



## LabIR® Paint

### Thermographic paint for standard applications HERP-LT-MWIR-BK-11

Special thermographic spray paint with high emissivity for common applications up to 100 °C. Precisely defined physical properties and emissivity dependence on the wavelength and viewing angle of an infrared camera allow accurate results of the non-contact temperature measurement.

- **Colour:** black
- **Volume:** 400 ml
- **Yield of paint:** 0.5 m<sup>2</sup>

#### Properties

We can guarantee all mentioned thermographic paint properties only if you follow the instructions for using the paint that are introduced the website:

<https://paints.labir.eu/homepage/thermographic-paint-for-standard-applications>

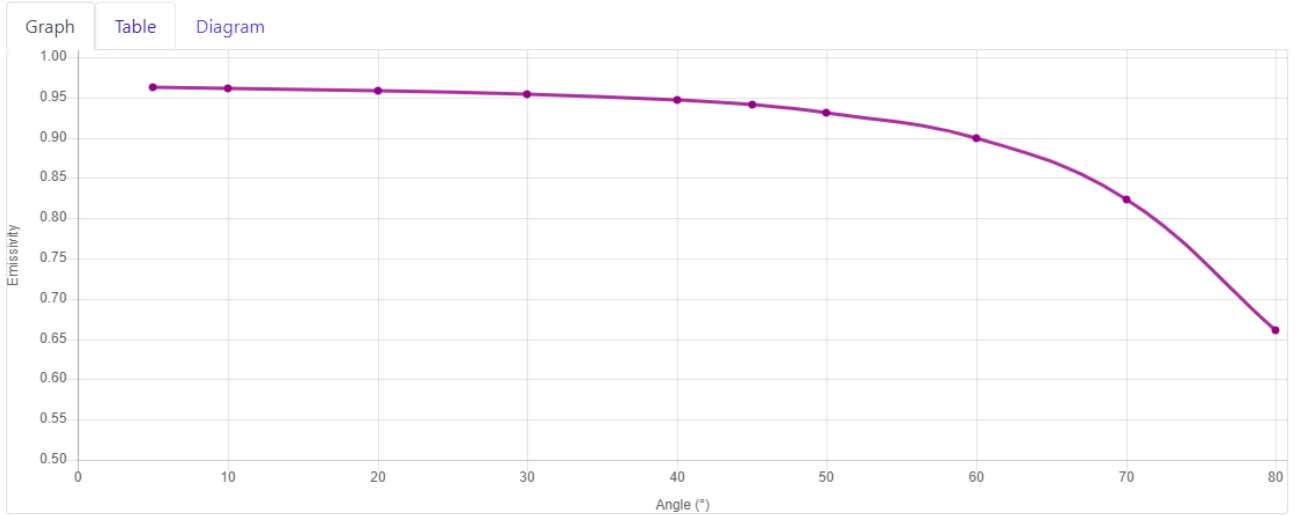
#### Optical properties - emissivity

- use effective emissivity for non-contact measurement of surface temperature using infrared camera
- comply with effective emissivity for correct angle of measurement
- effective emissivity is valid for infrared cameras operating in the wavelength range 7.5 – 13 μm



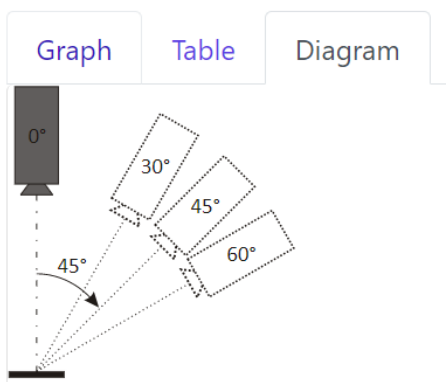
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## Directional dependence of effective emissivity for band 7.5 – 13 $\mu\text{m}$ (resp. for infrared camera FLIR A615)

