Lab IR Paints

Thermographic paint

for high temperature applications

Yield of paint 0.3 m²

Special thermographic spray paint with high emissivity and mechanical resistance for high temperature applications up to 1000 °C. The precisely defined dependence of the emissivity on the wavelength, viewing angle of the infrared camera and the temperature of the measured surface enables to achieve very precise results of thermographic measurements.

Optical properties

High emissivity

- use effective emissivity for non-contact surface temperature measurement using infrared camera for correct angle of measurement and correct surface temperature
- effective emissivity mentioned below is valid for infrared cameras operating in the wavelength range of 7.5 – 13 µm (commonly used infrared cameras)

Low transmissivity

- band transmissivity up to 1.2 % for the wavelength band 7.5 – 13 µm (commonly used infrared cameras) for room temperature

More parameters on the web:

- Spectral dependence of normal emissivity for selected temperatures
- Spectral dependence of transmissivity

Table: Directional dependence of effective emissivity for selected temperatures for band 7.5 – 13 µm

Angle (°)	5	10	20	30	40	45	50	60	70	80
Emissivity (-) for 100 °C	0.895	0.895	0.894	0.894	0.889	0.884	0.880	0.860	0.817	0.701
Emissivity (-) for 300 °C	0.912	0.912	0.912	0.912	0.905	0.900	0.893	0.874	0.835	0.719
Emissivity (-) for 500 °C	0.875	0.875	0.874	0.871	0.866	0.861	0.856	0.837	0.797	0.692
Emissivity (-) for 700 °C	0.875	0.875	0.874	0.871	0.866	0.861	0.856	0.837	0.797	0.692
Emissivity (-) for 900 °C	0.842	0.842	0.840	0.838	0.832	0.828	0.822	0.804	0.768	0.670
Emissivity (-) for 1000 °C	0.840	0.839	0.838	0.834	0.829	0.824	0.818	0.800	0.764	0.664

Other properties

Other properties

- coating thickness 150 µm (according to recommended application)
- coating roughness Ra = 3.5 µm, Rz = 25 µm

High mechanical resistance

Thermal conductivity

- 0.52 W/mK (100 °C)
- 0.50 W/mK (300 °C)
- 0.67 W/mK (500 °C)
- 2.05 W/mK (700 °C)

Chemical composition

- propane, butane, hydrocarbons, isobutane, C6, isoalkane, ethylbenzene, butane-1-ol, cyklohexane

Instructions

1. Abrade the surface, clean it, dry it and get rid of grease. Cover other areas where spraying is not to be applied.
2. Shake the container for two minutes and make a test spray.
3. Spray slowly over the material from a distance of 25 - 30 cm. Apply four thin layers, wait for a while and apply four thin layers again.
4. Spray at temperatures 15 - 25 °C. Paint hardening occurs after two hours.
5. After use, turn the container upside down and clean the valve by pressing for a few seconds.

Mechanical resistance

Optical properties guaranteed

up to 1000 °C

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