

TiCN-ULTRAFINE

The multipurpose ultrafine coating for cutting and forming

The use of ultrafine technology enables the synthesis of a smooth, defect-reduced, and dense arc coating.

The TiCN-ultrafine coating therefore exhibits very low friction coefficients – comparable to tribological DLC coatings.

When applied, for example, to threading tools, TiCN-ultrafine coatings achieve a significant increase in tool life compared to conventional TiCN coatings.

COATING PROPERTIES

Hardness H_{IT}	32 ± 2 GPa (~3.250 HV _{IT})
Coating thickness	2.0 – 3.0 µm
Maximum operating temperature	400 °C / 750 °F
Roughness on polished surfaces	0.017 ± 0.001 µm
Coefficient of friction against steel	0.2
Color	Purple-brown
Coating composition	TiCN based

APPLICATIONS

Cutting	Thread tapping and forming of high- and low-alloy steels under moderate thermal load (max. 400 °C).
Forming	For shaping tools which demand a reduced surface roughness and excellent sliding properties, even with limited use of lubricant.

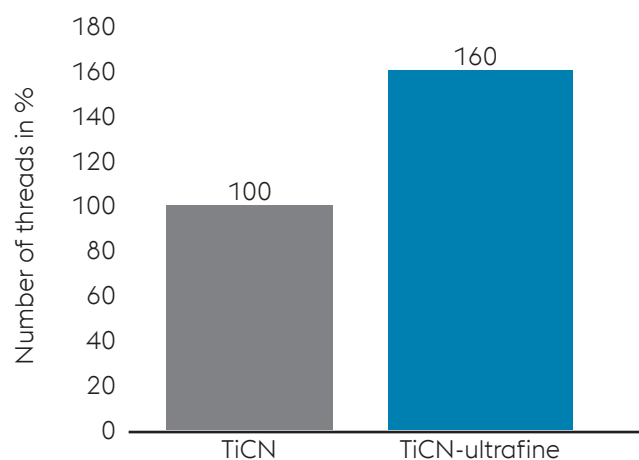


Fig. 1: Percentage increase in the number of M6 threads produced in 1.7225 (42CrMo4) during thread forming with TiCN-ultrafine.

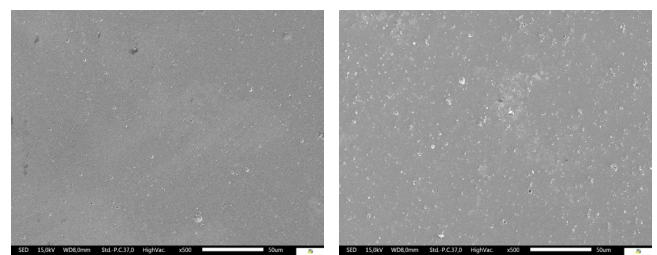


Fig. 2: Scanning electron microscope images of the surface topography of TiCN-ultrafine (left) and TiCN (right) coatings.