KENNAMETAL®

Holemaking

NEW Beyond™

Drill Fix™ DFS™ Square Outboard Inserts

Achieve Outstanding results in Steel, Stainless Steel and Cast Iron

New Generation of Drilling Inserts that boost your productivity

- Achieve up to 100% higher Tool Life at accelerated speeds
- Fully utilize DFS drill body benefits in regards to stability, coolant supply and chip evacuation
- Products can be applied across a wide range of applications and materials
- Predictable tool life/uniform wear
- Achieves consistent surface finish

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Markets and Applications

In the diameter range of 24 to 55 mm (.625 to 2.165 inch) Drill Fix DFS tooling enables highest feed rates due to optimized pocket seat design.

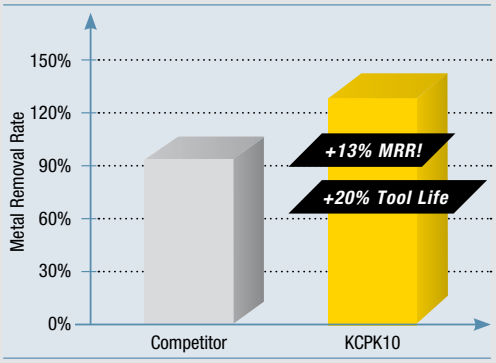
High Metal Removal Rates, long tool body life, and excellent chip evacuation due to advanced chip flutes and non-central and increased cooling channels result in outstanding hole qualities.

Apply X-Offset to extend diameter ranges on Lathe as well as on Machining Centers using eccentric adapters.

Featured Application

Operation:	Drilling
Workpiece:	Front and rear jaws
Material:	Forged Steel
Solution:	MD in KCPK10
Results:	• 20% higher tool life • 13% higher Metal Removal Rate • shorter cycle times as no feed reduction at hole entry anymore

	COMPETITOR	KCPK10
diameter:	32 mm (1.26 inch)	
depth of hole:	45 mm (1.77 inch)	
cutting speed Vc:	276 m/min (906 sfm)	281 m/min (922 sfm)
feed rate f:	0,114mm/rev (.0045 ipr)	0,127mm/rev (.0050 ipr)
tool life/edge	264	320



Features and Benefits

Special Post coat treatment

- Improves edge toughness resulting in long predictable tool life
- Reduces depth of cut notching
- Enables a wide range of applications in Steel, Stainless Steel and Cast Iron materials

Micro-polished edges

- Improves edge toughness
- Provides smooth outer surface to reduce forces, friction, and work-piece sticking

Enlarged corner radius

- Improves corner strength for use under challenging conditions
- Reduces negative heat impact for high speed applications

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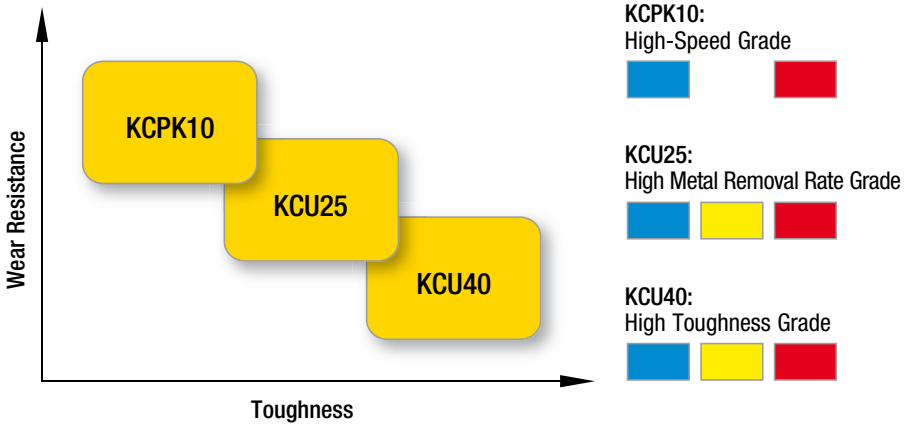
For DFS Outboard Inserts



Drill Fix™ DFS™ Geometries

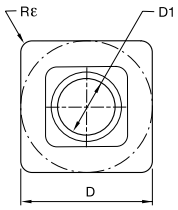
HP: High positive chip breaker geometry preferred on ductile and normal chipping materials.

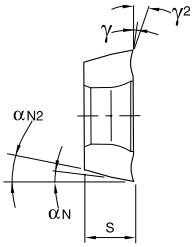
MD: General purpose chip breaker geometry preferred on long chipping materials at medium feed rates.

FP: Positive chip breaker geometry preferred for stable cutting on most materials at high feed rates.

