

CERAMIC COATINGS ON METAL SURFACES

- Excellent electrical insulation
- High corrosion stability
- Wear resistance
- Wide range of sealants



CERAMIC COATINGS

WEAR-RESISTANT AND EFFICIENT

Applications

Ceramic coatings show higher hardness and wear resistance than hard chrome alternatives. Typical application areas are wear components for textile and wire machines, welding devices as well as insulation of heating conductors and roller bearings. Corrosion-resistant substrate materials such as stainless steel 1.4301 and aluminium are recommended in humid or corrosive environments due to the process-related porosity. Pores are additionally sealed with nanocomposites.

Benefits / Properties

- Excellent electrical insulation capacity
- High thermal and corrosion stability
- Wear resistance
- Multiple sealants achieve customised surface properties (e.g. anti-adhesive effect)
- Hard chrome replacement possible

Layer Material	No.	Colour	Wear resistance	Electrical Insulation	Thermal Insulation
Al ₂ O ₃ (99)	R100	White	●	●	○
Al ₂ O ₃ / TiO ₂ (97/3)	R103	Grey	●	●	○
Al ₂ O ₃ / TiO ₂ (94/6)	R106	Dark grey	◐	●	○
Al ₂ O ₃ / TiO ₂ (87/13)	R113	Anthracite	●	○	○
Al ₂ O ₃ / TiO ₂ (60/40)	R140	Black	●	○	○
ZrO ₂ / Y ₂ O ₃ (92/8)	R292	Ivory	◐	○	●
ZrO ₂ / CaO (95/5)	R295	Ivory	○	○	●
Cr ₂ O ₃ / TiO ₂ (60/40)	R360	Anthracite	●	○	○
Cr ₂ O ₃ (99)	R399	Anthracite	●	○	○

- Highly suitable
- ◐ Conditionally suitable
- Not suitable

Layer thickness	Hardness HV	Porosity	Dielectric strength	Surface properties
100 - 150 µm *	700 - 1800 **	2.0 - 5.0 %	< 1000 V at 150 µm ***	upon customer request (Ra 0.1 - 7.0 possible)

* other layer thicknesses upon request
 ** depending on the layer material
 *** depending on component geometry

**DO YOU HAVE A CHALLENGE?
 YOUR CHALLENGE IS OUR DRIVE – CONTACT US**

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Subject to errors and alterations. The information in this document only contains general descriptions of the technical options available and performance features. We will be pleased to submit you a personal offer.