



# **DUPLEX DURMATIC**

Titanium based

## DUPLEX DURMATIC



Duplex Durmatic is the innovative Lafer coating for **cold forming of stainless steel sheet, high-resistance steel sheet and high-thickness Fe sheet.**

Duplex Durmatic is the evolution of Duplex Red Speed: it has excellent **anti-sticking properties, high wear resistance and reduced friction coefficient.**

This process consists of **two phases in a single coating batch**: a first substrate hardening process of plasma nitriding under vacuum, which provides the best hardness gradient, and then the Durmatic coating deposition. This technology guarantees a **strong increase in the mould productivity**, avoiding the generation of the white layer and the brittleness of the edges.

### MAIN APPLICATION

- Cold forming of stainless steel sheet and high resistance sheet
- Cold forming of sheet with high content of chrome and nickel
- Cold forming of high thickness ferrous sheet
- Blanking of stainless steel sheet and ferrous sheet

### COATING PROPERTIES

#### VISUAL FEATURES

##### Surface



#### Values Measurement parameters of color

According to ISO11664-4

<b>56 ÷ 59</b>	<b>L*</b> Brightness
<b>1,5 ÷ 3,5</b>	<b>a*</b> Color coordinate
<b>-3 ÷ 0</b>	<b>b*</b> Color coordinate

#### NOTES:

Non-functional requirement, indicative values

#### PHYSICAL FEATURES

Measure	Values	Measurement
Nitriding thickness***	50 ÷ 80 µm	Metallography
Coating thickness*	2,5 ÷ 5,5 µm	Calotest on sample
Coating hardness***	3500 ± 200 HV	Nanoindentation 20mN/20s
Roughness Ra**	0,08 ÷ 0,11 µm	From sample with Ra < 0,03µm
Coefficient of friction**	0,2 ÷ 0,25	Pin on disk, dry, against Al <sub>2</sub> O <sub>3</sub>

#### 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	Titanium based
Structure	Plasma nitriding + Multilayer
Coating temperature	450°C
Maximum working temperature	450°C
Biocompatibility	-
Food compatibility	-