOHRUNG - TROU DU LIQUIDE D'ARROSAGE

XLZ = EXTRALUNGA, STELO CILINDRICO - EXTRALONG, CYLINDRICAL SHANK - EXTRALANG, ZYLINDERSCHAFT - EXTRALONGUE, QUEUE CYLINDRIQUE

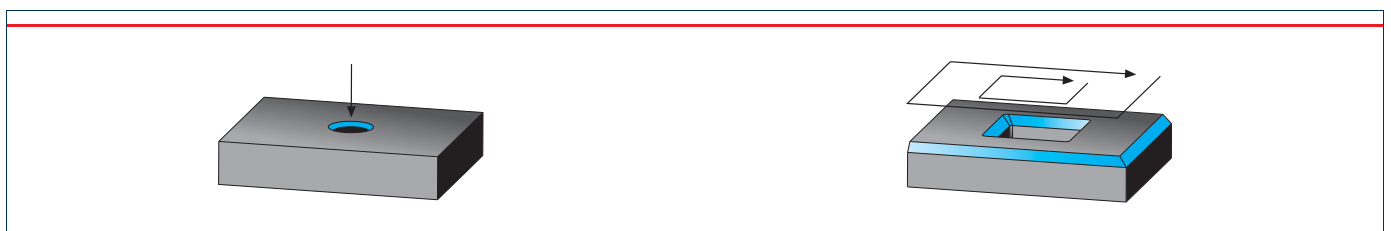
S 616.30 ..		S 616.45 ..		S 616.60 ..		TCMTS42	
Ø 16	$\gamma_p +10^\circ$ $\gamma_f 0^\circ$ $\gamma_o +8^\circ$	Ø 1,2-25	$\gamma_p +29,5^\circ/+6^\circ$ $\gamma_f -14^\circ/-5^\circ$ $\gamma_o +12^\circ/+1^\circ$	Ø 5,4-17	$\gamma_p +8,5^\circ/4^\circ$ $\gamma_f -15^\circ/+4^\circ$ $\gamma_o -0,5^\circ/+1^\circ$	TCMT 2204 .Z52	
						 INSERTI - INSERTS PAG. B 271	

ART.	(mm)								kg	Nm			
	ØD	Ød	ØA	H	h	L	L2	Z					
S616.30-16-16 (**)	16,0	25	42,5	95	7,5	39	39	3	0,420	3,8+5,0	16T3	1240P	5615P
S616.45-1,2-11 (*)	1,2	12	15,0	70	6,9	25	25	1	0,060	1,1+1,3	1102	12256P	5608P
S616.45-6,2-11 (*)	6,2	16	21,0	80	7,3	27	32	2	0,120	1,1+1,3	1102	12256P	5608P
S616.45-10,4-16 (**)	10,4	25	32,0	95	10,8	39	39	2	0,352	3,8+5,0	16T3	1240P	5615P
S616.45-25-22 (***)	25,0	32	53,0	110	13,8	40	50	3	0,694	4,0+5,0	2204	124510	5620
S616XLZ.45-6,2-11 (*)	6,2	16	21,0	150	7,3	27	-	2	0,231	1,1+1,3	1102	12256P	5608P
S616XLZ.45-10,4-16 (**)	10,4	25	32,0	150	10,8	39	-	2	0,519	3,8+5,0	16T3	1240P	5615P
S616.60-5,4-11 (*)	5,4	12	16,0	70	9,0	25	25	1	0,060	1,1+1,3	1102	12256P	5608P
S616.60-14,4-11 (*)	14,4	16	24,0	80	8,5	27	32	2	0,140	1,1+1,3	1102	12256P	5608P
S616.60-17-16 (**)	17,0	25	32,0	95	13,0	39	39	2	0,326	3,8+5,0	16T3	1240P	5615P
S616XLZ.60-14,4-11 (*)	14,4	16	24,0	150	8,5	27	-	2	0,248	1,1+1,3	1102	12256P	5608P
S616XLZ.60-17-16 (**)	17,0	25	32,0	150	13,0	39	-	2	0,543	3,8+5,0	16T3	1240P	5615P

