Indexable Milling Products

Our latest Metalcutting Innovations are designed to deliver higher productivity, longer tool life, and increased application versatility.

FACE MILLS

See Section O for more details.

- **Dodeka™ Series Platform**
- **MEGA Series Platform**
- **Beyond BLAST™ KSSM™ 45°**
- **KSSM 45°**
- **KSOM™ and KSOM Mini**
- **Fix-Perfect™ Series Platform**
- **HexaCut™ Series Platform**
- **KSSR™ 84°**
- **KCMS™ Cartridge Milling System**
- **KSCM™ PCD AluMill™**
- **Fix-Perfect 90° Aluminium**
- **Chamfer Mills (30°, 45°, 60°)**

SHOULDER MILLS

See Section P for more details.

- **Mill 1-10™ Platform**
- **Mill 1-14™ Platform**
- **Mill 1-18™ Platform**
- **Mill 1-25™ Platform**
- **KSSM™ Platform**
- **KSSM-KSSP, Helical Cutters Platform**
- **KFSR™ Helical Platform**

For more information about the latest products and services from Kennametal, please contact your Kennametal Representative or Authorised Kennametal Distributor, or visit www.kennametal.com.

SLOTTING CUTTERS

See Section Q for more details.

KTMS™ T-Slot Platform

KVNS™ Platform

SN Platform

LN Platform

KSSM™ Platform

COPY MILLS

See Section R for more details.

KenFeed™ 2X

KenFeed Mini

Rodeka™ Platform

KDM Platform

KSRM™ Platform

Beyond BLAST™ KSRM Platform

KDMB™ and KDMT™ Platforms

Z-Axis • Plunge Milling Cutters

KDMR™ • Multifunction Cutters

KIPR™ and KSSP™ • Round Ceramic Milling Cutters

THREAD MILLS

See Section S for more details.

Indexable End Mills

- Weldon® Shank • TM25
- Conical Thread • TMT25
- Mini Thread Mills • STN
- Tapered Thread • STN

Indexable Inserts

The Most Advanced Milling Solutions in the Industry

For unsurpassed quality, value, and performance, you can trust Kennametal to provide the most comprehensive line of reliable metalcutting tools. Whatever your indexable milling product requirements, be assured that you will find the appropriate solution in this all-inclusive, easy-to-use guide.

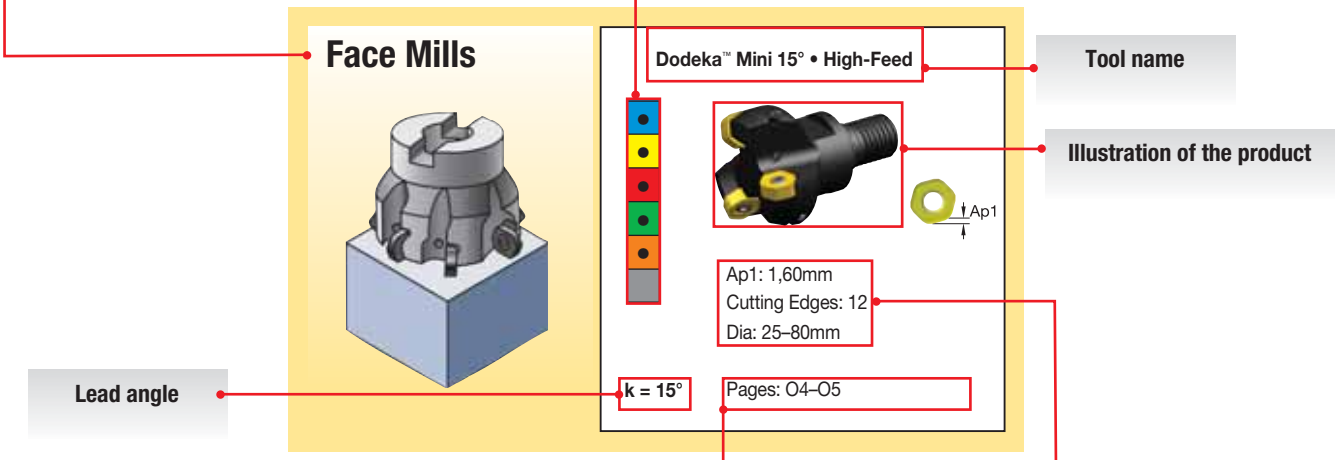
For every milling application, workpiece, or equipment need, we offer the best tools on the market, designed to reduce your machining time, provide superior surface finishes, and outperform the competition.

Identify material to be machined:
Each tool has a material grid marked with a letter indicating the materials that can be machined.

● first choice
○ alternate choice

P	○	Steel
M	●	Stainless Steel
K		Cast Iron
N		Non-Ferrous Materials
S	○	High-Temp Alloys
H	○	Hardened Materials

Choose your application:
- Face Milling
- Chamfer Milling
- Shoulder Milling
- Slotting
- Copy Milling
- Ceramic Milling
- Thread Milling

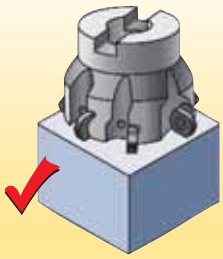


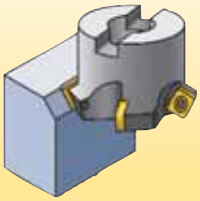
Location of introduction detail, tool bodies, inserts, and cutting data

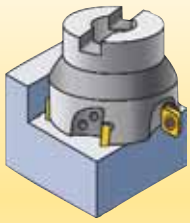
Select tool based on maximum depth of cut and diameter required:
Information is given in this area to provide specific detail as a quick reference.

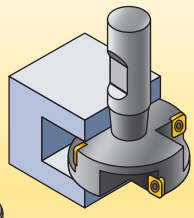
How to Navigate the 2013 Catalogue

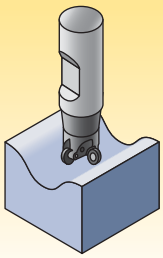
Step 1 • Select Application

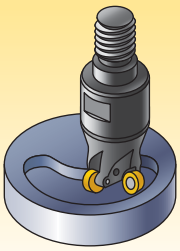

Face Milling

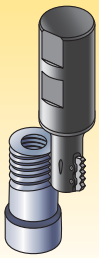

Chamfer Milling


Shoulder Milling (End Milling)