Indexable Drills

SP.X..HP



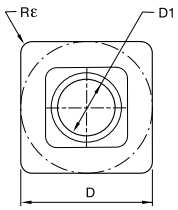


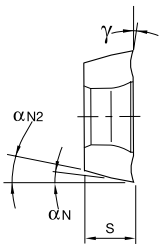
● first choice
○ alternate choice

P	●	●	●
M	○	●	●
K	●	●	●
N	○	○	○
S	○	○	●
H			

catalog number	D mm	D in	D1 mm	D1 in	S mm	S in	Rε mm	Rε in	γ°	γ2°	αN	αN2	KCPK10	KCU25	KCU40
SPGX070308HP	7,80	.3070	2,85	.1120	3,18	.1252	0,80	.0313	10	24	7	11	●	●	●
SPPX09T310HP	9,38	.3690	3,60	.1417	3,97	.1563	1,00	.0390	10	24	7	11	●	●	●
SPPX120412HP	12,56	.4940	4,60	.1811	4,76	.1875	1,20	.0469	10	24	7	11	●	●	●
SPPX15T512HP	15,73	.6190	5,50	.2170	5,95	.2340	1,20	.0469	10	24	7	11	●	●	●

SP.X..MD



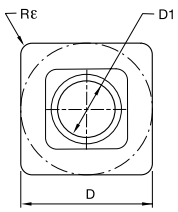


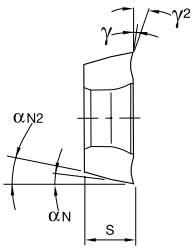
● first choice
○ alternate choice

P	●	●	●
M	○	●	●
K	●	●	●
N	○	○	○
S	○	○	●
H			

catalog number	D mm	D in	D1 mm	D1 in	S mm	S in	Rε mm	Rε in	γ°	αN	αN2	KCPK10	KCU25	KCU40
SPGX070308MD	7,80	.3070	2,85	.1120	3,18	.1252	0,80	.0313	–	7	11	●	●	●
SPPX09T310MD	9,38	.3690	3,60	.1417	3,97	.1563	1,00	.0390	–	7	11	●	●	●
SPPX120412MD	12,56	.4940	4,60	.1811	4,76	.1875	1,20	.0469	–	7	11	●	●	●
SPPX15T512MD	15,73	.6190	5,50	.2170	5,95	.2340	1,20	.0469	–	7	11	●	●	●

SP.X..FP

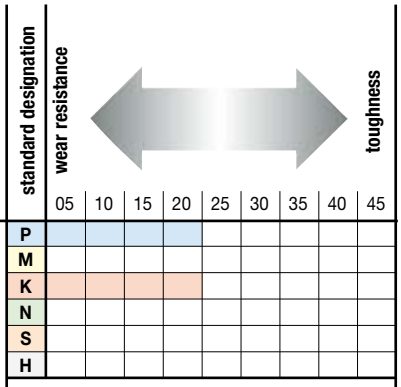
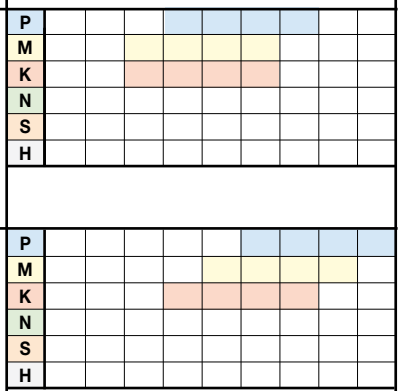
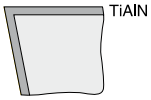




● first choice
○ alternate choice

P	●	●	●
M	○	●	●
K	●	●	●
N	○	○	○
S	○	○	●
H			

catalog number	D mm	D in	D1 mm	D1 in	S mm	S in	Rε mm	Rε in	γ°	αN	αN2	KCPK10	KCU25	KCU40
SPGX070308FP	7,80	.3070	2,85	.1120	3,18	.1252	0,80	.0313	6	7	11	●	●	●
SPPX09T310FP	9,38	.3690	3,60	.1417	3,97	.1563	1,00	.0390	6	7	11	●	●	●
SPPX120412FP	12,56	.4940	4,60	.1811	4,76	.1875	1,20	.0469	6	7	11	●	●	●
SPPX15T512FP	15,73	.6190	5,50	.2170	5,95	.2340	1,20	.0469	6	7	11	●	●	●

grade	coating C–class	composition and application	standard designation: wear resistance → toughness (05 10 15 20 25 30 35 40 45)
KCPK10		**Composition:** With an advanced CVD TiCN-Al_2O_3 coating combined with a cobalt-enriched carbide substrate, this grade offers a balanced combination of deformation resistance and edge toughness. **Application:** The KCPK10 grade offers outstanding abrasion and crater wear resistance for high-speed machining of steels and cast irons. Use for very high cutting speeds with low to medium feed rates.	
KCU25		**Composition:** This advanced CVD TiCN-Al_2O_3 coating together with a newly engineered tough carbide substrate, adequate deformation resistance along with excellent edge strength is ensured and offers very good wear resistance over a wide range of machining conditions. **Application:** KCU25, as a High productivity grade with high speeds and feeds, is the first choice for productive process with a very good reliability in steels, stainless steels, and cast irons.	
KCU40		**Composition:** With a multi-layered PVD TiN-TiAlN coating and a tough substrate, this grade withstands interruptions and provides high wear resistance for long tool life. **Application:** The KCU40 grade is the first choice for high reliability in most materials. This grade should be used at medium speeds and high feeds due to sharper edges and as a grade for high toughness applications it covers steel, stainless steel, cast iron, and high-temp alloys under certain conditions.	

KMT I 10046_EN