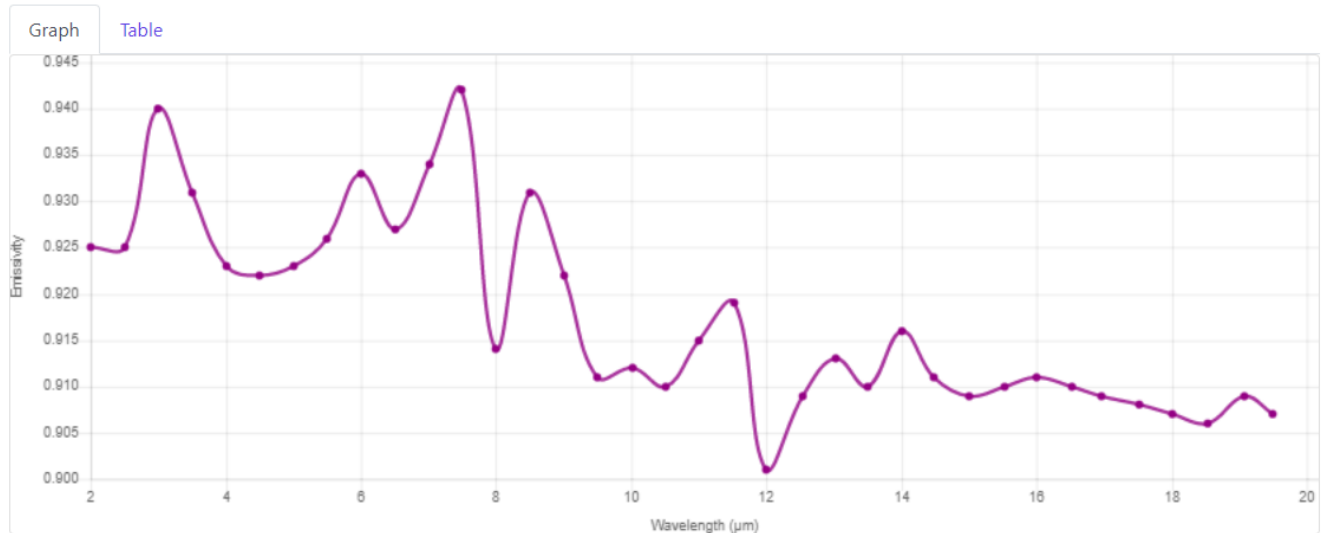


Graph Table Diagram

Angle (°)	Emissivity
5	0.963
10	0.961
20	0.959
30	0.954
40	0.947
45	0.941
50	0.931
60	0.899
70	0.823
80	0.661



## Spectral dependence of normal emissivity



Graph Table

Wavelength (μm)	Emissivity
2.00	0.925
2.50	0.925
3.00	0.940
3.50	0.931
4.00	0.923
4.50	0.922
5.00	0.923
5.50	0.926
6.00	0.933
6.50	0.927
7.01	0.934
7.49	0.942
8.00	0.914
8.50	0.931
9.00	0.922
9.50	0.911
10.01	0.912
10.50	0.910
10.99	0.915
11.52	0.919
12.00	0.901

