

SUBLIME®

For high speeds in
machining and gear cutting



Tools used in machining and gear cutting are exposed to particularly high temperatures.

Whether due to dry machining, high cutting speeds or steels to be machined that themselves have low thermal conductivity, such as titanium or nickel-based alloys – the coating must protect the tools.

With SUBLIME® we offer a solution that withstands even the most demanding conditions.

COATING ADVANTAGES

- » Outstanding results in the machining of titanium, stainless steel and nickel-based alloys
- » Considerable red hardness and oxidation resistance
- » Excellent results for dry gear cutting, e.g. on gear hobbing machines

COATING PROPERTIES

Hardness	3,300 ±200 HV
Coating thickness	3.0 ±1.0 µm
Maximum operating temperature	1,100 °C / 2,012 °F
Coefficient of friction against steel	0.7 – 0.8
Roughness on polished surfaces	0.07 µm
Colour	Grey

APPLICATION

- » Machining – dry and wet machining
- » Gear cutting – dry and wet machining



	Drilling	Turning	Milling	Sawblades	Thread cutting	Reaming	Gear cutting
Steel <55 HRC	EXXTRAL® (Plus) SISTRAL® Gold SUBLIME®	EXXTRAL® (Plus) SISTRAL® (Gold) SUBLIME®	EXXTRAL® (Plus) SISTRAL® (Gold) SUBLIME®	TiN / TiCN (HSS) EXXTRAL® (Plus) SISTRAL® SUBLIME®	TiN (+MoX2) * TiCN (+MoX2) * EXXTRAL® *	TiN (+MoX2) * TiCN (+MoX2) * EXXTRAL® *	TiN / TiCN VARIANTIC® EXXTRAL® (HM/HP) * SUBLIME®
Steel >55 HRC	SISTRAL® (Plus)	SISTRAL® (Plus)	SISTRAL® (Plus)	EXXTRAL® (Plus) SISTRAL®	TiN (+MoX2) * TiCN (+MoX2) * SISTRAL® *(Plus)	TiN (+MoX2) * TiCN (+MoX2) * SISTRAL® *(Plus)	TiN / TiCN VARIANTIC® EXXTRAL® (HM/HP) * SUBLIME®
Stainless steel	SISTRAL® Gold SUBLIME®	SISTRAL® Gold SUBLIME®	SISTRAL® Gold SUBLIME®	TiN / TiCN EXXTRAL® (Plus) SISTRAL® SUBLIME®	TiN (+MoX2) * TiCN (+MoX2) * SISTRAL® Gold SUBLIME®	TiN (+MoX2) TiCN (+MoX2) SISTRAL® Gold SUBLIME®	TiN / TiCN VARIANTIC® EXXTRAL® (HM/HP) * SUBLIME®
Cast iron	EXXTRAL® (Plus) SISTRAL® Gold	EXXTRAL® (Plus) SISTRAL® Gold	EXXTRAL® (Plus) SISTRAL® Gold	TiN / TiCN (HSS) EXXTRAL® (Plus) SISTRAL® *	TiN (+MoX2) * TiCN (+MoX2) * EXXTRAL® *(Plus) SISTRAL® *(Gold)	TiN (+MoX2) * TiCN (+MoX2) * EXXTRAL® *(Plus) SISTRAL® *(Gold)	TiN / TiCN VARIANTIC® EXXTRAL® (HM/HP) * SUBLIME®
Aluminium Si < 9 %	ZrN / ZrCN CARBON-X®	ZrN / ZrCN CARBON-X®	ZrN / ZrCN CARBON-X®	CARBON-X®	ZrN / ZrCN CARBON-X®	ZrN / ZrCN CARBON-X®	EXXTRAL® Silber
Aluminium Si > 9 %	ZrCN EXXTRAL® Silber	ZrCN EXXTRAL® Silber	ZrCN EXXTRAL® Silber	EXXTRAL® Silber	ZrCN EXXTRAL® Silber	ZrCN EXXTRAL® Silber	EXXTRAL® Silber
Ti based alloys	SISTRAL® Gold SUBLIME®	SISTRAL® Gold SUBLIME®	SISTRAL® Gold SUBLIME®	SUBLIME®	SISTRAL® Gold SUBLIME®	SISTRAL® Gold SUBLIME®	SUBLIME®
Ni based alloys	SISTRAL® Gold SUBLIME®	SISTRAL® Gold SUBLIME®	SISTRAL® Gold SUBLIME®	SUBLIME®	SISTRAL® Gold SUBLIME®	SISTRAL® Gold SUBLIME®	SUBLIME®
Brass / copper	EXXTRAL® Silber CARBON-X®	EXXTRAL® Silber CARBON-X®	EXXTRAL® Silber CARBON-X®	EXXTRAL® Silber CARBON-X®	EXXTRAL® Silber CARBON-X®	EXXTRAL® Silber CARBON-X®	EXXTRAL® Silber
Wood	EXXTRAL® Silber	EXXTRAL® Silber	EXXTRAL® Silber	EXXTRAL® Silber	EXXTRAL® Silber	EXXTRAL® Silber	CrN EXXTRAL® Silber

* ultrafine on request