



## Grade Selection Table

Type	Grade	Coating	Composition and Application	Area of use	
				Wear resistance	Toughness
				Standard designation	05 10 15 20 25 30 35 40 45
PVD-Coated Carbide Grades	<b>KU10T</b> 	C-Class	<b>composition:</b> An advanced PVD coating over a highly deformation-resistant carbide substrate. <b>application:</b> KU10T is an ideal general machining grade designed for medium to finishing operations. KU10T is excellent when machining most steels, stainless steels, cast irons, non-ferrous materials, and superalloys under stable conditions. KU10T is also effective when machining hardened and short-chipping materials.	P	05 10 15 20 25 30 35 40 45
		C3, C4		M	05 10 15 20 25 30 35 40 45
PVD-Coated Carbide Grades	<b>KU25T</b> 	C2, C6	<b>composition:</b> An advanced PVD coating over a tough and highly wear resistant carbide substrate. <b>application:</b> KU25T is ideal for finishing to general machining of most workpiece materials. With a higher cobalt content than KU10T, this grade provides the toughness needed to handle the demands of grooving, threading and cut-off operations. KU25T performs extremely well when machining most steels, stainless steels, cast irons, non-ferrous materials, and superalloys under stable conditions. KU25T can also be effectively applied when machining hardened and short-chipping materials.	K	05 10 15 20 25 30 35 40 45
		C2, C6		N	05 10 15 20 25 30 35 40 45
CVD-Coated Carbide Grades	<b>KU30T</b> 	C5, C6	<b>composition:</b> A tough cobalt-enriched substrate with a multilayered CVD coating. <b>application:</b> KU30T is a new grade designed specifically for the job shop industry where a wide range of workpiece materials is employed. With its tough cobalt-enriched substrate, KU30T performs very effectively in roughing and medium machining operations. The post-coat grinding of the insert permits stable insert seating while the post-coat treatment resists workpiece build-up and microchipping. For roughing steels, cast irons, and stainless steels, your first choices are the -RN, -MN, and the -RP geometries. For medium machining (and finishing), the -MP geometry with a positive rake is suggested.	S	05 10 15 20 25 30 35 40 45
		C5, C6		H	05 10 15 20 25 30 35 40 45

## Geometries for Steel, Stainless Steel, Cast Iron, Non-Ferrous, High-Temp Alloys, and Hardened Materials

### 1st Step – Select the Insert Geometry

#### Negative Inserts

##### ▼ Roughing



##### ▼ Medium Machining



##### ▼ Finishing



#### Positive Inserts

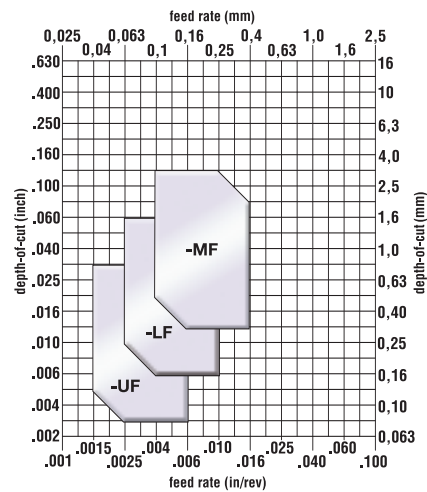
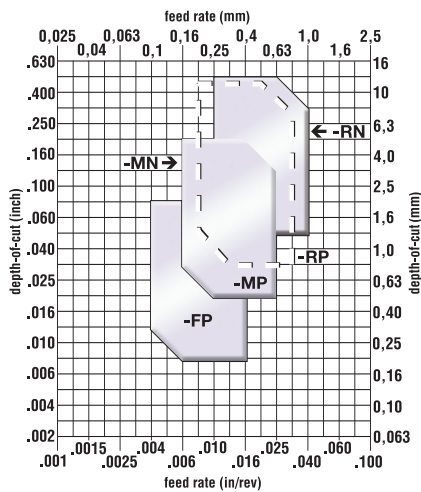
##### ▼ Medium Machining



##### ▼ Finishing



##### ▼ Fine Finishing



### 2nd Step – Select the Grade

Cutting Condition	Negative Insert Geometry					Positive Insert Geometry		
	-FP	-MP	-MN	-RN	-RP	-UF	-LF	-MF
heavily interrupted cut	☹	KU30T	KU30T	KU30T	KU30T	☹	KU30T	KU30T
lightly interrupted cut	☹	KU10T	KU30T	KU30T	KU30T	KU10T	KU30T	KU30T
varying depth of cut, casting or forging skin	☹	KU10T	KU10T	KU30T	KU30T	KU10T	KU10T	KU30T
smooth cut, pre-turned surface	☹	KU10T	KU10T	KU30T	KU30T	KU10T	KU10T	KU30T



### 3rd Step – Select the Cutting Speed

Plain Carbon and Alloy Steels, Ferritic and Martensitic and PH Stainless Steels

Material Group	grade	Speed - sfm (m/min)							Starting Conditions	
		170 (50)	330 (100)	490 (150)	655 (200)	820 (250)	980 (300)	1150 (350)	sfm	m/min
P	KU10T								650	200
	KU30T								500	150

Austenitic and Stainless Steels

Material Group	grade	Speed - sfm (m/min)							Starting Conditions	
		170 (50)	330 (100)	490 (150)	655 (200)	820 (250)	980 (300)	1150 (350)	sfm	m/min
M	KU10T								600	180
	KU30T								450	140

Gray and Ductile Cast Irons

Material Group	grade	Speed - sfm (m/min)							Starting Conditions	
		170 (50)	330 (100)	490 (150)	655 (200)	820 (250)	980 (300)	1150 (350)	sfm	m/min
K	KU10T								800	240
	KU30T								650	200

Non-Ferrous Metals: Low-silicon aluminum alloys (<12%) and magnesium alloys

Material Group	grade	Speed - sfm (m/min)							Starting Conditions	
		800 (240)	1200 (360)	1600 (490)	2000 (610)	2400 (730)	2800 (855)	3200 (975)	sfm	m/min
N	KU10T								1500	460

High-Temp Alloys

Material Group	grade	Speed - sfm (m/min)							Starting Conditions	
		170 (50)	330 (100)	490 (150)	655 (200)	820 (250)	980 (300)	1150 (350)	sfm	m/min
S	KU10T								220	65
	KU30T								150	45

Hardened Materials (>48 HRC)

Material Group	grade	Speed - sfm (m/min)							Starting Conditions	
		170 (50)	330 (100)	490 (150)	655 (200)	820 (250)	980 (300)	1150 (350)	sfm	m/min
H	KU10T								200	60

Represents the recommended starting conditions. Optimize for your specific application.

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

KENLOC INSERTS  
SCREW-ON INSERTS  
TOOLHOLDERS  
BORING BARS  
TOP NOTCH GROOVING  
TOP NOTCH HOLDERS  
A4  
A2  
LT THREADING  
TOP NOTCH THREADING