

“ULTRAFINE”

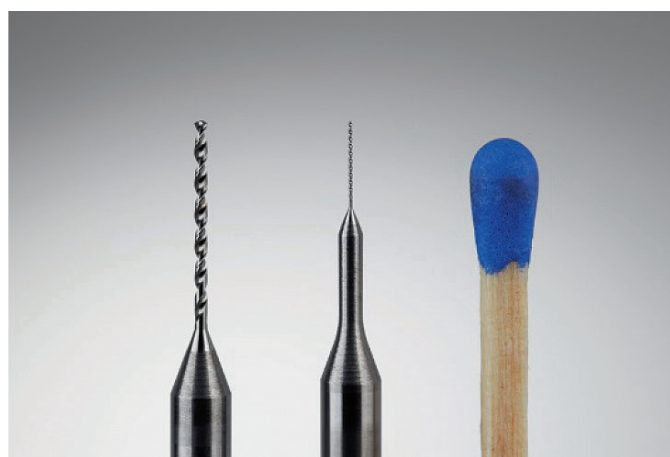
Smooth and glossy PVD arc coatings – even without post-finishing

For us, ‘ultrafine’ is a designation for a series of hard coatings with a decisive plus when it comes to smooth and yet extremely well-bonded and hard PVD arc coatings. Anybody can do “smooth”. But smooth, hard, very well-bonded and economical? That is no small feat. Our ultrafine technology enables us to achieve precisely this. ultrafine describes our special PVD arc coating process, in which we can produce

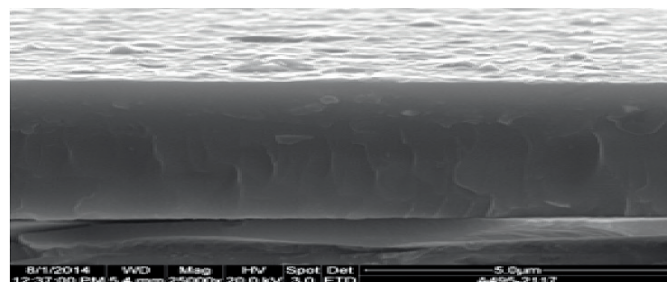
excellent coating properties using innovative gas control. This process is already currently used in series production: TiN-ultrafine, TiCN-ultrafine and SISTRAL®-ultrafine are established. These smooth and low-defect coatings are characterised by their excellent adhesive strength and exceptional hardness in a wide variety of applications.

APPLICATIONS

Cutting	Cutting Microcutting
Other	Plastic injection Medical technology

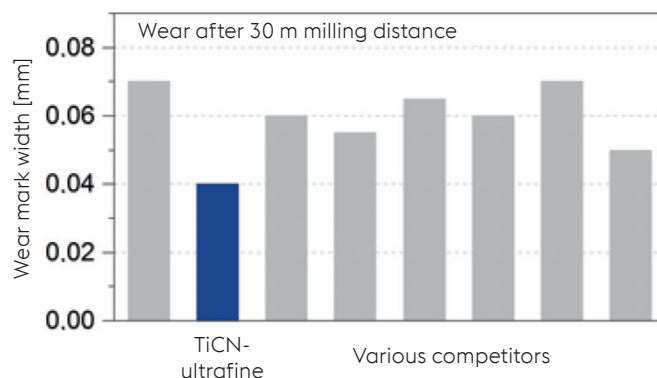


Microcutting: low-defect and smooth SISTRAL®-ultrafine



Fracture pattern of a SISTRAL®-ultrafine PVD coating: smooth and dense

BENCHMARK TEST OF TiCN-ULTRAFINE: MILLING OF HOT WORK STEEL



Milling with HSS milling cutter (4 cutting edge, Ø10 mm) in 1.2738 hot work steel (40CrNiMo8-6-4)
 $v_c = 60 \text{ m/min}$, $f_z = 0.05 \text{ mm}$, $a_p = 12 \text{ mm}$,
 $a_e = 2.5 \text{ mm}$, milling distance = 30 m, down-milling = 50 %