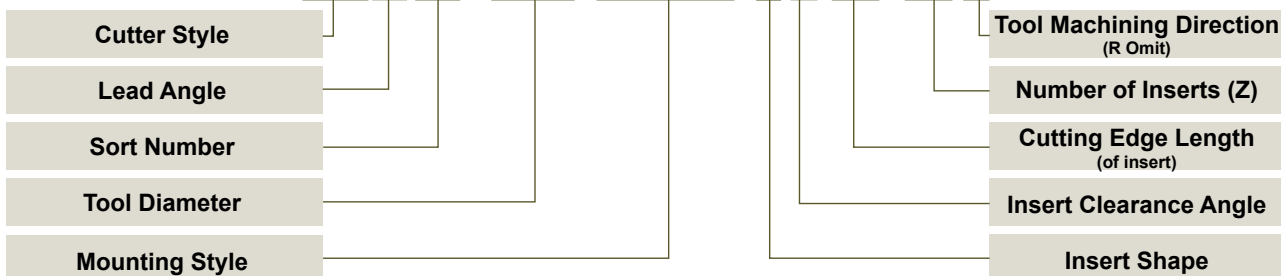


Milling Cutter Identification Guide

FMA01-100-B1.25-SE12-07L



Cutter Style	
FM	Face Milling Tools
EM	Shoulder Face Milling Tools
HM	Helix End Milling Tools
SM	Side and Face Milling Tools
BM	Profile Milling Tools
CM	Chamfering End Milling Tools
XM	Special Milling Tools

Lead Angle		
P	90°	
E	75°	
D	60°	
A	45°	
R		

Insert Clearance Angle	
N	0°
B	5°
P	11°
D	15°
E	20°

Mounting Style			
Style	Structure	Style	Structure
A	Cutter $\phi 1.97$ (50) - $\phi 3.15$ (80)	B	Cutter $\phi 3.15$ (80) - $\phi 6.30$ (160)
C	Cutter $\phi 6.30$ (160) - $\phi 9.84$ (250)	D	Cutter $\geq \phi 12.40$ (315)
BT	BT	JT	JT
G	Cylindrical	XP	Weldon
MW	Morse		

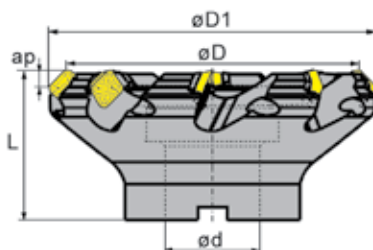
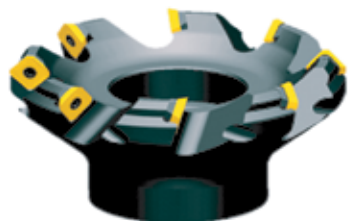
Insert Shape					Cutting Edge Length of Insert				
A	L	R	S	T	A	L	R	S	T

MILLING

Face Mills



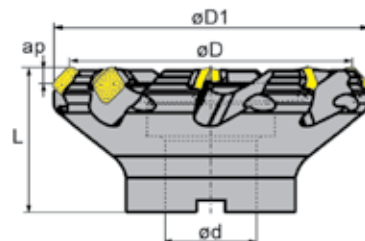
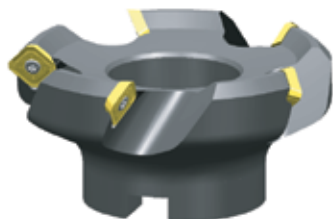
FMA01 Milling Cutters Lead Angle 45°



First choice for general purpose milling and mixed production

Type FMA01 Fine Pitch	ØD Inch (mm)	ØD1 Inch (mm)	Ød (Inch)	L (Inch)	ap Max. (Inch)	No. of Inserts	Insert Ref.	Code	Accessories			
									Shim Code	Shim Screw Code	Shim Key Code	Insert Screw Code
050-A0.75"-SE12-04	1.97 (50)	2.48 (63)	0.75	1.57	0.236	4	SEET12	574256	-	-	-	576304
063-A0.75"-SE12-05	2.48 (63)	2.99 (76)	0.75	1.57	0.236	5	SEET12	574258	-	-	-	576304
080-A1.00"-SE12-06	3.15 (80)	3.66 (93)	1.00	1.97	0.236	6	SEET12	574260	-	-	-	576304
100-B1.25"-SE12-07	3.94 (100)	4.45 (113)	1.25	1.97	0.236	7	SEET12	574262	-	-	-	576304
125-B1.50"-SE12-08	4.92 (125)	5.43 (138)	1.50	2.48	0.236	8	SEET12	574264	576300	576302	576310	576306
160-C2.00"-SE12-10	6.30 (160)	6.81 (173)	2.00	2.48	0.236	10	SEET12	574266	576300	576302	576310	576306
200-C2.50"-SE12-12	7.87 (200)	8.38 (213)	2.50	2.48	0.236	12	SEET12	574268	576300	576302	576310	576306

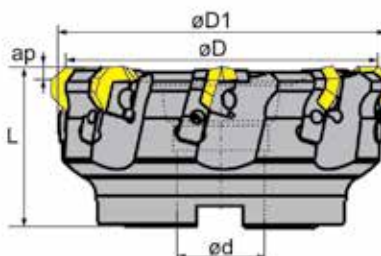
FMA02 Milling Cutters Lead Angle 45°



Reduced number of inserts with a differential pitch for best productivity when stability and power are limited (Long overhang/small machines)

Type FMA02 Differential Coarse Pitch	ØD Inch (mm)	ØD1 Inch (mm)	Ød (Inch)	L (Inch)	ap Max. (Inch)	No. of Inserts	Insert Reference	Code	Accessories
									Insert Screw Code
2.00"-A0.75"-SE12-04	2.00	2.51	0.75	1.50	0.236	4	SEET12	574270	576304
080-A1.00"-SE12-04	3.15 (80)	3.66 (93)	1.00	1.97	0.236	4	SEET12	574274	576304
100-B1.25"-SE12-05	3.94 (100)	4.45 (113)	1.25	1.97	0.236	5	SEET12	574276	576304

FMA04 Milling Cutters Lead Angle 45°

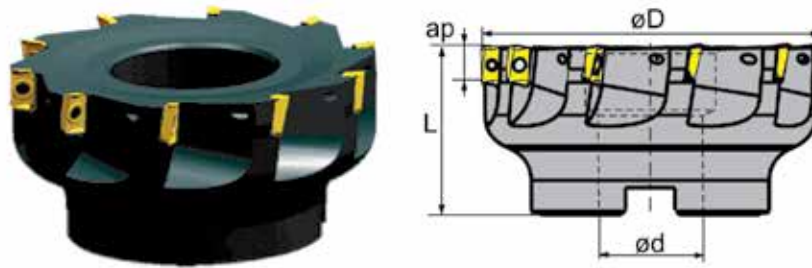


Type FMA04	ØD Inch (mm)	ØD1 Inch (mm)	Ød (Inch)	L (Inch)	ap Max. (Inch)	No. of Inserts	Insert Ref.	Code	Accessories					
									Locator Code	Locator Screw Code	Locator Key Code	Wedge Code	Wedge Screw Code	Wedge Key Code
125-B1.50"-OF07-08	4.92 (125)	5.34 (135.52)	1.50	2.48	0.200	8	OFMT07	574290	576324	576318	576316	576326	576322	576320
160-B2.00"-OF07-10	6.30 (160)	6.73 (171.11)	2.00	2.48	0.200	10	OFMT07	574292	576324	576318	576316	576326	576322	576320
200-C2.50"-OF07-12	7.87 (200)	8.31 (211.10)	2.50	2.48	0.200	12	OFMT07	574294	576324	576318	576316	576326	576322	576320

