Recommended Insert Grade and Cutting Conditions

Front Turning

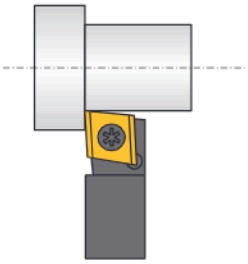
CSVF / CC.. / DC.. / VC.. / VB.. / TN.. / TF

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels			Alloy Steels	Carbon Steels
					Hard to cut		Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	304	316 17-4PH	303 430F	5120 4137	1045 1046
Grade	1st choice	DM4 / DT4			ST4 DM4	DM4 DT4	TM4	QM3	
	2nd choice	TM4 / QM3			QM3 / VM1		QM3	TM4 / DM4 / DT4	
Cutting Speed (SFM)		75 225	100 275		130 330		150 600	150 500	
Recommended Chipbreaker Feed Rate (IPR)	≤.004 DOC	AMX KHG					AMX KHG		
		.0004 .0012					.0004 .0016		
	.004 to .060 DOC	YL CL AM3 S					YL CL AM3 AZ7 S U/U1 UL		
		.0008 .0024					.0008 .0032		
	≥ .060 DOC	YL CL AM3 S					YL CL AM3 ZP		
		.0008 .0025					.0012 .0040		

General Turning Inserts Explained

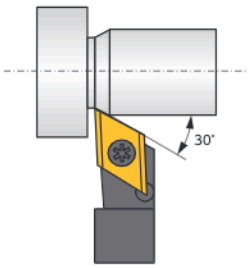
Advantage for each geometry

CC.. Style (80°)



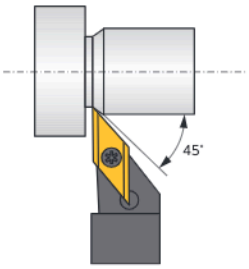
- Increased toughness. Cutting edge is close to insert pocket.
- Not applicable to undercut

DC.. Style (55°)



- Versatile geometry. Toughness of CC.. with flexibility of VC..
- Up to 30 deg. undercuts

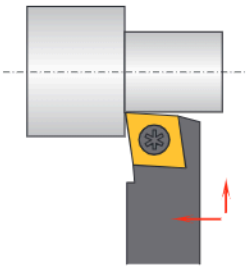
VB / VC / VP Style (35°)



- Wide coverage in work geometry.
- Up to 45 deg. undercuts

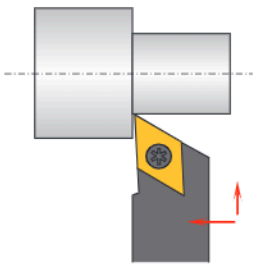
Chip Control and Finish

SCLCR ➡Q10



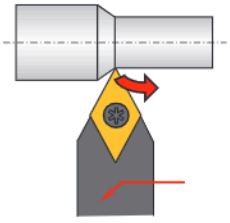
Rigid clamping
High dimensional repeatability

SDJCR ➡Q16



Increased room for chip evacuation creates better surface finish

SDNCN ➡Q17



Chips flow away from the work