Slotting


Copy Milling

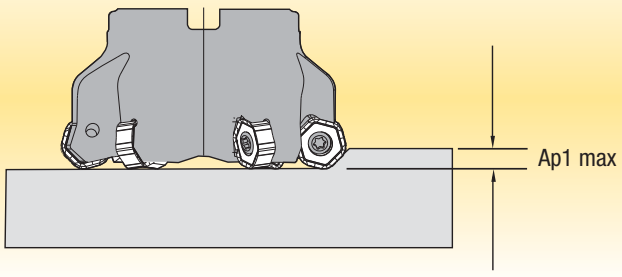

Ceramic Milling


Thread Milling

Step 2 • Select Workpiece Material

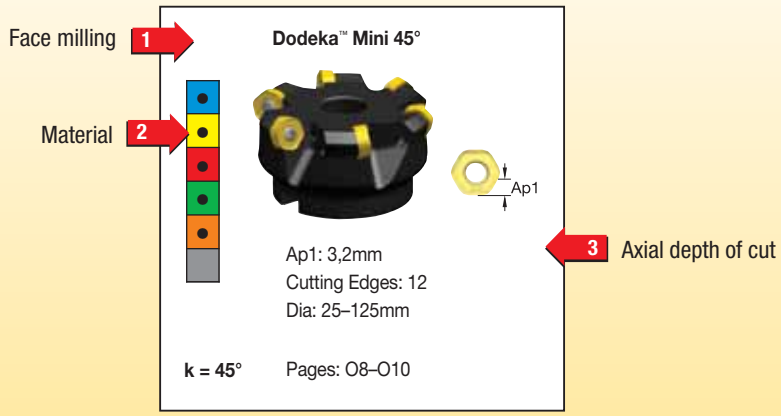
ISO Description		● first choice ○ alternate choice	Material Group	
Steel	P	●	P1–P2	Carbon steels
			P3–P4	Alloy steels and tool steels
			P5–P6	Ferritic, martensitic, and PH stainless steels
Stainless Steel	M	●	M1–M2	Austenitic stainless steels
			M3	Duplex stainless steels (ferritic and austenitic mixture)
Cast Iron	K		K1–K2	Grey, ductile, CGI, and malleable cast irons >80 KSI
			K3	Ductile, CGI, and malleable cast irons >80 KSI
Non-Ferrous Materials	N		N1–N2	Aluminium alloys <12.2% Si
			N3	Aluminium alloys >12.2% Si
High-Temp Alloys	S	●	S1–S2	Iron- and cobalt-based heat-resistant alloys
			S3	Nickel-based heat-resistant alloys
			S4	Alpha-Beta titanium alloys
Hardened Materials	H	○	H1	Hardened steels and irons

Step 3 • Select a Maximum Axial Depth of Cut (Ap)

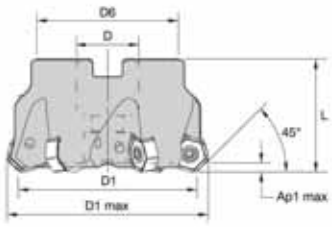


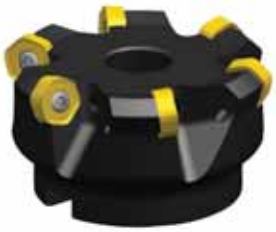
How to Navigate the 2013 Catalogue *(continued)*

Step 4 • Select Milling Cutter from Application Selector



Select the Cutter





Dodeka Mini 45° • Shell Mills

order number	catalogue number	D1	D1 max	D	D6	L	Ap1 max	Z	kg	max RPM
4126387	KSHR040A04RS45HN06	40	48,2	22	38	40	3,2	4	0,25	15800
4124313	KSHR040A05RS45HN06	40	48,2	22	38	40	3,2	5	0,25	15800
4126388	KSHR050A04RS45HN06	50	58,2	22	38	40	3,2	4	0,36	12700
4122886	KSHR050A05RS45HN06	50	58,2	22	38	40	3,2	5	0,37	12700
4126389	KSHR050A06RS45HN06	50	58,2	22	38	40	3,2	6	0,36	12700
4122887	KSHR063A04RS45HN06	63	71,2	22	50	40	3,2	4	0,59	10100
4122889	KSHR063A06RS45HN06	63	71,2	22	50	40	3,2	6	0,65	10100
4126390	KSHR063A08RS45HN06	63	71,2	22	50	40	3,2	8	0,64	10100

4

Step 5 • Insert Selection Guide

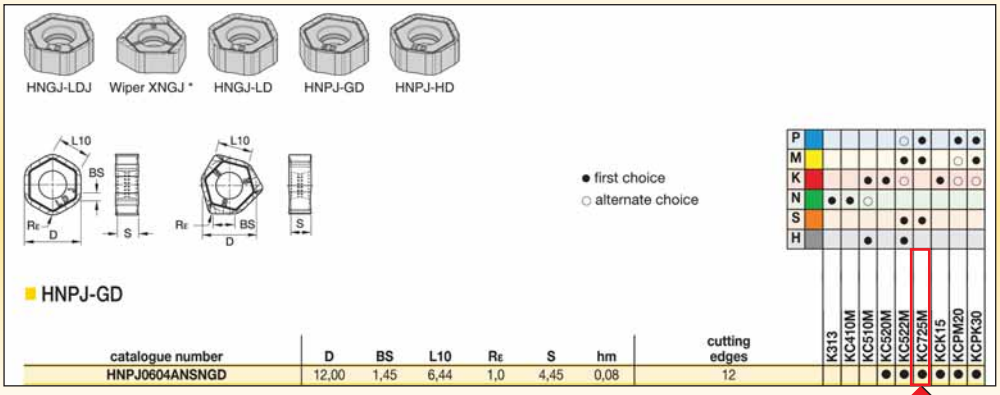
Insert Selection Guide

Material Group	Light Machining		General Purpose		Heavy Machining	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1–P2	.E..LD	KC725M	.S..GD	KC725M	.S..HD	KC725M
P3–P4	.E..LD	KCPK30	.S..GD	KCPK30	.S..HD	KCPK30
P5–P6	.E..LD	KCPM20	.S..GD	KCPM20	.S..HD	KCPM20
M1–M2	.E..LD	KC725M	.S..GD	KC725M	.S..HD	KC725M
M3	.E..LD	KCPK30	.S..GD	KCPK30	.S..HD	KCPK30
K1–K2	.E..LD	KCK15	.S..GD	KCK15	.S..HD	KCK15
K3	.E..LD	KCPK30	.S..GD	KCPK30	.S..HD	KCPK30
N1–N2	.F..LDJ	K313	.F..LDJ	KC410M	.E..LD	KC510M
N3	.F..LDJ	KC410M	.E..LD	KC510M	.E..LD	KC510M
S1–S2	.E..LD	KC725M	.S..GD	KC725M	.S..HD	KC725M
S3	.E..LD	KC725M	.S..GD	KC725M	.S..HD	KC725M
S4	.S..GD	KC725M	.S..HD	KC725M	–	–
H1	.E..LD	KC510M	.S..GD	KC522M	–	–

5

How to Navigate the 2013 Catalogue *(continued)*

Step 6 • Insert Chart, Providing the Inserts and Grades



HNPJ-GD

catalogue number	D	BS	L10	Rε	S	hm	cutting edges
HNPJ0604ANSNGD	12,00	1,45	6,44	1,0	4,45	0,08	12

6

Step 7 • Defining the Feed per Tooth

Geometry (S.GD)
20% radial width of cut, follow arrows for value.
% = radial width of cut (Ae) ÷ cutter diameter (D1)
Using a round or ball nose insert, consider the axial depth of cut; see separate chart on the cutter page.

