

## Technical information

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Last update: 28<sup>th</sup> March 2015

### 1. General

**NANOXID SC-HT** is a clear coat developed to procure protective and decorative properties to metal or glass surfaces at high temperatures (up to 700°C).

**NANOXID SC-HT** is especially designed for spray-coating application. **NANOXID SC-HT** combines the hardness and clarity of glass with the advantages of organic coatings (such as easy application). It creates clear, hard and extremely thin layers only 1 to 3 µm thick.

**NANOXID SC-HT** can be used for indoor or outdoor applications.

On request, **NANOXID SC-HT** is also available in different colors.

### 2. Storage and Handling

**NANOXID SC-HT** is a one-component system. It is recommended to use the paints within of 3 months after production date. The paints should be stored in a cool place (maximum 21 °C) and protected from sunlight.

**NANOXID SC-HT** is flammable. When using it, do not smoke and stay away from open lighting or other sources of fire, heat or sparks. Do not eat while working with the material. Read the safety data sheet before handling the material.

Working tools may be cleaned with alcohol or acetone.

### 3. Substrates

**NANOXID SC-HT** is designed for stainless steel, aluminum and glass surfaces.

Other substrates can be possible but need specific approval first.

In order to achieve good adhesion, the metal surface must be free from all foreign agents, such as oil.

In addition, a basic pre-cleaning is necessary in order to remove possible layers of oil, dirt or fingerprints, which interfere with adhesion. Therefore, we recommend cleaning the surface immediately before the application of **NANOXID SC-HT**.

### 4. Application

**NANOXID SC-HT** is designed for spray-coat-application, but may be applied also by brush or dipping.

**NANOXID SC-HT** is ready to use and can be applied without further thinning. Should thinning nonetheless be necessary, a recommended thinner is available.

**NANOXID SC-HT** can be used without problems at a relative humidity of up to 60%. At higher humidity levels, the forming of the layer may be disturbed. For example, the layer may appear matte. In such a case, it has been shown to be helpful to warm the substrate before application of the coating.

Avoid applying **NANOXID SC-HT** in thick layers. Otherwise, drips and runs may result, and too thick layers crack after hardening and may come off.

## 5. Curing

**NANOXID SC-HT** is cured between 140°C - 200°C for about 15-30 minutes. If the temperature is too low, adhesion problems occur. If the temperature is too high, color banding and decomposing of the organic component of the layer result. This may lead to the layer coming off.

A test run in the oven to be used is recommended, since heat distribution in ovens is often highly variable. The temperature of the metal substrate therefore often varies from the selected oven temperature.

The layer continues to harden after the thermal hardening. The final hardness is only reached after a few weeks.

## 6. Technical data

<b>Properties and composition</b>	Clear coat with optimized optical performances	<ul style="list-style-type: none"> <li>• Anti-fingerprint and easy to clean</li> <li>• Outstanding stain resistance</li> <li>• Extremely scratch resistant</li> <li>• Low haze</li> </ul>
<b>Applications</b>	<b>Ideal for metallic light reflectors and optical coatings on glass.</b>	
<b>Coating technology</b>	Application	Spray coating; dipping and brush possible.
	Curing	Hot air or Infra-red
<b>Description</b>	Substrate	Stainless steel, Aluminum, Glass
	Coating Thickness	2 µm
	Gloss 60°	≥ 80 GU on brushed metal
	Colors	Transparent coating
<b>Performances (for metal substrates)</b>	Resistance to cracking on bending	≤ 1 T
	Impact resistance	18 J
	Pencil Hardness	≥ H
	Nail test (plastic tool)	≥ 20 N
	Cross-cut Test	0
	Surface "pencil" hardness	≥ 2H
	Clemen	± 2 kg
	Salt spray test (1000h)	No blistering
	QCT (500h CPI2)	No blistering
	Hot water test	No blistering, no loss of adhesion after 1 hour
	Cyclic Heat Resistance	ΔE<2 at 120 C°

Light Resistance (UV 310 nm)	$\Delta E < 1$ for 500 h, 550 W/m <sup>2</sup>
Foodstuffs resistance	Good to very good (at 25°C and 90°C)
Fingerprint resistance	Low visibility and easy removability
Resistance to cleaning agents	Good to very good
Resistance to acids and bases	Good to very good
Resistance to solvents :	
• Aliphatics and alcohols	Good to very good
• Ketones	Low
• Aromatics	Good to very good
Print ability	Generally good, but to be tested by customer
Resistance to mineral oil	Good

## 7. Remarks

**NANOXID SC-HT** transparent coating is not a classical coating paint and some classic tests for organic coating are not relevant.

The performances indicated are averages and may vary in particular according to the type of support used. The data of the present technical data sheet are not contractual and may be amended in line with technological progress relating to the product.