(*) Misure rilevate con inserto TCMT 110202
 Dimensions obtained with insert TCMT 110202
 Mit der Wendeplatte TCMT 110202 aufgenommene
 Bemessungen
 Dimensions relevées avec plaquette TCMT 110202

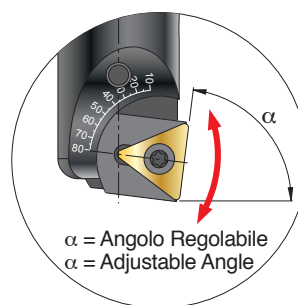
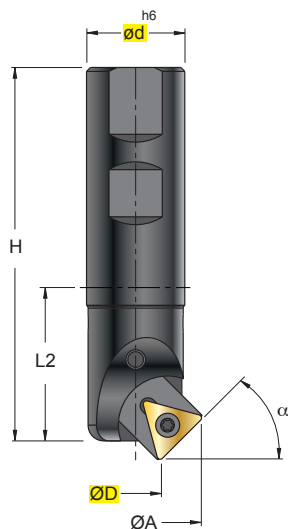
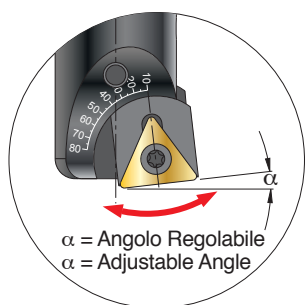
(**) Misure rilevate con inserto TCMT 16T304
 Dimensions obtained with insert TCMT 16T304
 Mit der Wendeplatte TCMT 16T304 aufgenommene
 Bemessungen
 Dimensions relevées avec plaquette TCMT 16T304

(***) Misure rilevate con inserto TCMT 220408
 Dimensions obtained with insert TCMT 220408
 Mit der Wendeplatte Tcmt 220408 aufgenommene
 Bemessungen
 Dimensions relevées avec plaquette TCMT 220408



S 618 .. .3

Ø 20-25



TCMT ...
.S42

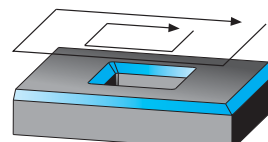
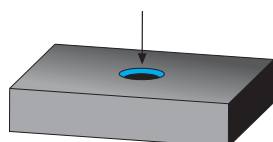