Recommended Starting Feeds [mm]

Light Machining	General Purpose	Heavy Machining

Insert Geometry	Programmed Feed per Tooth (fz) as a % of Radial Depth of Cut (ae)															Insert Geometry
	10%			20%			30%			40%			50–100%			
.F..LDJ	0,12	**0,24**	0,47	0,09	**0,18**	0,35	0,08	**0,15**	0,31	0,07	**0,14**	0,29	0,07	**0,14**	0,28	.F..LDJ
.E..LD	0,12	**0,35**	0,71	0,09	**0,27**	0,53	0,08	**0,23**	0,46	0,07	**0,22**	0,43	0,07	**0,21**	0,42	.E..LD
.S..GD	0,24	**0,54**	0,94	0,18	**0,41**	0,70	0,16	**0,35**	0,61	0,15	**0,33**	0,57	0,14	**0,32**	0,56	.S..GD
.S..HD	0,24	**0,60**	0,97	0,18	**0,45**	0,72	0,16	**0,39**	0,63	0,15	**0,37**	0,59	0,14	**0,36**	0,57	.S..HD

NOTE: Use "Light Machining" values as starting feed rate.

7

7

Always consider starting with the "Light Machining" value. Once established, increase the feed per tooth from the chart.
These are minimum values and can be increased when the application has been proven.
Light Machining — Low Feed Rate, Higher Speed
General Purpose — Normal Feed, Normal Speed
Heavy Machining — Higher Feed, Reduced Speed

Step 8 • Recommended Starting Speeds [m/min]

8

8

Material Group		KC522M			KCPM20			KC725M			KCK15			KCPK30		
P	1	395	**345**	325	660	**580**	535	315	**275**	255	–	–	–	545	**475**	440
	2	330	**290**	240	410	**370**	330	260	**230**	195	–	–	–	335	**305**	275
	3	305	**255**	215	370	**330**	305	240	**205**	170	–	–	–	305	**275**	250
	4	270	**225**	180	275	**255**	230	215	**180**	145	–	–	–	225	**210**	190
	5	225	**200**	180	330	**300**	275	180	**160**	145	–	–	–	310	**275**	255
	6	200	**150**	120	230	**200**	175	160	**120**	95	–	–	–	190	**165**	–
M	1	245	**215**	200	270	**240**	205	205	**180**	165	–	–	–	250	**220**	190
	2	225	**190**	160	245	**215**	190	185	**160**	130	–	–	–	225	**195**	170
	3	170	**145**	115	195	**175**	150	140	**120**	95	–	–	–	175	**160**	140
K	1	275	**250**	220	435	**390**	350	–	–	–	505	**460**	410	355	**320**	285
	2	215	**195**	180	345	**310**	280	–	–	–	400	**355**	330	280	**255**	230
	3	180	**160**	145	290	**255**	240	–	–	–	335	**300**	275	235	**210**	195
N	1–2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
S	1	50	**45**	35	–	–	–	45	**35**	30	–	–	–	–	–	–
	2	50	**45**	35	–	–	–	45	**35**	30	–	–	–	–	–	–
	3	60	**50**	35	–	–	–	55	**45**	30	–	–	–	–	–	–
	4	85	**60**	45	–	–	–	75	**55**	35	–	–	–	–	–	–
H	1	145	**110**	85	–	–	–	–	–	–	–	–	–	–	–	–
	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Choose the Application

- Face Milling
- Chamfer Milling
- Shoulder Milling
- Slotting
- Copy Milling
- Ceramic Milling
- Thread Milling

● first choice
○ alternate choice

P	○	Steel
M	●	Stainless Steel
K		Cast Iron
N		Non-Ferrous Materials
S	○	High-Temp Alloys
H	○	Hardened Materials