Face Mills



EMP02 Milling Cutters Lead Angle 90°

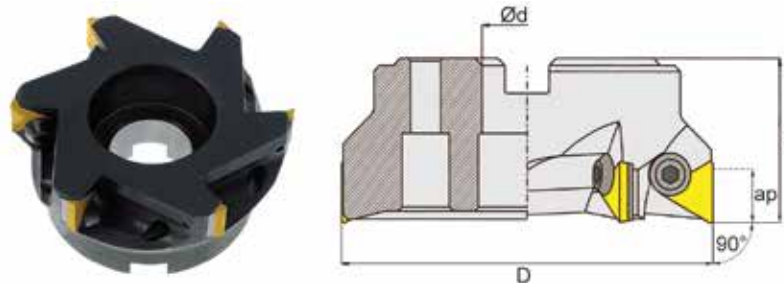


Type EMP02	ØD Inch (mm)	Ød (Inch)	L (Inch)	ap Max. (Inch)	No. of Inserts	Insert Reference	Code	Accessories	
								Insert Screw Code	
063-A1.00"-AP11-08	2.48 (63)	1.00	1.57	0.43	8	APKT11/APKT16	574234	576356	
080-A1.00"-AP11-08	3.15 (80)	1.00	1.97	0.43	8	APKT11/APKT16	574236	576356	
100-B1.25"-AP11-10	3.94 (100)	1.25	1.97	0.43	10	APKT11/APKT16	574240	576356	
050-A0.75"-AP16-05	1.97 (50)	0.75	1.57	0.63	5	APKT11/APKT16	574230	576346	
063-A1.00"-AP16-06	2.48 (63)	1.00	1.57	0.63	6	APKT11/APKT16	574232	576346	
080-A1.00"-AP16-07	3.15 (80)	1.00	1.97	0.63	7	APKT11/APKT16	574238	576346	
100-B1.25"-AP16-08	3.94 (100)	1.25	1.97	0.63	8	APKT11/APKT16	574242	576346	
125-B1.50"-AP16-09	4.92 (150)	1.50	2.48	0.63	9	APKT11/APKT16	574244	576346	

Face Mills



TP90SM Milling Cutters Lead Angle 90°

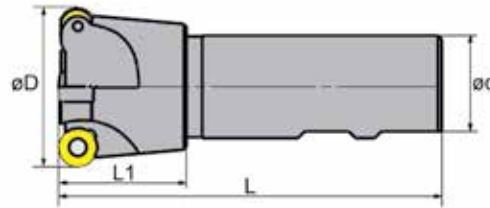


Type TP90SM	ØD (Inch)	Ød (Inch)	L (Inch)	ap Max. (Inch)	No. of Inserts	Insert Reference	Code	Accessories		
								Locator Screw Code	Shim Code	Shim Screw Code
1.5"-0.50"-0.37-03	1.50	0.50	1.58	0.375	3	TP_32	535712	535731	-	-
2.0"-0.75"-0.37-03	2.00	0.75	1.66	0.375	3	TP_32	535713	535731	-	-
2.5"-1.00"-0.50-03	2.50	1.00	1.85	0.500	3	TP_32	535714	535732	-	-
3.0"-1.00"-0.50-04	3.00	1.00	1.96	0.500	4	TP_43	535715	535732	535735	535736
4.0"-1.50"-0.50-05	4.00	1.50	1.96	0.500	5	TP_43	535716	535732	535735	535736
5.0"-1.50"-0.50-06	5.00	1.50	2.84	0.500	6	TP_43	535717	535732	535735	535736
6.0"-2.00"-0.50-07	6.00	2.00	2.84	0.500	7	TP_43	535718	535732	535735	535736

Face Mills

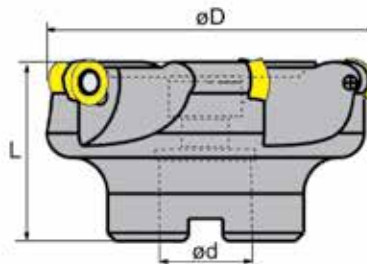


FMR01 Milling Cutters



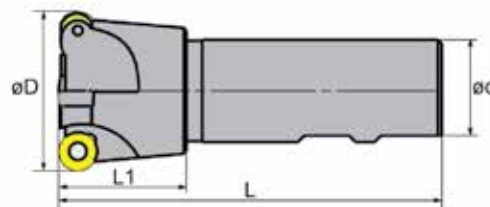
Type FMR01	ØD Inch (mm)	Ød (Inch)	L (Inch)	L1 (Inch)	ap Max. (Inch)	No. of Inserts	Insert Reference	Code	Accessories	
									Insert Screw Code	
1.00"-XP0.75"-RC10-02	1.00 (25.4)	0.75	4.75	1.50	0.196	2	RCMT	574302	576336	576336
1.25"-XP1.00"-RC10-02	1.25 (31.75)	1.00	4.75	1.50	0.196	2	RCMT	574306	576336	576336
1.50"-XP1.25"-RC12-03	1.50 (38.1)	1.25	4.75	1.50	0.236	3	RCMT	574304	576304	576304
2.00"-XP1.25"-RC12-03	2.00 (50.8)	1.25	4.75	1.50	0.236	3	RCMT	574308	576304	576304

FMR02 Milling Cutters



Type FMR02	ØD Inch (mm)	Ød (Inch)	L (Inch)	ap Max. (Inch)	No. of Inserts	Insert Reference	Code	Accessories	
								Insert Screw Code	
2.50"-A0.75"-RC12-04	2.50 (63.50)	0.75	1.97	0.236	4	RCMT	574310	576304	576304
3.00"-A1.00"-RC12-05	3.00 (76.20)	1.00	1.97	0.236	5	RCMT	574312	576304	576304
4.00"-B1.25"-RC12-06	4.00 (101.60)	1.25	2.48	0.236	6	RCMT	574314	576304	576304
5.00"-B1.50"-RC12-07	5.00 (127.00)	1.50	2.48	0.236	7	RCMT	574316	576304	576304
6.00"-C2.00"-RC12-08	6.00 (152.40)	2.00	2.48	0.236	8	RCMT	574318	576304	576304

FMR03 Milling Cutters

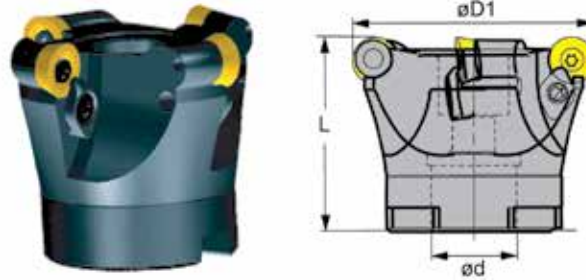


Type FMR03	ØD Inch (mm)	Ød (Inch)	L (Inch)	L1 (Inch)	ap Max. (Inch)	No. of Inserts	Insert Ref.	Code	Accessories	
									Insert Screw Code	Insert Key Code
1.00"-XP1.00"-RD08-02	1.00 (25.40)	1.00	4.00	1.50	0.157	2	RDMT	574320	576344	718407
1.25"-XP1.25"-RD10-02	1.25 (31.75)	1.25	4.75	1.50	0.197	2	RDMT	574324	576336	-
1.50"-XP1.25"-RD12-03	1.50 (38.10)	1.25	4.75	1.50	0.236	3	RDMT	574322	576336	-
2.00"-XP1.25"-RD12-04	2.00 (50.80)	1.25	4.75	1.50	0.236	4	RDMT	574326	576336	-



