

PVD Coatings for Turning

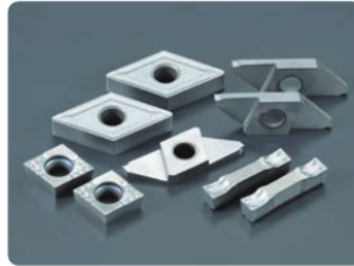
NEW ST4 ST-Coat



Best grade for 304SS

- Stainless steel

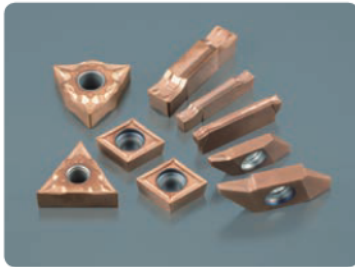
QM3 Q-Coat



Best wear resistance

- Stainless steel
- Carbon steel
- Alloy steel

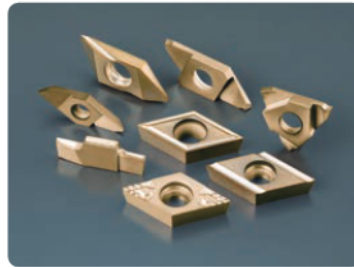
DM4 DM-Coat



Best heat resistance

- Heat resistant alloy
- Stainless steel
- Hardened material

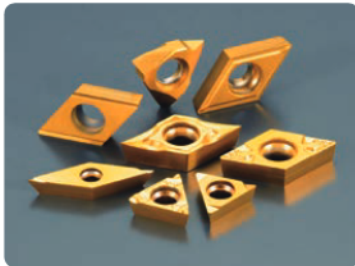
DT4 DT-Coat



Best balance of heat resistance and sharp edges

- Titanium alloy
- Heat resistant alloy
- Stainless steel
- Hardened material

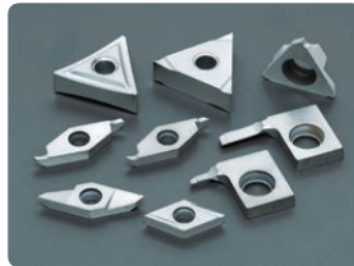
TM4 TM-Coat



Best balance of wear resistance and adhesion resistance

- For small part machining in general

VM1 V-Coat



Best edge sharpness

- Titanium alloy
- Non-ferrous material
- Stainless steel
- Plastic

ZM3 Z-Coat

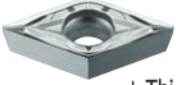
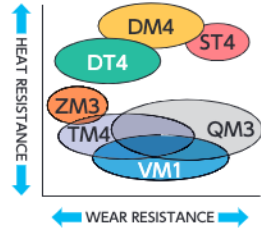
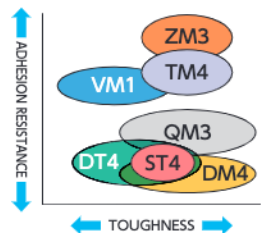


Best adhesion resistance

- General purpose machining

Coating Specifications

	ST-Coat	Q-Coat	DM-Coat	DT-Coat	TM-Coat	V-Coat	Z-Coat
Thickness	Thick	Thick	Thick	Thin	Thin	Thin	Thick
Wear Resistance	○	◎	○	○	○	○	
Heat Resistance	○		◎	◎			○
Adhesion Resistance	○				○		◎
Edge Sharpness				○	○	◎	
Composition	CrAlN	TiCN	TiN- TiCN - TiAlN	TiN - TiCN - TiAlN	TiN - TiCN - TiN	TiCN	TiN

	Grade / Coating	Applications / Features	Physical properties*						Applications map
			Density g/cm ³	Hardness HRA	Bending strength MPa	Young's modulus GPa	Thermal expansion coefficient X10 ⁻⁶ /K	Thermal conductivity W/m · K	
PVD coated	ST4 NEW  Micro-grain carbide + Thick CrAlN coat	P M S H • Best grade for 304 SS	14.4	91.0	3000	580	5.8	63	Correlation chart 1  Correlation chart 2 
	DM4  Micro-grain carbide + Thick TiN-TiCN-TiAlN coat	P M S H • Best oxidation resistance enable high temperature machining	14.4	91.0	3000	580	5.8	63	
	DT4  Micro-grain carbide + Thin TiN-TiCN-TiAlN coat	P M S H • Excellent oxidation resistance for Swiss-type lathes	14.4	91.0	3000	580	5.8	63	
	TM4  Micro-grain carbide + Thin TiN-TiCN-TiN coat	P M N S • Best combination of wear resistance and toughness and adhesion resistance for Swiss-type lathes	14.4	91.0	3000	580	5.8	63	
	ZM3  Micro-grain carbide + Thick TiN coat	P M N • Best Adhesion resistance enables high accuracy machining	14.4	91.0	3000	580	5.8	63	
	QM3  Micro-grain carbide + Thick TiCN coat	P M S H • Best wear resistance enable stable machining	14.4	91.0	3000	580	5.8	63	
	VM1  Micro-grain carbide + Thin TiCN coat	P M N • Best edge sharpness and good wear resistance	14.8	92.0	2500	640	5.7	84	
	AC3 NEW  Micro-grain carbide + Thin TiAlCrN-TiAlN coat	P M N S • Developed for solid carbide endmill	14.2	91.0	3000	560	6.1	49	
	UC1  Micro-grain carbide + Diamond coating	N • Pure and hard diamond coating	14.8	92.0	2500	640	5.7	84	
Uncoated	KM1  Micro-grain carbide	P M N • Best for non-ferrous material with mirror finish	14.8	92.0	2500	640	5.7	84	Aluminum / Brass  Continuous Light interruption
CVD coated	CP1  Carbide + Thick film Al ₂ O ₃ -TiCN coat	K • Good balance of wear resistance and toughness for cast iron machining	14.9	92.0	2400	640	—	—	

※For products with coating, the values of the base material are indicated.