

EXXTRAL®-PLUS

AlTiN multilayer coating

APPLICATIONS

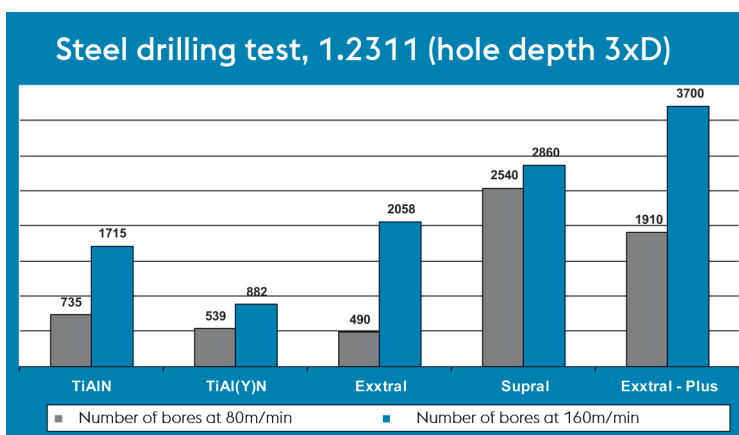
Cutting	Because of its multilayer structure, EXXTRAL®-plus is especially recommended for greater coating thicknesses, e.g. for drilling. Resistance towards corrosion is also improved thanks to the greater proportion of chromium.
Punching and forming	However, EXXTRAL®-plus has also proven itself in other fields: cold and semi-hot forming of steel materials, cutting of thicker sheet steel and the working of aluminium sheet material.

PRODUCT FEATURES

- » Especially smooth and dense
- » High resistance towards oxidation (800°C)
- » High hot hardness
- » Enhanced toughness
- » Chemical resistance
- » Low thermal conductivity coefficient
- » Higher cutting speeds
- » Longer service life
- » Improved surface quality
- » Dry machining
- » No cooling lubricant required

COATING PROPERTIES

Hardness	3,300 ± 300 HV
Max. application temperature	800 °C / 1,470 °F
Coefficient of friction against steel	0.7
Coating thicknesses	2 - 5 µm
Colour	anthracite



USAGE/TOOL DATA

Vc (m/min)	80/160	Internal cooling (yes/no)	Yes
f (mm)	0.140	Lubricant pressure (bar)	40
ap	20.4	Machine	DMC 65V
D (mm)	6.8	n (min-1)	3,744 / 7,489
Concentricity tolerance	under 0.01	vf (m/min)	524 / 1048

MATERIAL

Material	1.2311
Size (LxDxH)	405x200x50
Target Rm	1,000 N/mm ²
Actual Rm	980 N/mm ²
Pre-machining	milled
Cooling emulsion	Avilub approx. 10%