Face Mills

FMR04 Milling Cutters

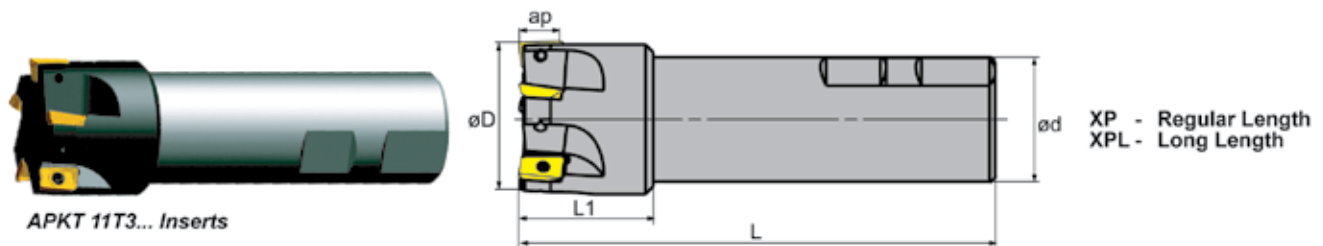


Type FMR04	ØD1 Inch (mm)	Ød (Inch)	L (Inch)	ap Max. (Inch)	No. of Inserts	Insert Ref.	Code	Accessories				
								Clamp Code	Clamp Screw Code	Clamp Key Code	Insert Screw Code	Insert Key Code
2.00"-A0.75"-RD12-03	2.00 (50.80)	0.75	1.77	0.236	3	RDMT	574328	576352	576354	718401	576350	-
2.50"-A0.75"-RD12-04	2.50 (63.50)	0.75	1.96	0.236	4	RDMT	574330	576352	576338	718401	576304	-
3.00"-A1.00"-RD16-05	3.00 (76.20)	1.00	1.96	0.315	5	RDMT	574332	-	-	-	576338	718401
4.00"-B1.25"-RD16-06	4.00 (101.60)	1.25	1.96	0.315	6	RDMT	574334	-	-	-	576338	718401
5.00"-B1.50"-RD20-06	5.00 (127.00)	1.50	2.48	0.394	6	RDMT	574336	-	-	-	576340	718401
6.00"-C2.00"-RD20-07	6.00 (152.40)	2.00	2.48	0.394	7	RDMT	574338	-	-	-	576340	718401

End Mills



EMP01 Milling Cutters Lead Angle 90° - Weldon & R8 Shanks



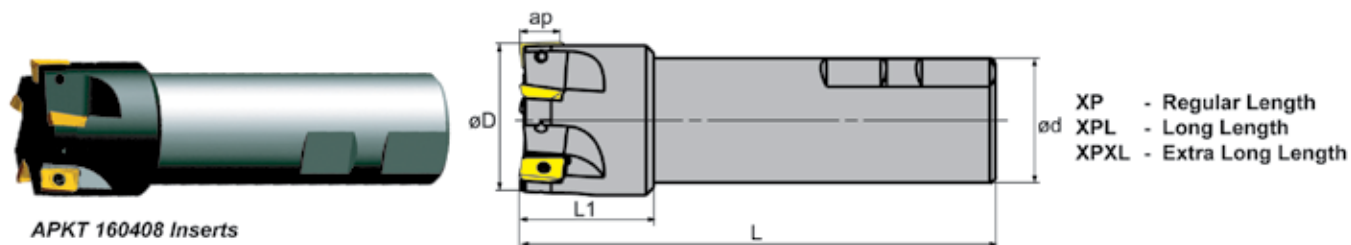
APKT 11T3... Inserts

Type EMP01 APKT 11T3... Inserts	ØD Inch (mm)	Ød (Inch)	L (Inch)	L1 (Inch)	ap Max. (Inch)	No. of Inserts	Insert Reference	Code	Accessories
									Insert Screw Code
0.50"-XP0.62"-AP11-01	0.50 (12.70)	0.625	3.50	1.00	0.400	1	APKT11/APKT16	574194	576356
0.62"-XP0.62"-AP11-02	0.625 (15.875)	0.625	3.50	1.00	0.400	2	APKT11/APKT16	574226	576356
0.75"-XP0.75"-AP11-02	0.75 (19.05)	0.750	4.00	1.18	0.400	2	APKT11/APKT16	574222	576356
0.75"-XPL0.75"-AP11-02	0.75 (19.05)	0.750	6.50	1.18	0.400	2	APKT11/APKT16	574224	576356
1.00"-XP1.00"-AP11-03	1.00 (25.40)	1.000	4.50	1.38	0.400	3	APKT11/APKT16	574180	576356
1.00"-XPL1.00"-AP11-03	1.00 (25.40)	1.000	6.50	1.38	0.400	3	APKT11/APKT16	574186	576356
1.00"-XPR8-AP11-03	1.00 (25.40)	R8	5.50	1.38	0.400	3	APKT11/APKT16	574190	576356
1.25"-XPR8-AP11-03	1.25 (31.75)	R8	5.50	1.75	0.400	3	APKT11/APKT16	574208	576356
1.50"-XP1.25"-AP11-05	1.50 (38.10)	1.250	5.00	1.50	0.400	5	APKT11/APKT16	574196	576356
2.00"-XP1.25"-AP11-06	2.00 (50.80)	1.250	5.50	1.77	0.400	6	APKT11/APKT16	574218	576356

End Mills



EMP01 Milling Cutters Lead Angle 90° - Weldon Shank



XP - Regular Length
 XPL - Long Length
 XPXL - Extra Long Length

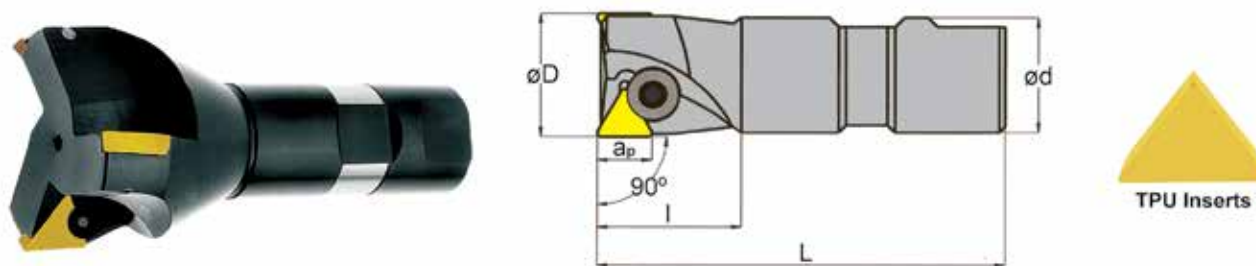
APKT 160408 Inserts

Type EMP01 APKT 160408 Inserts	ØD Inch (mm)	Ød (Inch)	L (Inch)	L1 (Inch)	ap Max. (Inch)	No. of Inserts	Insert Reference	Code	Accessories
									Insert Screw Code
1.00"-XP0.75"-AP16-02	1.00 (25.40)	0.750	4.00	1.38	0.600	2	APKT16	574184	576336
1.00"-XP1.00"-AP16-02	1.00 (25.40)	1.000	4.50	1.38	0.600	2	APKT16	574182	576336
1.00"-XPXL1.00"-AP16-02	1.00 (25.40)	1.000	8.00	1.38	0.600	2	APKT16	574192	576336
1.25"-XP0.75"-AP16-03	1.25 (31.75)	0.750	5.00	1.58	0.600	3	APKT16	574214	576336
1.25"-XP1.00"-AP16-03	1.25 (31.75)	1.000	5.00	1.58	0.600	3	APKT16	574212	576336
1.25"-XP1.25"-AP16-03	1.25 (31.75)	1.250	5.00	1.57	0.600	3	APKT16	574204	576336
1.25"-XPL1.25"-AP16-03	1.25 (31.75)	1.250	6.50	1.57	0.600	3	APKT16	574206	576336
1.25"-XPXL1.25"-AP16-03	1.25 (31.75)	1.250	8.50	1.58	0.600	3	APKT16	574210	576336
1.50"-XP1.00"-AP16-04	1.50 (38.10)	1.000	5.00	1.65	0.600	4	APKT16	574200	576336
1.50"-XP1.25"-AP16-04	1.50 (38.10)	1.250	5.00	1.65	0.600	4	APKT16	574198	576336
2.00"-XP1.25"-AP16-05	2.00 (50.80)	1.250	5.50	1.77	0.600	5	APKT16	574220	576336

