

# \_THERMAL SPRAY

## d-CER Diffusion Barrier Coatings

### Purpose of Coatings

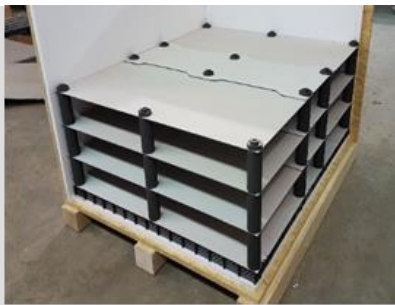
Protection of parts from diffusion, especially of carbon

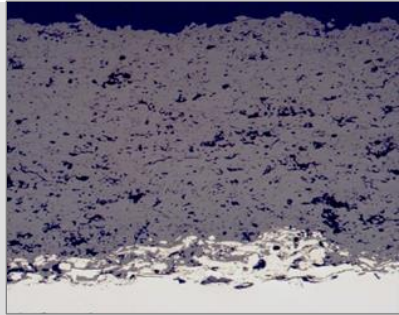
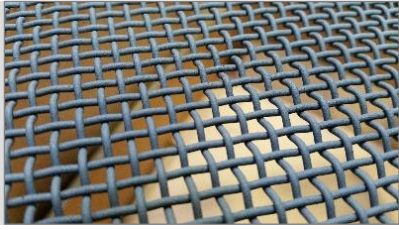
### Applications

- Equipment for ovens for heat treatment and soldering ovens
- Charging and firing racks, carrier plates – parts made of CFC, C/SiC, graphite, steel mesh and parts made of other metals and alloys

### Features

- |   |   |
|---|---|
| ▪ Technologies:                                 | Plasma spraying, HVOF   |
| ▪ Coating materials:                            | ZrO <sub>2</sub> , Y <sub>2</sub> O <sub>3</sub> , Al <sub>2</sub> O <sub>3</sub> /TiO <sub>2</sub> |
| ▪ Hardness HV0.3:                               | 800...1400  |
| ▪ Theoretical density:                          | 3.4...5.2 g/cm <sup>3</sup>   |
| ▪ Tensile adhesive strength (DIN EN ISO 14916): | 30...60 N/mm <sup>2</sup>   |
| ▪ Operation temperature:                        | > 1200°C  |
| ▪ Heat conductivity:                            | 1...5 W/(m*K)   |
| ▪ Coating thickness:                            | ~ 0.2 mm  |
| ▪ Roughness Rz as sprayed:                      | ≈ 20...40 μm  |





## Benefits

- Covering coating with consistent coating thickness over the plane
- Abrasion resistance of the coated surface
- Very low wettability of ceramic surface by molten metal (e.g. solder)
- In contrast to slurry application the ceramic coating is solid and well-bonded – many cycles without any re-coating possible

## Our Service Offering

- Coating of sample and prototype parts, including fixture construction
- Advisory service, design optimisation, development of specifications for serial technologies
- Serial production
- Mechanical post processing possible: flattening, belt grinding
- Quality control



## 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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