Measurement of spectral radiance and emissivity of F7 technology

by PhD prof. Tonelli Mauro

University of Pisa

Department of Physics

University Of Pisa

Department of Physics
"E. Fermi"

L. go B. Pontecorvo, 3 56127
Pisa Tel. (+39) 050 2214000 , fax
Mail: amministrazione@df.unipi.it
PEC: fisica@pec.unipi.it

cod.tax department. 80003670504
VAT number 00286820501

Optical characterization

Of fabric samples of the Company S. M. S. VIGOR D. 0. 0. In the spectral region 7-14 um

In relation to the estimate of the Department of Physics (n.prot. of the University of Pisa 0000489/2017 of 7/3/2017) and to the letter of "material delivery" of the Company S. M. S. VIGOR D. 0.O. of 27 March 2017 for performing "measurements of spectral radiance and emissivity" received from the Department of physics of the University of Pisa, in this report we report the results of the optical characterization measurements of the 2 samples of silicone received by the said company in the spectral region between 7 and 14 um.

For the measurements the procedure was followed: the measurements were carried out using a specially prepared spectrometer equipped with MCT / a detector, sensitive in the region between 0.8 and 35 um; the measuring apparatus has been aligned and calibrated by means of a source of black body at the temperature of 37 C C in the wavelength range 7-14 um. Each sample was then measured at a temperature of 37 C thermostatation system was tested before performing measurements. Below are the results of the measurements made on the following sample:

White essilicone (not loaded)
blue exilicone (loaded)

For each of the two samples, kept at a temperature of 37 C recorded the average emission spectrum on three different days for check the reproducibility of the result. In the following figures are reported results for spectral radiance (Fig. 1) and relative emissivity (Fig. 2), in which there is an increase in the emission in the sample blue silicone (loaded).

University of Pisa
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"E. Fermi"
L. go B. Pontecorvo, 3 56127 Pisa
Tel. (+39) 050 2214000 , fax
Mailll: amministrazione@df.unipl.it
PEC: physics@pec. unipi.it
cod.tax department. 30003670504
VAT number 00286820501

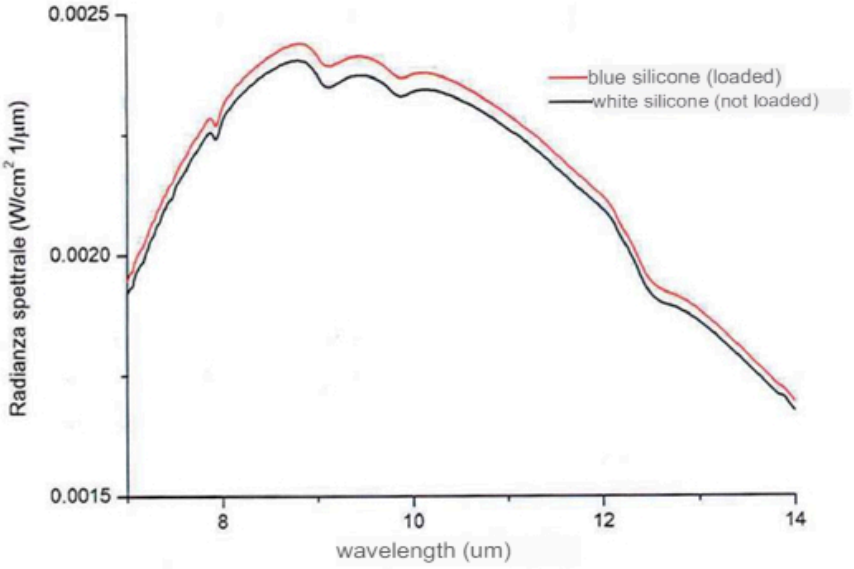


Fig. 1-spectral Radiance

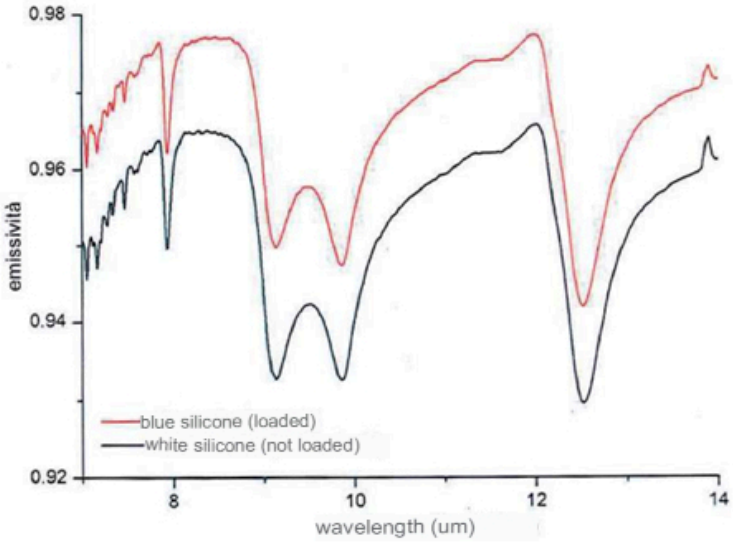


Fig. 2-relative emissivity

University of Pisa | Department of Physics "E. Fermi" | L. go B. Pontecorvo, 3 56127 Pisa
Tel. (+39) 050 2214000, fa fatax department. 80003670504
PEC: igmministration@at.uniai.t | VAT number 00288820501

In conclusion, the results of the measures highlight, in the region of interest, a higher spectral radiance and a higher emissivity from sample part blue silicone (loaded)

Pisa,

Prof. Mauro Tonelli

For acceptance

S. M. S. VIGOR D. 0.0.