End Mills



TP90EM Milling Cutters Lead Angle 90° - Weldon Shank

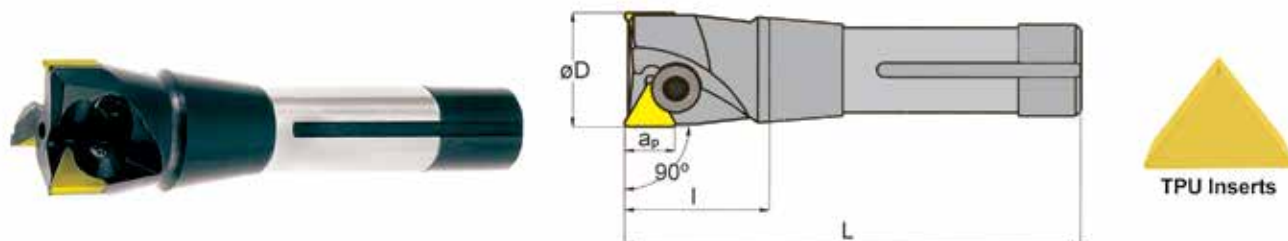


TPU Inserts

Type TP90EM Weldon Shank	ØD (Inch)	Ød (Inch)	L (Inch)	I (Inch)	ap Max. (Inch)	No. of Inserts	Insert Reference	Code	Accessories
									Clamp Screw Code
1.00"-0.75-0.18"-02	1.00	0.75	2.78	1.22	0.18	2	TPU22	535702	535730
1.25"-0.75-0.37"-02	1.25	0.75	3.25	1.22	0.37	2	TPU32	535703	535731
1.50"-0.75-0.37"-03	1.50	0.75	3.25	1.22	0.37	3	TPU32	535720	535733
2.00"-0.75-0.37"-03	2.00	0.75	3.25	1.22	0.37	3	TPU32	535722	535731
1.50"-1.00-0.37"-03	1.50	1.00	3.25	1.40	0.37	3	TPU32	535704	535733
2.00"-1.00-0.37"-03	2.00	1.00	3.25	1.40	0.37	3	TPU32	535706	535731

End Mills

TP90EM Milling Cutters Lead Angle 90° - R8 Shank



Type TP90EM R8 Shank	ØD (Inch)	Ød (Inch)	L (Inch)	l (Inch)	ap Max. (Inch)	No. of Inserts	Insert Reference	Code	Accessories	
									Clamp Screw Code	
1.00"-R8-0.18"-02	1.00	R8	3.48	1.33	0.18	2	TPU22	535726	535730	535730
1.00"-R8-0.18"-02	1.25	R8	3.69	1.52	0.37	2	TPU32	535727	535730	535730
1.50"-R8-0.37"-03	1.50	R8	3.69	1.52	0.37	3	TPU32	535705	535733	535733
1.75"-R8-0.37"-03	1.75	R8	3.69	1.52	0.37	3	TPU32	535728	535731	535731
2.00"-R8-0.37"-03	2.00	R8	3.69	1.52	0.37	3	TPU32	535707	535731	535731
2.50"-R8-0.37"-04	2.50	R8	3.69	1.52	0.37	4	TPU32	535709	535731	535731
3.00"-R8-0.37"-05	3.00	R8	3.69	1.52	0.37	5	TPU32	535711	535731	535731

Milling Cutter Sets – 3 Pieces – Lead Angle 90°

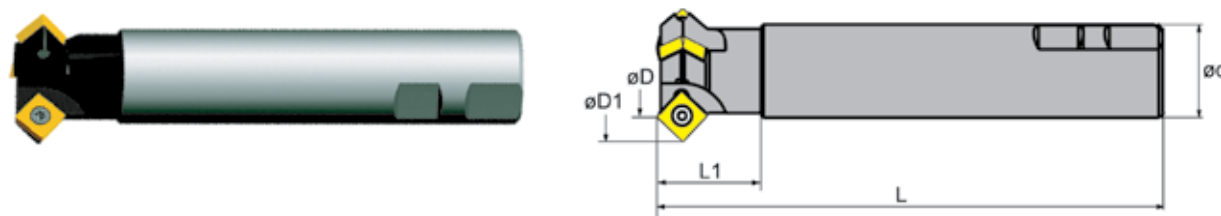


Type TP90EM (Inch)	Shank Diameter (Inch)	Cutting Diameters (Inch)	Code
0.75 Set	0.75	1.25, 1.50, 2.00	535771
1.25-2.00 Set	R8	1.25, 1.50, 2.00	535773
2.00-3.00 Set	R8	2.00, 2.50, 3.00	535774

R8 set shown These end mills take TPU inserts

Chamfer Tools

CMA01 Chamfer Cutters Lead Angle 45° - Weldon Shank



Type CMA01	ØD Inch (mm)	ØD1 Inch (mm)	Ød (Inch)	L (Inch)	L1 (Inch)	No. of Inserts	Insert Reference	Code	Accessories	
									Insert Screw Insert	Torx® Key Code
0.50"-XP0.75"-SP12-01	0.50 (12.7)	1.206 (30.60)	0.75	4.00	1.57	1	SPMT	573444	576360	718401
1.00"-XP1.00"-SP12-02	1.00 (25.4)	1.706 (43.33)	1.00	5.00	1.57	2	SPMT	573448	576360	718401
1.25"-XP1.00"-SP12-03	1.25 (31.75)	1.956 (49.68)	1.25	7.00	1.57	3	SPMT	573446	576360	718401

Chamfer Tools

Indexable Countersinks & Chamfer Cutters – Positive Rake – 60°, 82°, 90° & 100°

- Uncoated C5 carbide insert and Torx® wrench included with each tool
- Positive rake for smooth cutting without chatter
- Carbide indexable - no tool resharpener needed
- Uses standard triangular and square inserts



"S" Style For 0.500 (12.75) to 2.50 (63.50) diameters, using SPGH insert



"T" Style For 0.125 (3.18) to 0.750 (19.05) diameters, using TPGH insert

Individual Chamfer Cutters

Angle	Chamfer Range Minimum Inch (mm)	Chamfer Range Maximum Inch (mm)	Shank Diameter (Inch)	Insert Reference	Code
60°	0.125 (3.18)	0.500 (12.70)	0.375	TPGH2151	577401
60°	0.250 (6.35)	0.750 (19.05)	0.500	TPGH321	577415
60°	0.500 (12.70)	1.750 (44.45)	0.500	SPGH433	577417
60°	1.250 (31.75)	2.500 (63.50)	0.750	SPGH433	577419
82°	0.125 (3.18)	0.500 (12.70)	0.375	TPGH2151	577403
82°	0.250 (6.35)	0.750 (19.05)	0.500	TPGH321	577421
82°	0.500 (12.70)	1.750 (44.45)	0.500	SPGH433	577423
82°	1.250 (31.75)	2.500 (63.50)	0.750	SPGH433	577425
90°	0.125 (3.18)	0.500 (12.70)	0.375	TPGH2151	577405
90°	0.250 (6.35)	0.750 (19.05)	0.500	TPGH321	577427
90°	0.500 (12.70)	1.750 (44.45)	0.500	SPGH433	577429
90°	1.250 (31.75)	2.500 (63.50)	0.750	SPGH433	577431