Face Mills

Dodeka™ Mini 15° • High-Feed

Ap1: 1,60mm
Cutting Edges: 12
Dia: 25–80mm
k = 15° Pages: O4–O5

Dodeka™ Mini 45°

Ap1: 3,2mm
Cutting Edges: 12
Dia: 25–125mm
k = 45° Pages: O8–O10

Dodeka™ Mini 60° • Heavy Duty

Ap1: 4,4mm
Cutting Edges: 12
Dia: 40–125mm
k = 60° Page: O13

Dodeka™ • High-Feed • 15°

Ap1: 2,2mm
Cutting Edges: 12
Dia: 50–160mm
k = 15° Page: O16

Dodeka™

Ap1: 4,5mm
Cutting Edges: 12
Dia: 40–315mm
k = 45° Pages: O19–O20

Dodeka™ JIS

Ap1: 4,5mm
Cutting Edges: 12
Dia: 80–160mm
k = 45° Page: O21

Dodeka MAX™

Ap1: 8mm
Cutting Edges: 12
Dia: 80–315mm
k = 45° Page: O26

Dodeka MAX™ JIS

Ap1: 8mm
Cutting Edges: 12
Dia: 80–315mm
k = 45° Page: O27

MEGA 45° • Heavy Duty

Ap1: 17,2mm
Cutting Edges: 4
Dia: 125–315mm
k = 45° Page: O32

MEGA 45° • Heavy Duty • JIS

Ap1: 17,2mm
Cutting Edges: 4
Dia: 125–315mm
k = 45° Page: O33

MEGA 15 • Heavy Duty

Ap1: 6,1mm
Cutting Edges: 4
Dia: 125–315mm
k = 15° Page: O38

MEGA 60 • Heavy Duty

Ap1: 21,4mm
Cutting Edges: 4
Dia: 125–315mm
k = 60° Page: O40

MEGA 60 • Heavy Duty • JIS

Ap1: 21,4mm
Cutting Edges: 4
Dia: 125–315mm
k = 60° Page: O41

MEGA 90 • Heavy Duty

Ap1: 25,5mm
Cutting Edges: 4
Dia: 125–315mm
k = 90° Page: O44

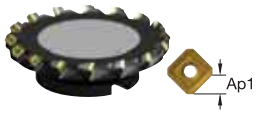
MEGA 90 • Heavy Duty • JIS

Ap1: 25,5mm
Cutting Edges: 4
Dia: 125–315mm
k = 90° Page: O45

KSSM™ 45° • Beyond BLAST™

Ap1: 6,6mm
Cutting Edges: 4
Dia: 50–200mm
k = 45° Page: O50

KSSM™ 45° • Beyond BLAST™ • JIS



Ap1: 6,6mm
Cutting Edges: 4
Dia: 80–200mm
k = 45° Page: O51

KSSM™ 45°

Ap1: 6,6mm
Cutting Edges: 4
Dia: 40–160mm
k = 45° Pages: O55–O56

KSSM™ 45° JIS

Ap1: 6,6mm
Cutting Edges: 4
Dia: 80–160mm
k = 45° Page: O57

KSOM™ Mini

Ap1: 3,5mm (8 edges)
Ap2: 9mm (4 edges)
Dia: 32–160mm
k = 43° Pages: O64–O66

KSOM™ Mini JIS

Ap1: 3,5mm (8 edges)
Ap2: 9mm (4 edges)
Dia: 80–160mm
k = 43° Page: O67

KSOM™ • OF.T07L6...

Ap1: 5mm (8 edges)
Ap2: 11mm (4 edges)
Dia: 63–160mm
k = 43° Page: O72

KSOM™ • OF.T07L6... JIS

Ap1: 5mm (8 edges)
Ap2: 11mm (4 edges)
Dia: 80–160mm
k = 43° Page: O73

Fix-Perfect™ • Finisher

Ap1: 1mm
Cutting Edges: 4
Dia: 63–250mm
k = 15° Page: O80

Fix-Perfect™ 70° • Cast Iron • IC12

Ap1: 5,9mm (8 edges)
Ap2: 9,5mm (4 edges)
Dia: 50–250mm
k = 70° Page: O84

Fix-Perfect™ 90° • Cast Iron • IC12

Ap1: 6mm (8 edges)
Ap2: 10mm (4 edges)
Dia: 50–200mm
k = 90° Page: O88

Fix-Perfect™ 70° • Cast Iron • IC15

Ap1: 6,5mm (8 edges)
Ap2: 12mm (4 edges)
Dia: 80–250mm
k = 70° Page: O92

Fix-Perfect™ 90° • Cast Iron • IC15

Ap1: 8mm (8 edges)
Ap2: 12mm (4 edges)
Dia: 80–200mm
k = 90° Page: O96

HexaCut™ 45° • Cast Iron

Ap1: 6,5mm
Cutting Edges: 12
Dia: 80–200mm
k = 45° Page: O103

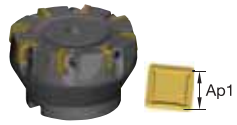
HexaCut™ 60° • Cast Iron

Ap1: 8mm
Cutting Edges: 12
Dia: 80–200mm
k = 60° Page: O108

KSSR • Left and Right Hand

Ap1: 5mm
Cutting Edges: 8
Dia: 63–250mm
k = 84° Pages: O116–O118

KSSR JIS



Ap1: 5mm
Cutting Edges: 8
Dia: 80–250mm
k = 84° Page: O119

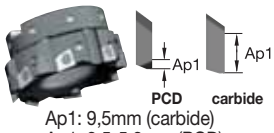
KCMS™ • Cartridge Milling System

Ap1: 0,7–18mm
28 alternative cartridges
Note: See cartridges for Ap1 value
Dia: 125–315mm
Variable Page: O126

KSCM™ AluMill™

Ap1: 3mm
Cutting Edges: 1
Dia: 63–315mm
k = 90° Pages: O129–O130

Fix-Perfect™ 90° • Aluminium

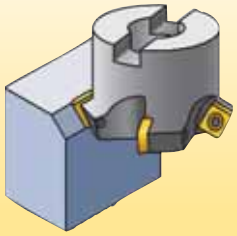


Ap1: 9,5mm (carbide)
Ap1: 2,5-5,2mm (PCD)
Cutting Edges: 1 (PCD); 4 (carbide)
Dia: 40–315mm
k = 90° Pages: O139–O143

● first choice
○ alternate choice

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous Materials
S	High-Temp Alloys
H	Hardened Materials

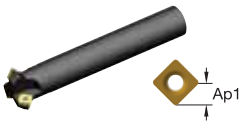
Chamfer Mills



Chamfer Mill • End Mills 45° • IC 09

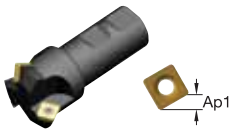
Ap1: 6,5mm
Cutting Edges: 4
Dia: 10–32mm
k = 45° Page: O148

Chamfer Mill • End Mills 45° • IC 12



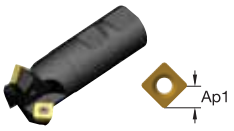
Ap1: 9mm
Cutting Edges: 4
Dia: 32mm
k = 45° Page: O151

Chamfer Mill • End Mills 30° • IC 12



Ap1: 6,5mm
Cutting Edges: 4
Dia: 32mm
k = 30° Page: O150

Chamfer Mill • End Mills 45° • IC 12

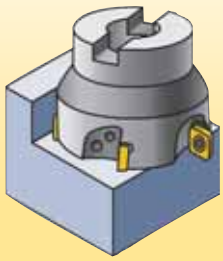


Ap1: 9mm
Cutting Edges: 4
Dia: 32mm
k = 45° Page: O150

Chamfer Mill • End Mills 60° • IC 12

Ap1: 10mm
Cutting Edges: 4
Dia: 32mm
k = 60° Page: O151

Shoulder Mills



Mill 1-10™

Ap1: 10mm (carbide)
Ap1: 4mm (PCD)
Cutting Edges: 2
Dia: 12–100mm
k = 90° Pages: P3–P7

Mill 1-10™ • JIS

Ap1: 9,9mm (carbide)
Ap1: 4mm (PCD)
Cutting Edges: 2
Dia: 80–100mm
k = 90° Page: P8

Mill 1-10™ Helical

Ap1: up to 45mm
Cutting Edges: 2
Dia: 20–50mm
k = 90° Pages: P14–P16

Mill 1-14™

Ap1: 14mm
Cutting Edges: 2
Dia: 20–160mm
k = 90° Pages: P23–P25

Mill 1-14™ • JIS

Ap1: 14,2mm
Cutting Edges: 2
Dia: 80–160mm
k = 90° Page: P26

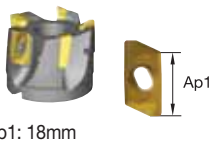
Mill 1-14™ Helical

Ap1: 27–54mm
Cutting Edges: 2
Dia: 32–63mm
k = 90° Pages: P33–P35

Mill 1-18™

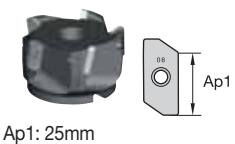
Ap1: 18mm
Cutting Edges: 2
Dia: 25–160mm
k = 90° Pages: P45–P48