TCMT ...
.Z52



INSERTI - INSERTS
PAG. B 271

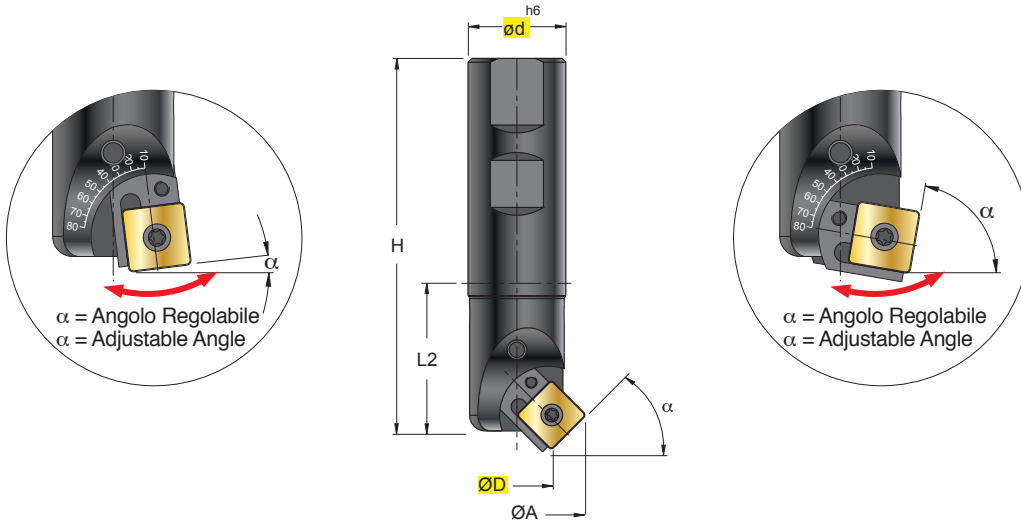
ART.		(mm)						kg	Nm					
		ØD	Ød	ØA	H	L2	α							
S 618	020-11 .3	7,1	20	25,6	100	51	10°	0,213	1,1+1,3	1102	S11	12256P	5608P	FS243
		8,6	20	26,2	100	51	20°	0,213	1,1+1,3					
		10,3	20	26,5	100	51	30°	0,213	1,1+1,3					
		12,2	20	26,4	100	51	40°	0,213	1,1+1,3					
		13,2	20	26,3	100	51	45°	0,213	1,1+1,3					
		14,2	20	26,0	100	51	50°	0,213	1,1+1,3					
		16,2	20	25,3	100	51	60°	0,213	1,1+1,3					
		18,2	20	24,2	100	51	70°	0,213	1,1+1,3					
		20,1	20	22,9	100	51	80°	0,213	1,1+1,3					
S 618	025-16 .3	4,9	25	31,6	100	44	10°	0,310	3,8+5,0	16T3	S16	12409P	5515P	SM612
		7,1	25	32,6	100	44	20°	0,310	3,8+5,0					
		9,7	25	33,1	100	44	30°	0,310	3,8+5,0					
		12,4	25	33,1	100	44	40°	0,310	3,8+5,0					
		13,8	25	32,9	100	44	45°	0,310	3,8+5,0					
		15,3	25	32,6	100	44	50°	0,310	3,8+5,0					
		18,2	25	31,6	100	44	60°	0,310	3,8+5,0					
		21,0	25	30,1	100	44	70°	0,310	3,8+5,0					
		23,8	25	28,2	100	44	80°	0,310	3,8+5,0					



S 618 .. .4

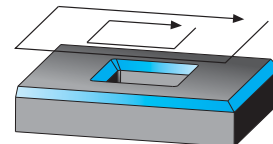
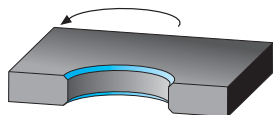
Ø 20

SCMT 1204
 .B56



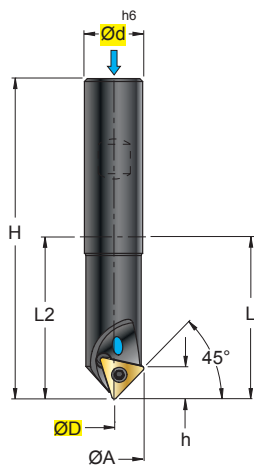
INSERTI - INSERTS
 PAG. A 141

		(mm)														
ART.		ØD	Ød	ØA	H	L2	α	kg	Nm							
S 618	020-12 .4	7,8	20	29,5	100	51	10°	0,213	5,5+7,0	1204	S12.4	FS243	5620	SM612	5004	5015
		10,5	20	31,0	100	51	20°	0,213	5,5+7,0							
		13,3	20	32,3	100	51	30°	0,213	5,5+7,0							
		16,2	20	33,0	100	51	40°	0,213	5,5+7,0							
		17,7	20	33,1	100	51	45°	0,213	5,5+7,0							
		19,2	20	33,2	100	51	50°	0,213	5,5+7,0							
		22,1	20	32,8	100	51	60°	0,213	5,5+7,0							
		24,8	20	32,0	100	51	70°	0,213	5,5+7,0							
		27,2	20	30,7	100	51	80°	0,213	5,5+7,0							