3 Piece Sets



4 Piece Set



Angle	Contents of Set	Code	Contents of Set	Code
82°	One of each: 0.25", 0.50", and 1.25" (min.)	577447	One of each: 1/8" (min.) 60°, 82°, 90°, 100°	577453
90°	One of each: 0.25", 0.50", and 1.25" (min.)	577449		

Also included: Inserts, Torx® wrench, wooden block

Also included: Inserts, Torx® wrench, wooden block

Carbide Inserts



TPGH



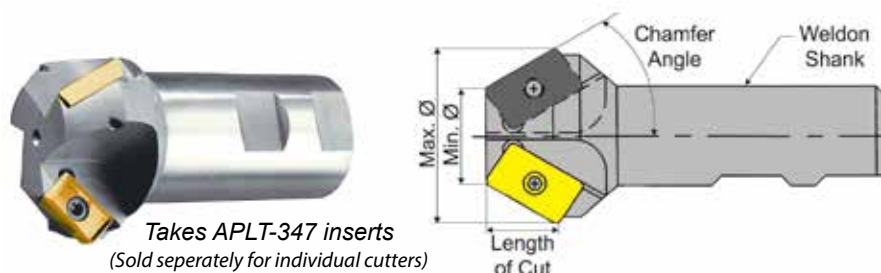
SPGH

Type	Grade/ Coating	ØI.C. (Inch)	Radius (Inch)	Code
SPGH433	C5	0.500	0.047	577439
TPGH321	TiN	0.375	0.016	577437
SPGH433	TiN	0.500	0.047	577441

Chamfer Tools

Indexable Insert Chamfer Cutters - Weldon Shank

- Versatile tool that can be used for countersinking, chamfer milling and face milling
- Extra length of cut with parallelogram inserts
- All holders use the same insert – APLT-347-CV6
- Sets include three holders, 10 coated inserts and a wrench



Individual Chamfer Cutters

Chamfer Angle	Minimum Diameter (Inch)	Maximum Diameter (Inch)	Shank Diameter (Inch)	No. of Flutes	Length of Cut (Inch)	Insert Reference	Code
30°	0.750	1.303	3/4	2	0.479	APLT-347	543001
41°	0.688	1.414	3/4	2	0.418		543002
45°	0.688	1.471	3/4	2	0.391		543003
60°	0.500	1.458	3/4	2	0.277		543004
30°	1.000	1.553	1	3	0.479		543010
41°	0.938	1.664	1	3	0.418		543011
45°	0.938	1.721	1	3	0.391		543012
60°	0.750	1.708	1	3	0.277		543013
30°	1.250	1.803	1-1/4	3	0.479		543020
41°	1.188	1.914	1-1/4	3	0.418		543021
45°	1.188	1.971	1-1/4	3	0.391		543022
60°	1.000	1.958	1-1/4	3	0.277		543023
30°	1.500	2.053	1-1/2	3	0.479		543030
41°	1.438	2.164	1-1/2	3	0.418		543031
45°	1.438	2.221	1-1/2	3	0.391		543032
60°	1.250	2.208	1-1/2	3	0.277		543033

Replacement Insert

Type	Grade	Length (Inch)	I.C. (Inch)	Thickness (Inch)	Ø Hole (Inch)	Radius (Inch)	Code
APLT-347	CV6	0.591	0.375	0.187	0.173	0.015	543048

3 Piece Sets



Sets include:
3 holders
10 APLT-347 inserts
1 wrench

Chamfer Angle	Minimum Diameter (Inch)	Maximum Diameter (Inch)	Shank Diameter (Inch)	No. of Flutes	Code
30°	0.750	1.303	0.750	2	543040
CHM-30	1.000	1.553	1.000	3	
(60° Included angle)	1.250	1.803	1.250	3	
41°	0.688	1.414	0.750	2	543042
CHM-41	0.938	1.664	1.000	3	
(82° Included angle)	1.188	1.914	1.250	3	
45°	0.688	1.471	0.750	2	543045
CHM-45	0.938	1.721	1.000	3	
(90° Included angle)	1.188	1.971	1.250	3	
60°	0.500	1.458	0.750	2	543047
CHM-60	0.750	1.708	1.000	3	
(120° Included angle)	1.000	1.958	1.250	3	

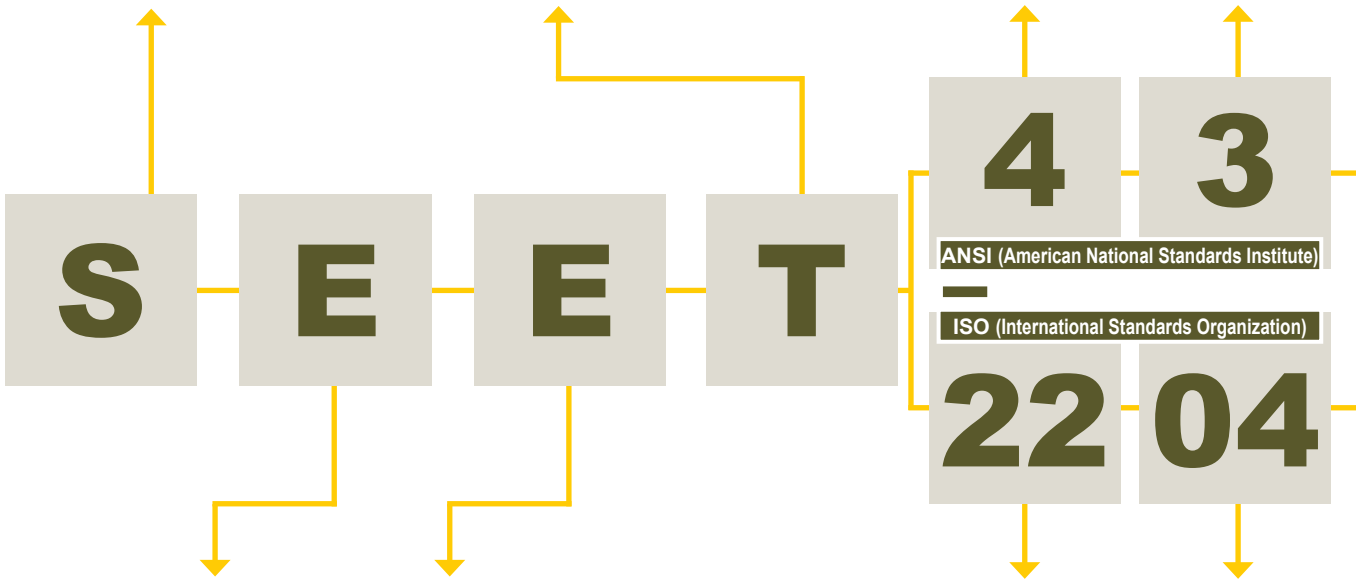
Replacement Screw

Code
576336

Milling Inserts ANSI vs. ISO Identification Guide



Insert Shape		Insert Type		Insert I.C. Size	Insert Thickness
A	C	A	B	<p>(I.C.) shown in 1/32" increments on inserts less than 1/4" I.C.</p> <p>(I.C.) shown in 1/8" increments on inserts 1/4" and over</p> <p>5 = 5/32 5 = 5/8 2 = 1/4 6 = 3/4 3 = 3/8 8 = 1 4 = 1/2</p>	<p>(T) shown in 1/32" increments on inserts less than 1/4" I.C.</p> <p>(T) shown in 1/16" increments on inserts 1/4" and over</p> <p>2 = 1/16 3 = 3/16 (1.5) = 3/32 4 = 1/4 2 = 1/8 5 = 5/16 (2.5) = 5/32 6 = 3/8</p>
O	R	F	G		
S	T	H	M		
		N	R		
		T	W		



