



DUPLEX KRONOS

AlTiCrN

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Kronos coating, based on **AlCrN**, is the Lafer solution for die-casting Aluminium, Zamak and Magnesium. its composition is ideal for solving **metallization problems**. It allows you to combine the **high wear resistance**, typical of coatings containing Chromo, with that at high temperatures, typical of coatings containing aluminium.

The **Duplex Kronos** version combines the benefits of coating with those of ion nitriding, **further increasing the wear resistance and thermal fatigue resistance** of the steel.

MAIN APPLICATION

- Zamak die casting and aluminum alloys
- Magnesium and aluminium hot moulding
- Die casting mould components of Aluminium and Magnesium alloys

COATING PROPERTIES

VISUAL FEATURES

Surface



Values	Measurement parameters of color According to ISO11664-4
55 ÷ 60	L* Brightness
0 ÷ 1	a* Color coordinate
0 ÷ 1	b* Color coordinate

NOTES:

Non-functional requirement, indicative values

PHYSICAL FEATURES

Measure	Values	Measurement
Spessore strato nitrurato***	50 ÷ 80 µm	Metallographic sectioning
Coating thickness*	3 ÷ 5 µm	Calotest on sample
Coating hardness***	2800 ± 200 HV	Nanoindentation 20mN/20s
Roughness Ra**	0,07 ÷ 0,09 µm	Starting from substrate roughness Ra < 0,03µm
Coefficient of friction**	0,6 ÷ 0,7	Pin on disk, dry condition, Al ₂ O ₃ counterpart

NOTES:

- * depends on the application.
- ** depends on the test conditions.
- *** depends on the substrate steel, without white layer.

TECHNOLOGICAL FEATURES

Coating technology	Arc
Chemical composition	AlTiCrN
Structure	Ion nitriding + Single layer (obtained in unique process in the PVD machine)
Coating temperature	420°C
Maximum working temperature	1100°C
Biocompatibility	-
Food compatibility	-