S 613.45W-0-16

Ø 0



TCMX 16T308ZN .S52

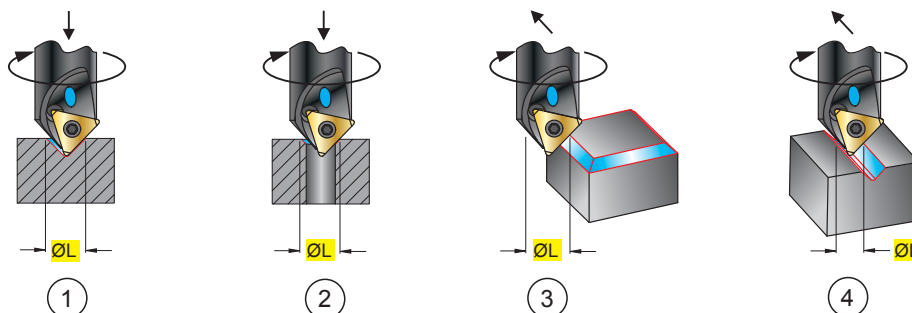


INSERTI - INSERTS
 PAG. B 271

GRADO GRADE	QUICK PICK	MATERIALI MATERIALS					
		P	M	K	N	S	H
F4140		●	●	○	○	●	

mm					
l	d	S	d1	r	
16,5	9,52	3,97	4,4	0,8	

ART.	ØD	Ød	ØA	H	h	L	L2	Z	kg	Nm			
S 613.45W-0-16	0	20	21,6	110	10	50	60	1	0,21	3,8+5,0	16T308	12409P	5615P



MATERIALI - MATERIALS Pag. H 73		VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min	fz mm		
				F4140	①	②-③	④
P	ACCIAIO NON LEGATO - NOT ALLOY STEEL	1-5	125-300	120	0,02-0,04	0,05-0,2	0,03-0,08
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6-9	180-350	100	0,02-0,04	0,05-0,2	0,03-0,08
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325	80	0,02-0,04	0,05-0,2	0,03-0,08
	INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240	100	0,02-0,04	0,05-0,2	0,03-0,08
M	INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230	100	0,03-0,05	0,05-0,2	0,03-0,08
K	GHISA GRIGIA - GREY CAST IRON	15-16	180-260	120	0,03-0,06	0,05-0,2	0,05-0,1
	GHISA SFEROIDALE - SPHEROIDAL GRAPHITE	17-18	160-250	140	0,03-0,06	0,05-0,2	0,05-0,1
	GHISA MALLEABILE - MALLEABLE CAST IRON	19-20	130-230	120	0,03-0,06	0,05-0,2	0,05-0,1
N	ALLUMINIO E SUE LEGHE - ALUMINIUM	21-25	60-130	200	0,03-0,06	0,05-0,2	0,08-0,15
	RAME E SUE LEGHE - COPPER	26-28	90-110	150	0,03-0,06	0,05-0,2	0,08-0,15
	NON METALLICI - PLASTICS	29-30	/				
S	LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31-35	200-320	50	0,01-0,06	0,03-0,07	0,05-0,1
	TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ¹⁾	50	0,01-0,06	0,03-0,07	0,05-0,1
H	ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾				

$$n = \frac{Vc \cdot 1000}{\text{ØL} \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$fz = fz0 \cdot Kae = \text{mm}$$

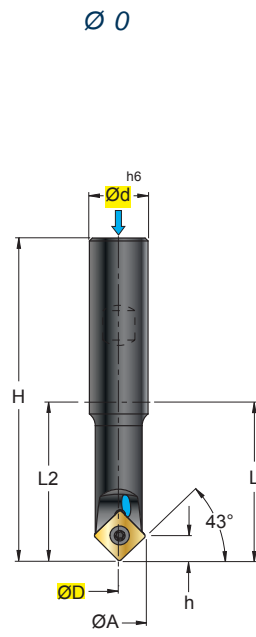
$$fn = fz \cdot z = \text{mm}$$

$$Vf = fz \cdot z \cdot n = \text{mm/min}$$

F = FINITURA, LAV. LEGGERA - FINISHING, LIGHT MACHINING
M = LAV. MEDIA, GENERICA - MEDIUM MACHINING, GENERIC
R = SGROSSATURA, LAV. PESANTE - ROUGHING, HEAVY MACHINING

Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
fz = mm AVANZAMENTO AL DENTE - TOOTH FEED
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED
Kae = FATTORE DI CORREZIONE - CORRECTION FACTOR