Insert Clearance Angle	
A	B
C	D
E	F
G	N
P	

Insert Tolerance		
I.C.	M	T
A =0.0010	0.0002	0.0010
C =0.0010	0.0005	0.0010
E =0.0010	0.0010	0.0010
F =0.0005	0.0002	0.0010
G =0.0010	0.0010	0.0050
H =0.0005	0.0005	0.0001
J =0.002-0.006	0.0002	0.0010
K =0.002-0.006	0.0005	0.0010
L =0.002-0.006	0.0010	0.0010
M =0.002-0.006	0.003-0.008	0.0050
N =0.002-0.006	0.003-0.008	0.0010
U =0.003-0.010	0.005-0.015	0.0050

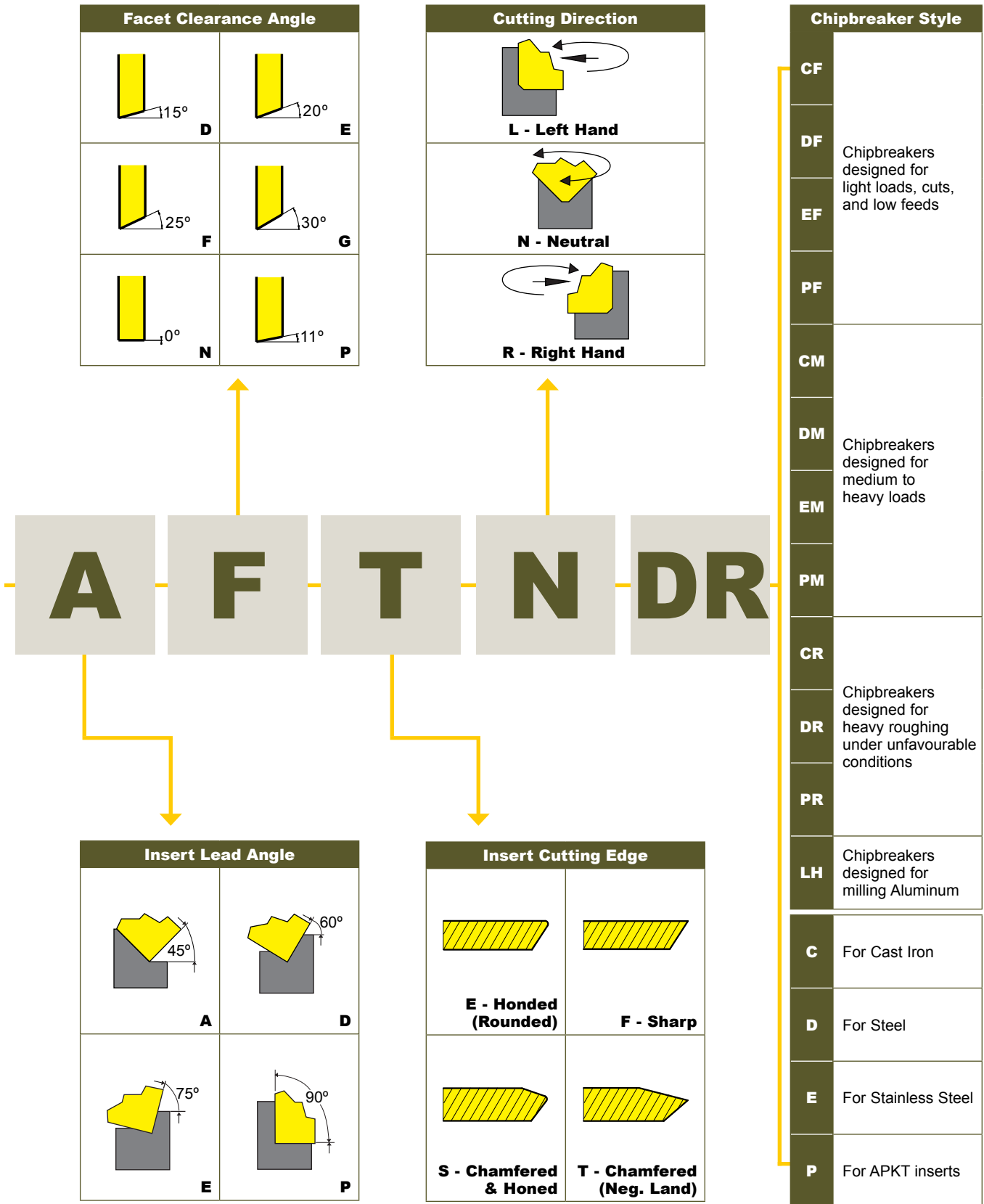
Exact tolerance is determined by the shape and size of the insert

Insert Cutting Edge Length	

I.C.		Cutting Edge Length by Shape (mm)							
mm	Inch	Designated using insert shape symbol							
3.97	5/32	-	-	-	-	-	06	-	-
6.35	1/4	06	07	-	-	-	11	11	04
9.53	3/8	09	11	-	09	09	16	16	06
12.70	1/2	12	15	05	12	12	22	22	08
15.88	5/8	16	19	-	15	15	27	-	-
19.05	3/4	-	-	-	19	19	33	-	-
25.40	1	-	-	-	-	-	25	-	-

Insert Thickness	
(T) shown in 1 mm increments, single integers are to be preceded by a "0"	
01 = 1.59	1/16
T1 = 1.98	5/64
02 = 2.38	3/32
03 = 3.18	1/8
T3 = 3.97	5/32
04 = 4.76	3/16
06 = 6.34	1/4
07 = 7.94	5/16
09 = 9.52	3/8

Milling Inserts ANSI vs. ISO Identification Guide



MILLING

Milling Inserts Main Grades & Applications



YBC301 CVD COATED

P10-P40

A combination of TiCN, thin layer of Al₂O₃, and a TiN coating on a substrate with high strength is suitable for light to heavy milling (both wet and dry) in unalloyed and low alloyed steels with hardness up to 300 HB at medium to high speeds. Also for martensitic stainless steels.

M15-M35

YBM251 CVD COATED

P10-P20

An optimal combination of TiCN, thin layers of Al₂O₃, and a TiN coating on a substrate provides a cutting edge with superior strength and toughness. It is a premium grade for semi-finishing to light roughing of stainless steel at continuous and intermittent machining conditions.

M10-M20

YBM351 CVD COATED

M20-M40

A combination of TiN and TiAlN coated carbide provides this grade with good strength and impact resistance. It is well suited in medium to rough milling stainless steel, heat resistant alloys and low carbon steel at low speeds.

S25-S40

YD201 UNCOATED

K15-K30

Uncoated carbide grade with good wear resistance and toughness for light to medium milling at moderate cutting speeds. Ideal choice for milling of ferritic nodular cast iron. Works well in non-metallic materials such as plastic, wood, etc. Ideal in the aerospace industry on aluminum with sharp edged inserts. Capable of wet or dry machining.