Mill 1-18™ • JIS



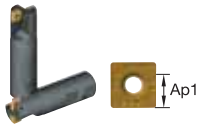
Ap1: 18mm
Cutting Edges: 2
Dia: 80–160mm
k = 90° Page: P50

Mill 1-25™



Ap1: 25mm
Cutting Edges: 2
Dia: 40–100mm
k = 90° Pages: P57–P58, P60

KSSM™ 90° • IC 10mm



Ap1: 6,6mm
Cutting Edges: 4
Dia: 25–100mm
k = 90° Pages: P65–P66

KSSM™ 90° • IC 12mm

Ap1: 9,2mm
Cutting Edges: 4
Dia: 50–200mm
k = 90° Page: P70

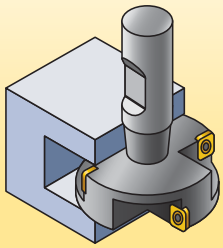
KSSM™ • Helical 90° • IC 12mm

Ap1: 32–61mm
Cutting Edges: 4
Dia: 50–80mm
k = 90° Page: P75

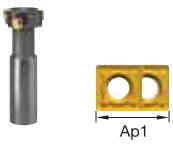
KFSR™ Heavy Duty

Ap1: 24–111mm
Cutting Edges: 2
Dia: 63–250mm
k = 90° Pages: P81, P83

Slotting

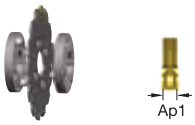


T-Slot Cutter



Ap1: 9–22mm
Dia: 21–50mm
k = 90° Page: Q3

KVNS™ A2™ Slotting Cutters



Ap1: 1,6–4mm
Cutting Edge: 1
Dia: 63–250mm
k = 90° Pages: Q9–Q10

90° SN Slotting Cutters

B min: 4–14mm
Cutting Edges: 4
Dia: 80–250mm
k = 90° Page: Q15

90° LN Slotting Cutters

B min: 6–12mm
Cutting Edges: 4
Dia: 80–200mm
k = 90° Pages: Q19–Q20

KSSM™ Slotting Cutters • IC 10

B min: 14–18mm
Cutting Edges: 4
Dia: 100–315mm
k = 90° Pages: Q27–Q40

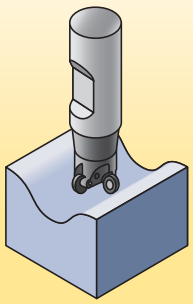
KSSM™ Slotting Cutters • IC 12

B min: 18–23,3mm
Cutting Edges: 4
Dia: 125–315mm
k = 90° Pages: Q44–Q57

● first choice
○ alternate choice

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous Materials
S	High-Temp Alloys
H	Hardened Materials

Copy Mills



KenFeed™ 2X Series

Ap1: 1,5mm
Cutting Edges: 6
Dia: 25–80mm
Pages: R3–R4

HF

KenFeed™ Mini

Ap1: 0,8–1mm
Cutting Edges: 3
Dia: 16–35mm
Page: R9

HF

KDR Rodeka™ IC 12

Ap1: 3mm/6mm
Cutting Edges: 12/8
Dia: 32–100mm
Pages: R13–R15, R19

Round

KDM • RD.X05...

Ap1: 2,5mm
Dia: 12–25mm
Page: R21

Round

KDM • RD.X07...

Ap1: 3,5mm
Dia: 12–35mm
Page: R24

Round

KDM • RD.X10...

Ap1: 5mm
Dia: 20–52mm
Pages: R27–R29

Round

KDM • RD.X12...

Ap1: 6mm
Dia: 24–80mm
Pages: R33–R34

Round

KDM • RD.X16...

Ap1: 8mm
Dia: 32–100mm
Page: R38

Round

KSRM™ • IC12

Ap1: 6mm
Dia: 32–100mm
Pages: R43–R45

Round

KSRM™ • IC16

Ap1: 8mm
Dia: 40–125mm
Pages: R49–R50

Round

KSRM™ • IC20

Ap1: 10mm
Dia: 63–200mm
Page: R54

Round

Beyond BLAST™ • KSRM™ • IC20

Ap1: 10mm
Dia: 63–200mm
Page: R59

Round

Beyond BLAST™ • KSRM™ • IC20 • JIS

Ap1: 10mm
Dia: 80–200mm
Page: R60

Round

KDMB™ Ball Nose Platform

Ap1: 3–16mm
Cutting Edges: 1
Dia: 6–32mm
Pages: R65–R68

KDMT™ Platform • KDMS™

Ap1: Up to 8mm
Cutting Edges: 1
Dia: 8–32mm
Pages: R82–R83

KDMT™ High-Feed

Ap1: up to 8mm
Cutting Edges: 1
Dia: 6–20mm
HF Pages: R82–R83

KMM™ Platform

Ap1: 1mm
Cutting Edges: 2
Dia: 10–52mm
k = 95° Pages: R89–R90

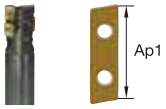
Z-Axis Plunge Mill

Ap1: 11mm
Cutting Edges: 4
Dia: 32–160mm
k = 88.5° Pages: R97–R99

Z-Axis Plunge Mill • JIS

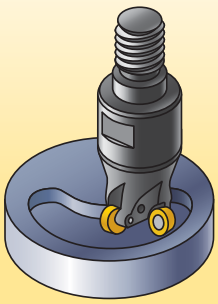
Ap1: 11mm
Cutting Edges: 4
Dia: 80–160mm
k = 88.5° Page: R100

KDMR™ Platform



Ap1: up to 54mm
Ap2 = up to 10mm
Cutting Edges: 2
Dia: 16–50mm
k = 90° Pages: R107–R110

Ceramic Mills



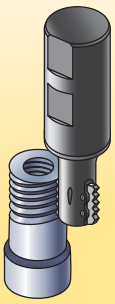
Ceramic Positive RP

Ap1: 3–6,3mm
Dia: 16–100mm
Round Pages: R115–R117

Ceramic Negative RN

Ap1: 6mm
Dia: 50–160mm
Round Page: R121

Thread Mills



Thread Mills

Inserts:
Long: STN 16, STN 27, STN 38
Normal: STN 11, STN 16, STN 27, STN 38
Mini - STN 10
Dia: 9–46mm
Pages: S9–S10

Thread Mills — Tapered Thread

Inserts:
STN 11, STN 16, STN 27
Dia: 10–42mm
Page: S11

Thread Mills

Dia: 17–30mm
Page: S4

Conical Thread Mills

Dia: 14–26mm
Page: S5

How Do Catalogue Numbers Work?