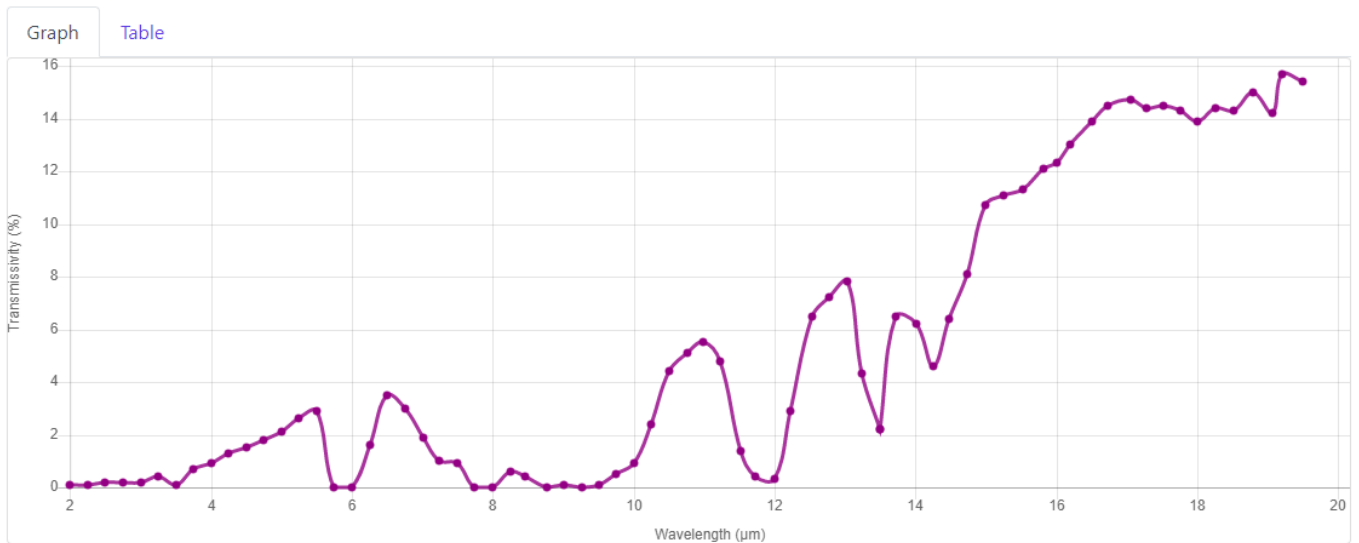


12.53	0.909
13.03	0.913
13.50	0.910
14.01	0.916
14.48	0.911
14.99	0.909
15.53	0.910
16.00	0.911
16.51	0.910
16.95	0.909
17.52	0.908
18.00	0.907
18.52	0.906
19.06	0.909
19.49	0.907

## Optical properties – transmissivity

- band transmissivity up to 1.5 % in the wavelength band 7.5 – 13  $\mu\text{m}$  (for commonly used infrared cameras)

## Spectral dependence of transmissivity



Graph Table

Wavelength ( $\mu\text{m}$ )	Transmissivity (%)
2.00	0.1
2.25	0.1
2.50	0.2
2.75	0.2
3.00	0.2
3.25	0.4
3.50	0.1
3.75	0.7
4.00	0.9
4.25	1.3
4.50	1.5
4.75	1.8
5.00	2.1
5.25	2.6
5.50	2.9
5.75	0.0
6.00	0.0
6.25	1.6
6.50	3.5

6.75	3.0
7.01	1.9
7.24	1.0
7.49	0.9
7.74	0.0
8.00	0.0
8.26	0.6
8.45	0.4
8.76	0.0
9.00	0.1
9.26	0.0
9.50	0.1
9.75	0.5
10.01	0.9
10.25	2.4
10.50	4.4
10.76	5.1
10.99	5.5
11.22	4.8
11.52	1.4
11.73	0.4
12.00	0.3
12.23	2.9
12.53	6.5
12.77	7.2
13.03	7.8
13.23	4.3
13.50	2.2
13.50	2.2
13.72	6.5



14.01	6.2
14.25	4.6
14.48	6.4
14.73	8.1
14.99	10.7
15.25	11.1
15.53	11.3
15.81	12.1
16.00	12.3
16.20	13.0
16.51	13.9
16.73	14.5
17.06	14.7
17.28	14.4
17.52	14.5
17.76	14.3
18.00	13.9
18.26	14.4
18.52	14.3
18.79	15.0
19.06	14.2
19.21	15.7
19.49	15.4

**Thermal conductivity**

- 0.75 W/mK (50°C)
- 0.70 W/mK (100°C)

**Other properties**

- Coating thickness 30 µm (according to recommended application))
- Coating roughness Ra = 0.8 µm, Rz = 9.6 µm



## Chemical composition

acetone, n-butyl acetate, butan-1-ol, propan-2-ol.

## Warning



Extremely flammable aerosol. Product container is under pressure. When it is heated, it can explode. It causes serious eye irritation. It may cause drowsiness and dizziness. Repeated exposure may cause skin dryness or cracking. If medical help needed, keep handy product container or label. Keep out of the reach of children. Before using. Be sure to read the information on the label. Do not breathe aerosol. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Pressure container: Do not pierce or burn even after use. Do not spray on an open flame or other ignition source. Protect from sunlight. Avoid temperatures exceeding 50 °C