N10-N20

S15-S25

Milling Inserts Chipbreaker Identification Guide



Milling Inserts



APKT



Type	Grade	Length (Inch)	Width (Inch)	Thickness (Inch)	Ø Hole (Inch)	Radius (Inch)	Code
APKT11T304PM	YBC301	0.482	0.256	0.142	0.262	0.016	573008
APKT11T308PF	YBM251	0.482	0.256	0.142	0.262	0.031	573035
APKT11T308PM	YBM251	0.482	0.256	0.142	0.262	0.031	573028
APKT160408PF	YBC301	0.704	0.367	0.226	0.173	0.031	573040
APKT160408PF	YBM251	0.704	0.367	0.226	0.173	0.031	573044
APKT160408PM	YBM251	0.704	0.367	0.226	0.173	0.031	573054

OFKR



Type	Grade	Length (Inch)	Ø I.C. (Inch)	Thickness (Inch)	Radius (Inch)	Code
OFKR0704DM	YBM251	0.293	0.706	0.187	0.031	574348
OFKR0704DM	YBM351	0.293	0.706	0.187	0.031	574350

RCKT & RDKW



Type	Grade	Ø I.C. (Inch)	Thickness (Inch)	Ø Hole (Inch)	Code
RCKT1204M0DM	YBM251	0.472	0.187	0.157	574456
RCKT1204M0DM	YBM351	0.472	0.187	0.157	574458
RDKW0803M0	YBC301	0.315	0.125	0.134	574512
RDKW10T3M0	YBC301	0.394	0.156	0.173	574518

SEET, SEKN & SPKN



Type	Grade	Ø I.C. (Inch)	Width (Inch)	Thickness (Inch)	Code
SEET12T3DM	YBM251	0.527	0.527	0.156	574678
SEET12T3LH	YD201	0.527	0.527	0.156	574692
SEKN1203AFN	YBC301	0.500	0.500	0.125	574696
SEKN1203AFTN	YBC301	0.500	0.500	0.125	574710
SEKN1203AFTN	YBM251	0.500	0.500	0.125	574714
SPKN1203EDR	YBC301	0.500	0.500	0.125	574982

TPU



Type	Grade	Ø I.C. (Inch)	Width (Inch)	Thickness (Inch)	Radius (Inch)	Code
TPU322	YBM251	0.375	0.650	0.125	0.031	576186
TPU322	YC30S	0.375	0.650	0.125	0.031	576184
TPU323	YC30S	0.375	0.650	0.125	0.047	576188
TPU432	YBM251	0.500	0.866	0.187	0.031	576194
TPU432	YC30S	0.500	0.866	0.187	0.031	576192
TPU433	YC30S	0.500	0.866	0.187	0.047	576196

All YBC251 and YC30S inserts have 0.002" hone

Milling Inserts Identification Guide



1

2

3

4

1 Insert Shape

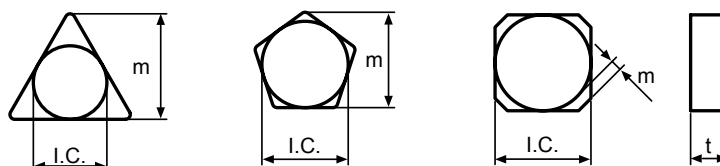
A	B	C	D	E	H	K	L
						Special	
O	P	R	S	T	W	X	

2 Clearance Angle

	5°	7°	15°	20°	25°	30°	0°	11°
	B	C	D	E	F	G	N	P

3 Tolerance

	Tolerance			I.C. Size						
	m	t	I.C.	.250	.375	.500	.625	.750	1	
A	± .0002	± .0001	± .0001	•	•	•	•	•	•	
C	± .0005	± .0010	± .0010	•	•	•	•	•	•	
E	± .0010	± .0010	± .0010	•	•	•	•	•	•	
F	± .0020	± .0010	± .0010	•	•	•	•	•	•	
G	± .0010	± .0005	± .0010	•	•	•	•	•	•	
H	± .0005	± .0010	± .0010	•	•	•	•	•	•	
K	± .0005	± .0010	± .0020	•	•					
			± .0030			•				
			± .0040					•	•	
			± .0050							•
M	± .0050	± .0050	± .0020	•	•					
			± .0030			•				
			± .0040					•	•	
			± .0050							•



4 Cross Section Shape

								Special
A	F	G	M	N	R	T	W	X

Milling Inserts Identification Guide

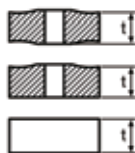


5
Cutting Edge Length

I.C. Size	Symbol	C	S	R	T	H	O
Inch		Metric					
7/32	1.8(7)	05	05	05	09		
1/4	2	06	06	06	11		
5/16	2.5	08	07	07	13		
3/8	3	09	09	09	16		
1/2	4	12	12	12	22	05	05
5/8	5	16	15	15	27	09	06
3/4	6	19	19	19	33	10	
1	8	25	25	25	44		

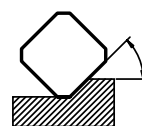
*() symbol for small size insert

6
Thickness



Symbol(t)	Inch
1.5(3)	3/32
2	1/8
2.5	5/32
3	3/16
4	1/4
5	5/16
6	3/8

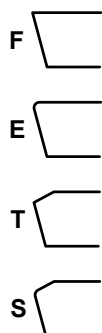
7
Lead Angle & Relief Angle of Minor Cutting Edge



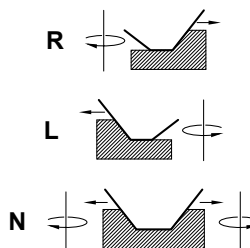
Lead Angle	
A	45°
D	60°
E	75°
F	85°
P	90°
Z	Special

Relief Angle of minor cutting edge	
B	5°
C	7°
D	15°
E	20°
F	25°
G	30°
N	0°
P	11°
Z	Special

8
Edge Preparation



9
Cutting Direction



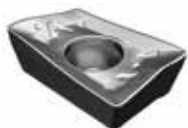
10
Chip Breaker

For Application

Milling Inserts



APKT & APMT



Type	Grade	ØI.C. (Inch)	Width (Inch)	Thickness (Inch)	Radius (Inch)	Code
APKT100305PDTR	YG602	0.525	0.264	0.143	0.020	577570
APKT100308PDTR	YG602	0.525	0.264	0.143	0.031	577571
APKT160404PDTR	YG602	0.672	0.370	0.207	0.016	577572
APKT160408PDTR	YG602	0.672	0.370	0.207	0.031	577573
APKT160412PDTR	YG602	0.672	0.370	0.207	0.472	577574
APKT160416PDTR	YG602	0.672	0.370	0.207	0.063	577575
APMT113504PDTR	YG602	0.440	0.244	0.138	0.157	577576
APMT113508PDTR	YG602	0.440	0.244	0.138	0.031	577577
APMT160408PDTR	YG602	0.670	0.363	0.187	0.031	577578

ODMT, ODMW & OFMT



Type	Grade	ØI.C. (Inch)	Width (Inch)	Thickness (Inch)	Radius (Inch)	Code
ODMT060508	YG602	–	0.626	0.217	–	577579
ODMW060508	YG602	–	0.626	0.217	–	577580
OFMT05T305TN	YG602	–	0.500	0.157	–	577581

RDKT, RDKW, RPMT & RPMW



Type	Grade	ØI.C. (Inch)	Width (Inch)	Thickness (Inch)	Radius (Inch)	Code
RDKT0802M0	YG602	–	0.315	0.094	–	577582
RDKT10T3M0	YG602	–	0.394	0.156	–	577583
RDKT1204M0	YG602	–	0.472	0.187	–	577584
RDKW0802M0	YG602	–	0.315	0.094	–	577585
RDKW10T3M0	YG602	–	0.394	0.156	–	577586
RDKW1204M0	YG602	–	0.472	0.187	–	577587
RPMT08T2M0	YG602	–	0.315	0.109	–	577588
RPMT10T3M0	YG602	–	0.394	0.156	–	577589
RPMT1204M0	YG602	–	0.472	0.187	–	577590
RPMW1204M0	YG602	–	0.472	0.187	–	577591

SDKN, SEKN, SEKR, SEKT, SPKN & SPKR



Type	Grade	ØI.C. (Inch)	Width (Inch)	Thickness (Inch)	Radius (Inch)	Code
SDKN42AETN	YG602	–	0.500	0.125	–	577592
SDKN56AETN	YG602	–	0.625	0.187	–	577593
SEKN42AFTN	YG602	–	0.500	0.125	–	577594
SEKR42AFTN	YG602	–	0.500	0.125	–	577595
SEKT1204AFTN	YG602	–	0.509	0.199	–	577596
SEKT12T3AGTN	YG602	–	0.528	0.157	–	577597
SPKN42EDTR	YG602	–	0.500	0.125	–	577598
SPKN53EDTR	YG602	–	0.625	0.187	–	577599
SPKR42EDTR	YG602	–	0.500	0.125	–	577600