Each character in our catalogue number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.

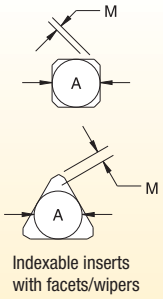
H — Insert Shape

A	Parallelogram	85°
C E	Rhomboid	80° 75°
H	Hexagon	120°
L	Rectangular	90°
O	Octagon	135°
R	Round	—
S	Square	90°
T	Triangular	60°
X	Kennametal Standard Form	

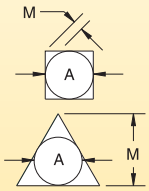
N — Insert Clearance Angle

A	3°
B	5°
C	7°
D	15°
E	20°
F	25°
G	30°
N	0°
P	11°

G — Tolerance Class



Indexable inserts with facets/wipers



Indexable inserts with corner radii

Insert thickness

J — Geometry and Clamping Type

06 — Size

A	"L" for shapes						
	C	T	R	O	C	H	E
6,00	–	–	06	–	–	–	–
6,35	06	11	06	02	06	03	06
8,00	–	–	08	–	–	–	–
9,52	09	16	09	04	09	05	09
10,00	–	–	10	–	–	–	–
12,00	–	–	12	–	–	–	–
12,70	12	22	12	05	12	07	13
15,88	15	27	15	06	16	09	16
16,00	–	–	16	–	–	–	–
19,05	19	33	19	07	19	11	19
20,00	–	–	20	–	–	–	–
25,00	–	–	25	–	–	–	–
25,40	25	44	25	10	25	14	26

For shapes A, L, and X, see position #1; use length of leading cutting edge.

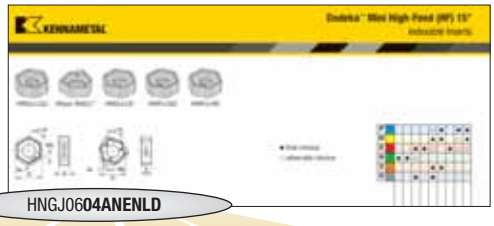
tolerance class	tolerance on "A"	tolerance on "M"	tolerance on "T"	tolerance class	tolerance on "A"	tolerance on "M"	tolerance on "T"
A	0,025	0,005	0,025	**J**	0,05–0,13*	0,005	0,025
B	0,025	0,005	0,13	**K**	0,05–0,13*	0,013	0,025
C	0,025	0,013	0,025	**L**	0,05–0,13*	0,025	0,025
D	0,025	0,013	0,13	**M**	0,05–0,10*	0,05–0,25*	0,13
E	0,025	0,025	0,025	**N**	0,05–0,10*	0,05–0,25*	0,025
F	0,013	0,005	0,025	**P****	0,038	0,038	0,038
G	0,025	0,025	0,13	**U**	0,08–0,25*	0,13–0,30*	0,13
H	0,013	0,013	0,025	**—**	—	—	—

*See table below for tolerances according to insert size and class.
**Kennametal standard only.

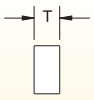
A	tolerances on "A"		tolerances on "M"	
	classes J, K, L, M, N	class U	classes M & N	class U
4,76–10,00	0,051	0,076	0,076	0,127
11,11–14,29	0,076	0,127	0,127	0,203
15,00–20,64	0,102	0,178	0,152	0,279
22,00–31,16	0,127	0,254	0,178	0,381
31,75–35,00	0,152	0,254	0,203	0,381

symbol	hole	shape of hole	chipbreaker	shape of insert's section
N	without		without	
R			single sided	
F			double sided	
A	with	cylindrical hole	without	
M			single sided	
G			double sided	
W		partly cylindrical hole, 40–60° countersink	without	
T			single sided	
Q		partly cylindrical hole, 40–60° double countersink	without	
U			double sided	
B		partly cylindrical hole, 70–90° countersink	without	
H			single sided	
C		partly cylindrical hole, 70–90° double countersink	without	
J			double sided	
X	special design			

By referencing this easy-to-use guide, you can identify the correct product to meet your needs.



04 — Thickness



insert thickness

T	
2,38	02
3,18	03
3,97	T3
4,76	04
5,56	05
6,35	06
7,94	07

AN — Corner Configuration

radius		leading or major cutting edge			
M0	round insert	If letter is replaced by number(s), refer to table for radius "r".		wiper edge clearance P	
01	0,1mm			A	3°
02	0,2mm			B	5°
04	0,4mm			C	7°
05	0,5mm			D	15°
08	0,8mm			E	20°
10	1,0mm			F	25°
12	1,2mm	lead angle K		G	30°
15	1,5mm	A	45°	N	0°
16	1,6mm	D	60°	P	11°
24	2,4mm	E	75°		
32	3,2mm	P	90°		

E — Cutting Edge Form

F Sharp

E Honed

T T-land

S Honed T-land

N — Insert Hand

direction of cutter rotation

direction of cutter rotation

direction of cutter rotation

L — Edge Prep Size

L = Light — sharp or lightly honed and/or T-land
G = General — medium hone and/or T-land
H = Heavy — large hone and/or T-land

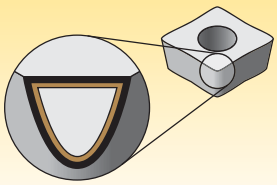
D — Rake Face Angle

N	A	B	C	P	D	E	F	G
0° or less	3°	5°	7°	11°	15°	20°	25°	30°

Nominal or average angle of rake on insert face at leading cutting edge before edge prep and before installation.

Added Info

J = Polished rake face
P = Partial T-land
W = Wiper/radiused facet



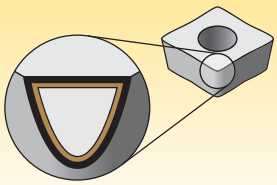
Coatings provide high-speed capability and are engineered for finishing to heavy roughing.

