

TiCN-ULTRAFINE

The multipurpose ultrafine coating for cutting and forming

The use of ultrafine technology allows the synthesis of a smooth and defect-reducing arc coating. In cutting applications, The TiCN-ultrafine coating provides significantly improved durability compared to the conventional TiCN arc coating, and also exhibits relatively low friction coefficients as with tribological DLC coatings.

COATING PROPERTIES

Hardness	3,500 ±500 HV
Coating thickness	2.0 – 3.0 µm
Maximum operating temperature	400 °C / 750 °F
Coefficient of friction against steel	0.2
Color	Purple-brown
Coating composition	TiCN based

APPLICATIONS

Cutting	For milling, turning, drilling and cutting operations on high and low alloy steels at moderate thermal loads (max. 400 °C).
Forming	For shaping tools which demand a reduced surface roughness and excellent sliding properties, even with limited use of lubricant.

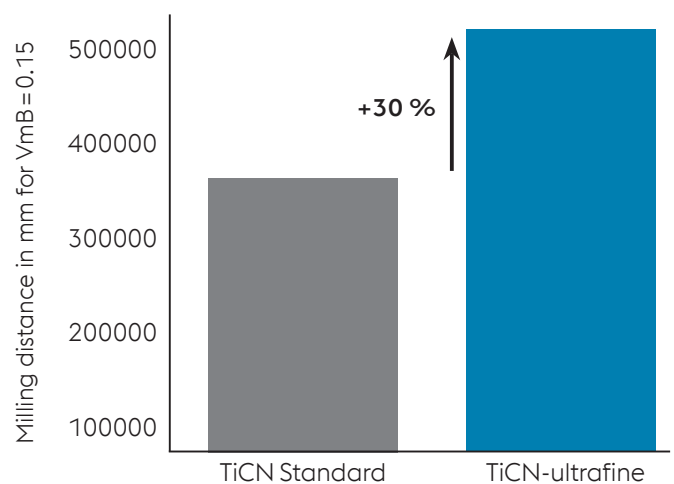


Fig. 1: Maximum achieved milling distance for a wear mark width of 0.15 mm, for cooled milling from DIEVAR (48 HRC). Cutting parameters: $v_c = 150$ m/min, $v_f = 2006$ mm/min, $a_p = 10$ mm, $a_e = 0.02$ mm, QUAKER 370 KLF coolant (concentration 10 – 20 %).

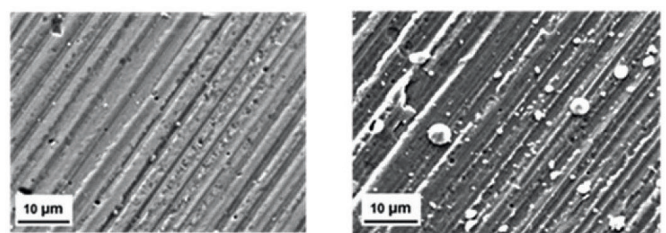


Fig. 2: Scanning electron microscope images of the chip flute of a milling cutter coated with TiCN-ultrafine (left) and TiCN (right).