TPKN & TPKR



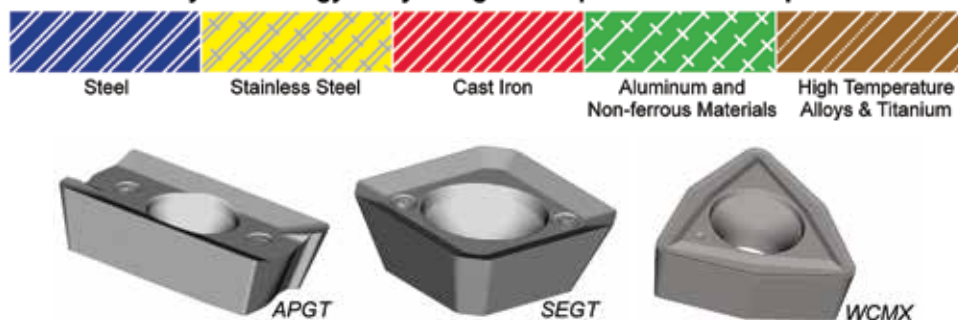
Type	Grade	ØI.C. (Inch)	Width (Inch)	Thickness (Inch)	Radius (Inch)	Code
TPKN32PDTR	YG602	0.568	0.375	0.125	–	577601
TPKN43PDTR	YG602	0.789	0.500	0.187	–	577602
TPKR32PDTR	YG602	0.569	0.375	0.125	–	577603
TPKR43PDTR	YG602	0.789	0.500	0.187	–	577604



Milling Inserts

MULTI-MAT® Milling Inserts

Revolutionary Technology! Only one grade required to cut multiple materials!



Coated Grades – PVD – LT30

ANSI	ISO	L (Inch)	S (Inch)	R (Inch)	P (Degrees)	D (Degrees)	Code
ADKT 1505 PDTR	ADKT 1505 PDTR	0.600	0.220	-	90	15	530145
AOMT 123608 PETR	AOMT 123608 PETR	0.472	0.142	0.031	-	15	530142
APKT 1604 PDTR	APKT 1604 PDTR	0.625	0.188	-	90	15	530003
APKT 160424 ER	APKT 160424 ER	0.625	0.188	0.094	90	15	530004
APKT 1705 PETR	APKT 1705 PETR	0.669	0.220	0.094	-	15	530141
APKT 100304 PDTR	APKT 100304 PDTR	0.370	0.125	-	90	15	530005
APLX 100308 PDTR	APLX 100308 PDTR	0.370	0.125	0.031	-	15	530006
APMT 1135 PDTR	APMT 1135 PDTR	0.430	0.142	-	90	15	530008
APMT 32 PDTR	APMT 0903 PDTR	0.375	0.125	-	90	15	530007
APMT 53 PDTR	APMT 1604 PDTR	0.625	0.188	-	90	15	530009
ODMT 0504 ZZTR	ODMT 0504 ZZTR	0.200	0.188	0.031	-	-	530047
ODMT 2(3.5)2 TN	ODMT 060508 TN	0.236	0.220	0.031	-	-	530048
OFER 070405 TN	OFER 070405 TN	0.270	0.188	0.031	-	-	530050
OFMT 050405 TR	OFMT 050405 TR	0.200	0.188	0.031	-	-	530051
OFMT 05T305 TN	OFMT 05T305 TN	0.200	0.156	0.031	-	-	530052
OFMT 070405 TN	OFMT 070405 TN	0.270	0.188	0.031	-	-	530053
RDMT 0602 MO	RDMT 0602 MO	0.236	0.094	0.118	-	-	530058
RDMT 0803 MO	RDMT 0803 MO	0.314	0.125	0.157	-	-	530059
RDMT 1003 MO	RDMT 1003 MO	0.393	0.125	0.197	-	-	530146
RDMT 10T3 MO	RDMT 10T3 MO	0.393	0.156	0.197	-	-	530060
RDMT 1204 MO	RDMT 1204 MO	0.472	0.188	0.236	-	-	530061
RDMT 12T3 MO	RDMT 12T3 MO	0.472	0.156	0.236	-	-	530147
RDMW 10T3 MO	RDMW 10T3 MO	0.393	0.156	0.197	-	-	530143
SDKT 43 AETN	SDKT 1204 AETN	0.500	0.188	-	45	20	530062
SEKN 42 AFTN	SEKN 1203 AFTN	0.500	0.094	-	45	25	530064
SEKN 43 AFTN	SEKN 1204 AFTN	0.500	0.188	-	45	25	530065
SEKN 53 AFTN	SEKN 1504 AFTN	0.625	0.188	-	45	25	530066
SEKR 42 AFTN	SEKR 1203 AFTN	0.500	0.094	-	45	25	530067
SEKR 43 AFTN	SEKR 1204 AFTN	0.500	0.188	-	45	25	530068
SEKT 4(2.5) AGSN	SEKT 12T3 AGSN	0.500	0.156	-	45	32	530070
SEKT 43 AFTN	SEKT 1204 AFTN	0.500	0.188	-	45	25	530069
SPG 422	SPUN 120308	0.500	0.125	0.031	-	-	530080
SPKN 42 EDTR	SPKN 1203 EDTR	0.500	0.094	-	75	15	530076
SPKN 43 EDTR	SPKN 1204 EDTR	0.500	0.188	-	75	15	530077
SPKR 42 EDTR	SPKR 1203 EDTR	0.500	0.094	-	75	15	530078
SPKR 43 EDTR	SPKR 1204 EDTR	0.500	0.188	-	75	15	530079
TPKN 32 PDTR	TPKN 1603 PDTR	0.375	0.125	-	90	15	530098
TPKN 43 PDTR	TPKN 2204 PDTR	0.500	0.188	-	90	15	530099
TPKR 323 PDTR	TPKR 1603 PDTR	0.375	0.125	-	90	15	530100
TPKR 43 PDTR	TPKR 2204 PDTR	0.500	0.188	-	90	15	530101
TPUN 322	TPUN 160308	0.375	0.125	0.031	90	15	530102

MILLING

Milling Inserts

MULTI-MAT® Milling Inserts *(continued)*



ALU: Aluminum Chipbreaker – Coated Grades – PVD – LT05

ANSI	ISO	L (Inch)	S (Inch)	R (Inch)	P (Deg.)	D (Deg.)	Direction	Code
APGT 1003 PDER-ALU	APGT 1003 PDER-ALU	0.236	0.125	0.016	-	-	Neutral	530001
APGT 53 PDER-ALU	APGT 1604 PDER-ALU	0.236	0.188	0.016	-	-	Neutral	530002
SEGT 43 ALU	SEGT 1204 AFEN-ALU	0.236	0.188	-	45	25	Neutral	530063

Drilling Inserts

MULTI-MAT® Drilling Inserts



NN: All Purpose Chipbreaker – Coated Grades – PVD – LT30

ANSI	ISO	L (Inch)	S (Inch)	R (Inch)	Direction	Code
WCMX 2(1.5)2 NN	WCMX 040208 NN	0.157	0.094	0.031	Neutral	530111
WCMX 2.5(2)2 NN	WCMX 050308 NN	0.196	0.125	0.031	Neutral	530112
WCMX 3(2.5)2 NN	WCMX 06T308 NN	0.236	0.156	0.031	Neutral	530113
WCMX 433 NN	WCMX 080412 NN	0.314	0.188	0.047	Neutral	530114