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous Materials
S	High-Temp Alloys
H	Hardened Materials

wear resistance ⟷ toughness

Grade

Coating	Grade Description	05	10	15	20	25	30	35	40	45
KMF	KMF is an uncoated carbide grade, fine grained substrate for machining of high-temperature alloys and non-ferrous materials.				K	K	K			
					N	N	N			
					S	S				
K115M	A premium uncoated carbide grade designed for high edge wear resistance in non-ferrous and cast iron materials. Coolant use recommended.		K	K						
			N	N	N					
K313	An uncoated carbide grade suitable for machining cast iron, high-temperature alloys, and non-ferrous materials. This grade can be used both wet and dry and is designed for light and general machining.		K	K	K					
			N	N	N					
			S	S						
K110M	A universal uncoated carbide grade for machining non-ferrous materials for use in light and general machining. K110M can be used with or without coolant.		K	K						
			N	N	N					
			S	S						
K125M	An uncoated carbide grade particularly suitable for dry machining of steel. Its primary use is in light and general machining.				P	P	P			
KC410M	An extremely hard TiB_2-PVD-coated grade that provides very good wear characteristics at higher cutting speeds. KC410M resists edge build up, can help reduce burring, and generates excellent surface finishes. This grade is best suited for aluminium with <10% silicon and other non-ferrous materials.									
			N	N	N					
KC422M	A very wear resistant TiB_2-PVD-coated grade. Its hard coating and tough substrate make KC422M an excellent choice for medium to roughing applications in aluminium with <10% silicon and other non-ferrous materials.				N	N	N			
KC505M	A highly wear-resistant TiAlN-PVD-coated grade primarily for light machining in steel and hardened steel.		P	P						
			H							



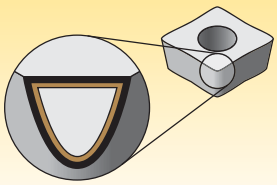
Coatings provide high-speed capability and are engineered for finishing to heavy roughing.

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous Materials
S	High-Temp Alloys
H	Hardened Materials

wear resistance ⟷ toughness

Grade

Coating	Grade Description	05	10	15	20	25	30	35	40	45
KC510M	A highly wear-resistant TiAiN-PVD-coated carbide grade primarily for use in milling aluminium and high-temperature alloys in light applications. Can also be used for machining steel and hardened steel.	P	P							
		N	N	N						
		S	S							
		H	H							
KC514M	A thicker TiAlN-PVD-coated carbide grade that combines high wear-resistance with good toughness. KC514M is primarily for light to medium machining of cast irons and can be used wet or dry.									
		K		K	K	K				
KC515M	A K10 substrate premium grade with built-in wear resistance and a TiAlN coating for extended life during finishing applications. Used in ball nose finishing and back draft inserts for the die and mould industry and is capable of running at moderate to high cutting speeds.	P	P	P						
		M								
		K	K							
KC520M	A TiAlN-PVD-coated carbide grade developed specifically for general machining of ductile cast iron and can be used with or without coolant.									
		K		K	K	K				
KC522M	AlTiN-PVD-coated carbide grade engineered to provide better performance in general machining of high-temperature alloys and stainless steel. KC522M resists breakage and offers improved wear resistance and increased strength.	P			P	P				
		M			M	M	M			
		K				K	K	K		
		S			S	S	S			
KC524M	A thicker coated TiAlN-PVD-coated carbide grade combining good wear-resistance and high toughness. It is primarily for general machining of all cast irons and can be used wet or dry.									
		K			K	K	K	K		
KC525M	A new universal TiAlN-PVD-coated carbide grade primarily for use in light and general machining of milling steel, stainless steel, and high-temperature alloys. KC525M can be used with or without coolant.	P			P	P	P			
		M			M	M	M			
		S			S	S	S			
KC527M	A TiAlN-PVD-coated carbide grade ideal for medium milling applications in steel and high strength ductile cast irons. For best results, use dry, but can be used wet.	P			P	P	P			
		K			K	K	K			



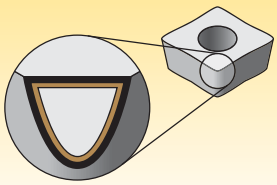
Coatings provide high-speed capability and are engineered for finishing to heavy roughing.

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous Materials
S	High-Temp Alloys
H	Hardened Materials

wear resistance ⟷ toughness

Grade

Coating	Grade Description	05	10	15	20	25	30	35	40	45
KC530M	A premium TiAlN-PVD-coated carbide grade enabling extended tool life at moderate feeds and high cutting speeds. First choice for milling in all steels, including die and mould steels, and is recommended for use without coolant.	P	P	P	P	P	P	P		
		M	M	M	M	M	M	M		
KC537M	A tough, general-purpose TiAlN-PVD-coated carbide grade for medium to heavy milling applications for use in all steels and cast irons. KC537M can be used either wet or dry.						P	P	P	
		M	M	M	M	M	M	M		
		K	K	K	K	K	K	K	K	
KC5410	An extremely hard TiB_2-PVD-coated grade that provides very good wear characteristics at high cutting speeds and is best suited for machining aluminium with <10% silicon and other non-ferrous materials. KC5410 resists built-up edge, can help reduce the burring effect, and will generate excellent surface finishes.									
		N	N	N						
KC610M	A high-performance, TiN-TiCN-TiN-PVD-coated carbide grade characterised by good hardness and wear resistance for milling all types of material and is the first choice for steel. KC610M should be used with coolant or minimal lubrication.	P	P	P	P	P	P			
		M	M	M	M	M				
		K	K	K	K	K	K			
		S	S	S	S	S				
KC620M	A TiN-PVD-coated carbide grade suitable for machining cast iron, non-ferrous materials, and aluminium alloys that can be used for wet or dry machining.	P	P	P	P	P	P			
		K	K	K	K	K	K			
		N	N	N	N	N	N			
KC635M	A high-performance, TiAlN-PVD-coated grade characterised by high hardness and wear resistance. KC635M is suitable for cutting hard materials up to 65 HRC and is first choice for stainless steel.	P	P	P	P	P				
		M	M	M	M	M				
		K	K	K	K	K	K			
		H	H	H	H	H				
KCPM20	KCPM20 is a multilayered TiN-MT-TiCN-Al_2O_3-CVD-coated carbide grade with advanced Beyond™ post-coat treatment. The substrate is a well-balanced combination of wear resistance and toughness. KCPM20 is primarily for light and general machining of steels and stainless steels or roughing of cast irons.	P	P	P	P	P	P			
		M	M	M	M	M				
		K	K	K	K	K	K			
KC715M	KC715M has a deformed substrate and PVD coating that can handle high temperatures and higher surface speeds making it ideal for dry machining. KC715M is primarily for use in light and general machining of steel, stainless steel, and cast steel.	P	P	P	P	P	P			



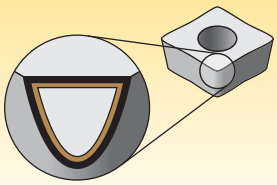
Coatings provide high-speed capability and are engineered for finishing to heavy roughing.

