

Dr.HEYER Werkzeugtechnik

Overview	TiN	TiCN	TiAlN	Variantic	CrN	TiC	TiC/TiN	WS2
Type	Hard material coating							Lubricant coating
Process	PVD				CVD			WS2
Material	TiN	TiCN	TiAlN	TiAlCN	CrN	TiC	TiC/TiN	WS2
Hardness	2.300 HV	3.000 HV	3.300 HV	3.300 HV	2.000 HV	4.000 HV	3.000 HV	300 HV
Coating thickness	0,5–4 µm	0,5–3 µm	0,5–3 µm	0,5–3 µm	0,5–6 µm	5–8 µm	5–8 µm	ca. 0,5 µm
Coefficient of friction vs. steel	0,4	0,3	0,3	0,25	0,3	0,25	0,4	(0,03)
Coating temperature	250–450 °C	300–450 °C	300–450 °C	300–450 °C	200–450 °C	ca. 1.000 °C	ca. 1.000 °C	ca. 20 °C
max. Service temperature	600 °C	400 °C	800 °C	800 °C	700 °C	300 °C	450 °C	650 °C
Colour	golden yellow	light blue grey	dark blue grey	dark rose	silver grey	grey metallic	bronze	dark blue grey
Duplex	-	✓	-	✓	-	-	-	-

Especially for series productions are beside further standard layers, like e.g. Exxtral, Formatic, Varianta and ZrN, also individual layer systems possible.