

Rauschert NanoCeramic Coating

Advanced Surface Coatings for Aluminium Alloys



Textile



Leisure



Engineering

Rauschert advanced NanoCeramic coatings deliver reliable solutions for wear resistance and corrosion protection across a wide range of applications in many diverse industries.

NanoCeramic Coating on Aluminium Alloy

Introduction

Rauschert Nanoceramic is a new treatment which provides the surface of aluminium alloy with a dense, hard, wear resistant and corrosion resistant ceramic layer

- Non-Toxic, environmentally friendly coating process.
- Components can be recycled at end of life.
- Proven technology.
- Provides for flexibility in component shape.
- Typical aluminium alloys 2000, 5000 series, 6000 series, 7000 series.

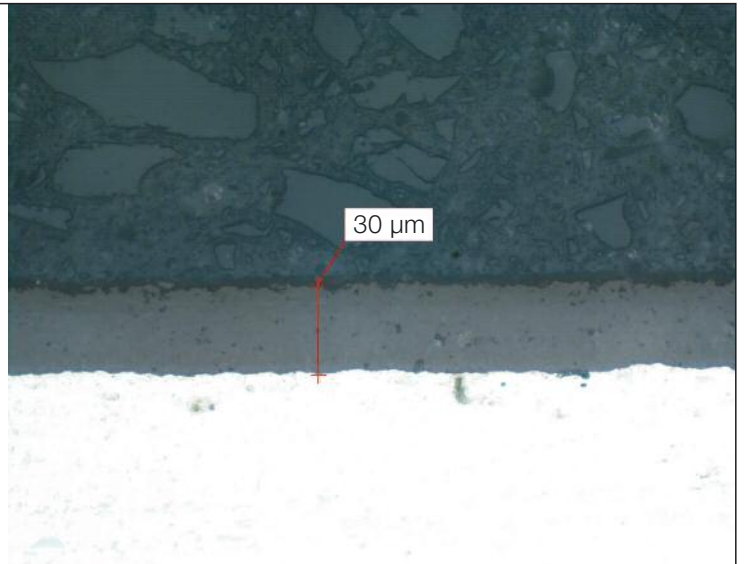
Properties

- High hardness and wear resistance
- Perfect surface finish properties
- High density, low porosity
- Electrically insulating layer
- Excellent adhesion to substrate
- High corrosion resistance compared with other coatings
- Low Friction surface
- Colours range from cream to ivory to beige to grey to black depending on alloy used.

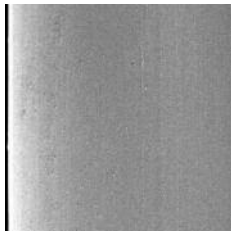
Advantages

- Gives engineers and designers the option to replace heavy steel with modern lightweight materials.
- Lower component machining costs.
- Excellent heat transfer of aluminium substrate.
- No final coating grinding costs, due to accurate control of coating thickness.
- Possibility to coat more complex shapes than with conventional coatings.
- Superior engineering properties when compared to conventional coatings.
- Many possible new industrial applications.

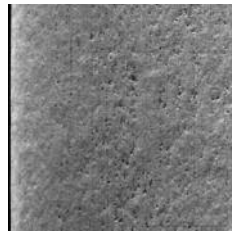
- SEM x - section of NanoCeramic coating on aluminium 6082
- Thickness of layer 30 μm
- Hardness of layer 1550 to 1700 HV 0,1
- Virtually pore-free layer



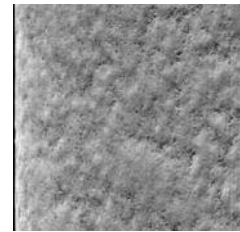
SEM showing examples of Nanocoated surface finishes with 6082 alloy



- DP-finish (Diamond Polishing) $200 \mu\text{m}$
- Ra < 0,1 μm



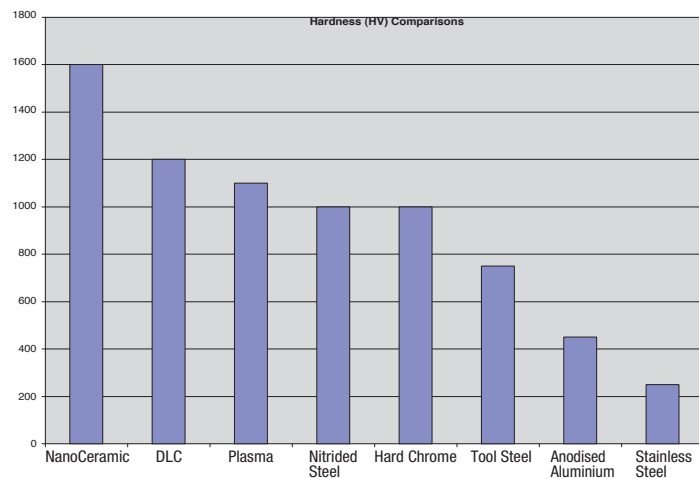
- S-finish $200 \mu\text{m}$
- Ra > 0,1 μm



- R-finish $200 \mu\text{m}$
- Ra > 0,2 μm

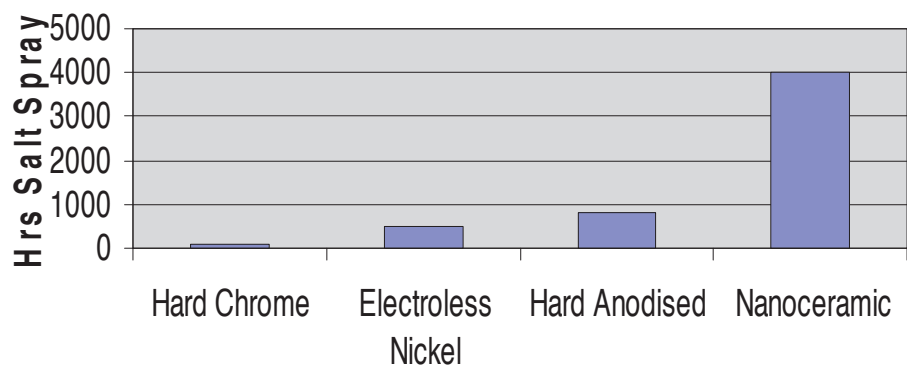
- Hardness (HV) Comparison on 6082 alloy

(for illustration only)



- Corrosion Resistance comparison on 6082 only

(for illustration only)



Rauschert at a Glance



Technical Ceramics



Electroceramics



Ceramics for lightning



Ignition components



High temperature ceramics



Elektro heat ceramics



Infrared heater plates



Welding back-ups



Ceramic honeycombs



Ceramics for mechanical engineering



Ceramic components for textile machines



Ceramic coating



Ceramic sealing and regulation discs



Ceramic parts for pumps



Functional ceramics



Plastik Injection Moulding



2-component-plastic-parts



System components



Assemblies (ceramics/metal/plastic)



column packings

Rauschert NanoCeramic Coating

Ceramic coatings are a core business of Rauschert.

It is our aim to offer an efficient and competent alternative. Our employees are totally committed to this.

Make use of Rauschert's expertise.

We look forward to receiving your enquiries

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- thermal insulation ceramics at a temperature > 200° C
- wear protective ceramics
- functional ceramics

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