

_THERMAL SPRAY

o-CER Corrosion and Oxidation Protection Coatings

Purpose of Coatings

Protection of components in different atmospheres from corrosion / oxidation

Applications

- Thermal, chemical and metallurgical equipment
- Protection against damage by molten metals (e.g. hot galvanization)
- Protection against sulphur and hot corrosion
- Protection against chemical corrosion combined with abrasion (e. g. flue gas treatment equipment)
- For application with primary requirement for wear protection (abrasion, erosion, sliding wear) e.g. for mechanical parts – please see also *White Paper w-CER*

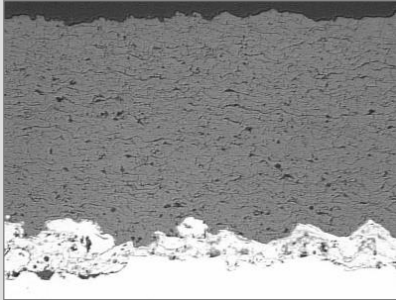
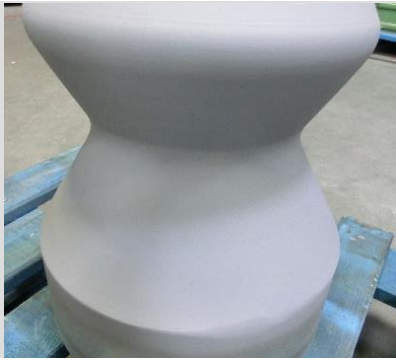
Features

- Technology: Plasma spraying
- Coating materials: Al_2O_3 , TiO_2 , mixed oxides

For Al_2O_3 :

- Hardness: 1000...1450 HV0.3
- Density: 3.45...3.55 g/cm³
- Tensile adhesive strength (DIN EN ISO 14916): 50...60 N/mm²
- Thermal conductivity: 4...5 W/(m*K)
- Coefficient of thermal expansion (20°C): 5...7 x 10⁻⁶/K
- Oxidation resistance: 800 °C
- Typical coating thickness: 0.1...0.3 mm
- Roughness Rz (as sprayed): 20...45 µm





Benefits

- Variable hardness and ductility by composition of different oxides
- Good thermal shock resistance e.g. by use of TiO_2 as a component
- High load capacity, especially for compressive stress and good wear resistance
- Very good thermal and chemical stability
- By application of an special organic sealing the residual microporosity, which is typical for thermal spray coatings, can be closed – as corrosion protection

Our Service Offering

- Coating of sample and prototype parts, including fixture construction
- Advisory service, design optimisation, selection of coating material
- Development of specifications for serial technologies
- Serial production
- Pre-treatment, coating and post-treatment of parts (sealing, heat treatment, grinding, polishing)
- Cleaning, testing, quality control, packaging according specifications



Who we are

With more than 100 years of experience, GfE is one of the world's leading manufacturers and suppliers of high-performance metals and materials. Based on our comprehensive materials science know-how, we develop high-quality tailor-made solutions for a wide range of industrial applications. We offer our customers fast service and qualified technical advice.



Certification in accordance with DIN EN ISO 9001, DIN EN ISO 14001, DIN EN ISO 50001, DIN ISO 45001 and DIN EN ISO/IEC 17025 support our claim to the highest quality and safety. We can thus guarantee products that meet the specific requirements of our customers. Your trust and satisfaction are the cornerstone of our business.

GfE is a subsidiary of AMG Advanced Metallurgical Group N.V., Netherlands, a global leader in the production of specialty metals and metallurgical vacuum furnace systems.

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