S 614.45W-0-12



SCMX 120408ZN .S52



INSERTI - INSERTS
 PAG. B 267

GRADO
 GRADE

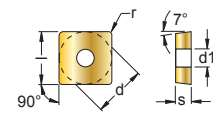
QUICK
 PICK

MATERIALI
 MATERIALS

F4140



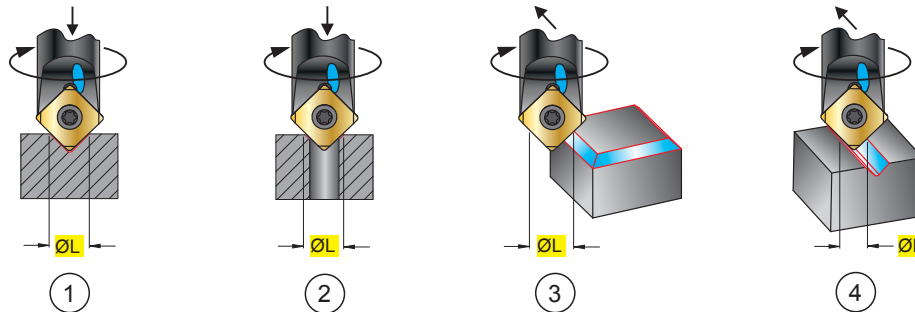
P	M	K	N	S	H
●	●	○	○	●	



mm				
l	d	S	d1	r
12,7	12,7	4,76	5,3	0,8

(mm)

ART.	ØD	Ød	ØA	H	h	L	L2	Z	kg	Nm	120408	FS242	5620
S 614.45W-0-12	0	20	18,4	110	7,8	50	60	1	0,21	5,5+7,0			



MATERIALI - MATERIALS Pag. H 73		VDI 3323 GR.	HB Rm ¹ HRC ²	Vc m/min	fz mm		
				F4140	①	②-③	④
P	ACCIAIO NON LEGATO - NOT ALLOY STEEL	1-5	125-300	120	0,02-0,04	0,05-0,2	0,03-0,08
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6-9	180-350	100	0,02-0,04	0,05-0,2	0,03-0,08
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325	80	0,02-0,04	0,05-0,2	0,03-0,08
	INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240	100	0,02-0,04	0,05-0,2	0,03-0,08
M	INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230	100	0,03-0,05	0,05-0,2	0,03-0,08
K	GHISA GRIGIA - GREY CAST IRON	15-16	180-260	120	0,03-0,06	0,05-0,2	0,05-0,1
	GHISA SFEROIDALE - SPHEROIDAL GRAPHITE	17-18	160-250	140	0,03-0,06	0,05-0,2	0,05-0,1
	GHISA MALLEABILE - MALLEABLE CAST IRON	19-20	130-230	120	0,03-0,06	0,05-0,2	0,05-0,1
N	ALLUMINIO E SUE LEGHE - ALUMINIUM	21-25	60-130	200	0,03-0,06	0,05-0,2	0,08-0,15
	RAME E SUE LEGHE - COPPER	26-28	90-110	150	0,03-0,06	0,05-0,2	0,08-0,15
S	NON METALLICI - PLASTICS	29-30	/				
	LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31-35	200-320	50	0,01-0,06	0,03-0,07	0,05-0,1
	TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ¹	50	0,01-0,06	0,03-0,07	0,05-0,1
H	ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²				

$$n = \frac{Vc \cdot 1000}{\phi L \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$fz = fz0 \cdot Kae = \text{mm}$$

$$fn = fz \cdot z = \text{mm}$$

$$Vf = fz \cdot z \cdot n = \text{mm/min}$$

F = FINITURA, LAV. LEGGERA - FINISHING, LIGHT MACHINING
M = LAV. MEDIA, GENERICA - MEDIUM MACHINING, GENERIC
R = SGROSSATURA, LAV. PESANTE - ROUGHING, HEAVY MACHINING

Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
fz = mm AVANZAMENTO AL DENTE - TOOTH FEED
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED
Kae = FATTORE DI CORREZIONE - CORRECTION FACTOR