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous Materials
S	High-Temp Alloys
H	Hardened Materials

wear resistance ⟷ toughness

Grade

Coating	Grade Description	05	10	15	20	25	30	35	40	45
KC720M	A TiAlN-TiN-PVD-coated carbide grade engineered to provide balanced wear and deformation resistance in combination with excellent breakage resistance.					P	P	P		
				M	M	M	M	M		
KC725M	A high-performance TiAlN-PVD-coated carbide grade for milling steel, stainless steel and ductile cast iron. The good thermal shock resistance of the substrate makes this grade ideal for both wet and dry machining. KC725M is primarily for use in general and heavy machining.						P	P	P	
							M	M	M	
							S	S	S	
KC730M	A TiN-PVD-coated carbide grade with a tough substrate and is recommended for general milling with moderate speeds. KC730M can be used wet or dry.					P	P	P		
						M	M	M		
KC735M	A TiN-PVD-coated carbide grade offering an unusual combination of high toughness and wear resistance. Even under extreme toughness requirements, KC735M achieves outstanding results in general and heavy machining applications and is suitable for dry and wet machining.						P	P	P	
							M	M		
KCK15	A multilayered TiN-MT-TiCN-Al_2O_3-CVD-coated carbide grade with advanced Beyond™ post-coat treatment. KCK15 is a wear-resistant grade with balanced toughness for general milling of cast irons at higher speeds. Best results in dry but can also be used wet.			K	K	K				
KTPK20	A multilayered TiAlN-AlCrN-PVD-coated cermet. This tough cermet is primarily for use in light and general machining of steel, stainless steel, and cast iron and performs best dry.			P	P	P				
				M	M					
				K	K	K				
KCPK30	A multilayered TiN-TiCN-Al_2O_3-CVD-coated carbide grade with advanced Beyond™ post-coat treatment and a very tough substrate. KCPK30 has a wide application area in general and rough milling of steels and cast irons. It performs best dry but can also be used wet.					P	P	P	P	
						K	K	K	K	
KCMP30	A multilayered TiN-TiCN-Al_2O_3-CVD-coated carbide grade with advanced Beyond™ post-coat treatment and a very tough substrate. KCMP30 has a wide application area in general and rough milling of steels. It performs best dry but can also be used wet.					P	P	P	P	
						M	M	M		
							S	S	S	



Coatings provide high-speed capability and are engineered for finishing to heavy roughing.

P	Steel
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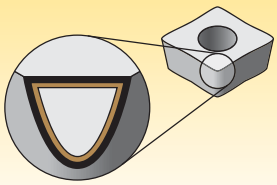
wear resistance ⟷ toughness

Grade

Coating	Grade Description	05	10	15	20	25	30	35	40	45
KC907M	A TiN-MT-TiCN-Al_2O_3-CVD-coated carbide grade with a very hard substrate providing excellent wear resistance. Primarily for use in light cuts and finishing of cast iron.	K	K							
KC914M	A TiN-TiCN-Al_2O_3-ZrCN-CVD-coated carbide grade ideal for light to medium cutting of grey cast iron at high speeds that performs best dry.	K		K	K					
KC917M	A wear-resistant multilayered TiN-TiCN-Al_2O_3-CVD-coated carbide grade with balanced toughness for general milling of cast irons at high speeds. Best results achieved when used with coolant but can also be used dry.	K		K	K	K				
KC924M	A multilayered TiN-TiCN-Al_2O_3-CVD-coated carbide grade with good toughness for medium to heavy milling of all cast irons. Best results when machining dry, but can be used wet.	K			K	K	K			
KC927M	A multilayered TiN-TiCN-Al_2O_3-TiN-CVD-coated carbide grade with a tough substrate used for medium machining of all steels and ductile cast irons. Best results when machining dry but can be used wet.	P				K	K	K		
		M				M	M			
		K			K	K	K			
KYSM10	KYSM10 — previously KY2100 — has good mechanical shock resistance combined with edge wear resistance and is used for general-purpose machining of high-temperature alloys. KYSM10 can also be used for machining steel and stainless steel.	M		M	M					
		S		S	S	S				
KY3500	A ceramic cutting material based on micro-grain Si_3N_4 primarily for use in light to general machining of grey cast iron and ferritic ductile cast iron. Dry machining is preferred while using this grade.	K			K	K	K	K		
KYHS10	KYHS10 — previously KY4300 — is an Al_2O_3 matrix reinforced with SiC whiskers for excellent toughness suited for machining high-temperature and ferrous alloys with a high Brinell hardness.	K		K	K	K				
		S		S	S	S				
		H					H	H		



Coatings provide high-speed capability and are engineered for finishing to heavy roughing.

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wear resistance ⟷ toughness

Grade

Coating	Grade Description	05	10	15	20	25	30	35	40	45
KYSP30	Combines excellent wear properties, fracture toughness, and thermal shock resistance for general purpose to finish machining of high-temperature alloys. KYSP30 provides superior depth-of-cut notch resistance compared to whisker ceramics.	S								
KYS30	KYS30 is the latest in the line of α/βSiAlON grades for general purpose to finish machining of high-temperature alloys. This grade provides excellent wear characteristics, with better toughness and thermal shock resistance than whisker ceramics. KYS30 also gives improved thermal stability.	S								
KB1340	A PCBN cutting material with micrograin structure for light to general machining of grey cast iron and hard materials. The grade has good wear resistance and is ideal for finishing.	K								
KD1410	A PCD-tip brazed to carbide for machining aluminium with a very high silicon content, abrasive non-ferrous materials, and fibre-reinforced plastics. KD1410 can be used at very high cutting speeds, even where good surface finishes are required. This grade can be used both wet or dry but is suggested to use coolant where good surface finishes are required.	N								
KD1415	PCD-tip brazed to carbide for general machining of aluminium with a low silicon content, non-ferrous heavy metals, and plastics. KD1415 can be used at high cutting speeds and for continuous cutting, even where outstanding surface finishes are required. KD1415 is suitable for wet and dry machining.	N								
KD1420	A varied-grain, PCD-brazed tip grade suited for machining low silicon aluminium, non-ferrous heavy metals, and plastics. It can be used for high cutting speeds where outstanding surface finishes are required and is suitable for dry and wet machining.	N								

Grade Conversion by Name Only
KSSR™ — Face Mill Platform
HexaCut™ — Face Mill Platform
Machining cast iron only.
Inserts are the same; only the grade name changes.

old TN grade names	NEW grade name
TN2510	KC914M
TN5505	KC907M
TN5515	KC917M
TN5520	KC924M
TN6510	KC514M
TN6520	KC524M
TN6525	KC527M
TN6540	KC537M
TN7525	KC927M