



_THERMAL SPRAY

e-CER®

Ceramic Functional Coatings for Infrared Radiation Applications

Coatings for Drying, Baking, Heating, Warming and Cooling

Thermal spray processes such as plasma spraying offer a wide range of options for increasing the performance, durability and energy efficiency of products. Functional coatings can be designed according to requirements. Under the brand name "e-CER" GfE Fremat GmbH (GfE) offers different coatings whose a high emission level in the infrared range (especially between 2 and 14 μm wavelength) significantly increases the efficiency of thermal processes. These ceramic coatings, which GfE has manufactured for more than 10 years, are used in the construction of baking ovens, for drying systems and in refrigeration.



Coating Materials

Because they are made of oxide ceramic components and have a thickness of just a few hundredths of a millimeter, GfE's modern coatings offer unique properties for a wide range of applications.

e-CER® coating types

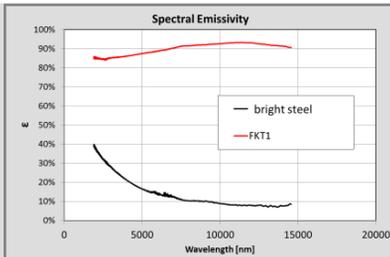
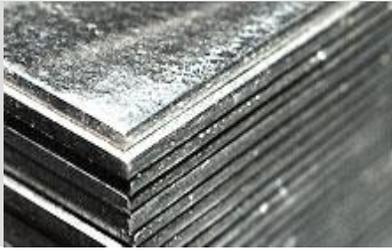
- FKC1 / FKC2**
(continuous operating temperature on steel up to 700 °C)
- FKT1 / FKT2**
(continuous operating temperature on steel up to a maximum of 500 °C)

Products / Delivery Forms / Dimensions

Thanks to GfE's high flexibility, e-CER®-coatings can be applied to components of different dimensions, geometry and materials. This coating can be applied on supplied customer parts; but also complete manufacturing, e.g. including prefabrication of the body, is feasible. Parts up to several meters in length/width can be coated.

Products with e-CER® coating

- metal sheets, pipes and further components made of steel, stainless steel, aluminum and other materials
- products to improve infrared emission



Benefits of e-CER®

The coating with e-CER® increases the emissivity (ϵ) of heat-radiating surfaces to 0.85 - 0.9. In comparison, a stainless steel surface has an emission level of 0.1 to 0.4 in the wavelength range between 2 and 14 μm .

- reduction of baking / process time
- energy savings
- reduction of energy and operating costs
- chemically inert and food-safe
- improved mechanical stability and abrasion resistance

Applications

- baking ovens
- food drying systems
- paint drying and drying technical goods
- thermoplastic forming
- curing of materials
- heating and heat treatment
- cooling in vacuum systems



Who we are

GfE is a leading global manufacturer and supplier of high performance metals and materials. We bring more than 100 years of experience and know-how to the field of material science. This invaluable experience is utilized in the development of tailor-made solutions for a wide variety of different industrial applications.

Certification in accordance with ISO 9001, ISO 14001 and BS OHSAS 18001 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.



Technical Contact: Dr. Steffen Marx

Phone +49 (0) 37322 472 548

Fax: +49 (0) 37322 472 502

E-mail: steffen.marx@gfe.com

Commercial Contact: Steffen Schmidt

Phone: +49 (0) 37322 472 505

Fax: +49 (0) 37322 472 547

E-mail: steffen.schmidt@gfe.com