



ZIRINOS

ZrN

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The ZIRINOS coating has been fully developed in Lafer in order to **increase the performances of the tools** during the machining of non-ferrous materials with tendency to sticking. The multi-layer structure has been developed to ensure maximum toughness, while the chemical composition allows to achieve high resistance to wear and oxidation. Finally, the functional zirconium-based outer layer provides the **antisticking effect** during the processing of this kind of materials. Maximum working temperature 600°C.

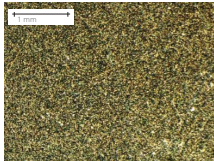
MAIN APPLICATION

- Machining of titanium alloys
- Machining of stainless steel
- Machining of aeronautical alloys and super alloys (Inconel, Incoloy, Stellite)
- Machining of aluminum alloys with Silicon content < 12%
- Machining of non-ferrous materials with tendency to sticking

COATING PROPERTIES

VISUAL FEATURES

Surface



Values	Measurement parameters of color According to ISO11664-4
80 ± 82	L* Brightness
-1 ÷ -2	a* Color coordinate
13 ± 15	b* Color coordinate

NOTES:
Non-functional requirement, indicative values

PHYSICAL FEATURES

Measure	Values	Measurement
Coating thickness*	3 ÷ 5 µm	Calotest on sample
Coating hardness***	2600 ± 200 HV	Nanoindentation 20mN/20s
Roughness Ra**	0,09 ÷ 0,12 µm	From sample with Ra < 0,03µm
Coefficient of friction**	0,7 ÷ 0,8	Pin on disk, dry, against Al ₂ O ₃

NOTES:

- * depends on the application.
 ** depends on the test conditions.

TECHNOLOGICAL FEATURES

Coating technology	Arc
Chemical composition	ZrN
Structure	Multilayer
Coating temperature	420°C
Maximum working temperature	600°C
Biocompatibility	-
Food compatibility	-