

# Test report

# Nr. 09155-A

## Outgassing of thermal insulation materials in solar-thermal flatplate collectors with antireflective coated glass

**ordered by :**

FIBRAN S.A  
6 km Thessaloniki – Oreokastro  
A.C. 56010, P.O.Box: 40306  
Thessaloniki, Greece  
represented by Mrs. Stella Chadiarakou

**Manufacturer :**

FIBRAN S.A  
6 km Thessaloniki – Oreokastro  
A.C. 56010, P.O.Box: 40306  
Thessaloniki, Greece

**Designation of the test sample:**

FIBRANgeo H-060

**Description of the sample :**

mineral wool  
no coating  
specific weight = 65 kg/m<sup>3</sup> \*  
Thickness approx = 40 mm \*  
(\*=measured by SPF, \*\*= from customer)



**Photo of the test sample**

**Test temperature :**

220°C

**Test date :**

Beginning at 7.5.2009, according to test instruction , see [www.solarenergy.ch](http://www.solarenergy.ch)

**Evaluation :**

The tested mineral wool FIBRANgeo H-060 (delivery 23.4.2009) is suitable for single glazed, ventilated solar thermal flat plate collectors with antireflex glass with stagnation temperatures up to 220°C. No visible condensate precipitation and only little performance changes is to be expected.

**Limitation of liability :**

The use of our services occurs generally at one's own risk. SPF is not responsible for damages, caused by the use of this test report and the included informations.

Rapperswil, 5.4.2012

*F. Flückiger*  
Felix Flückiger

## Appendix to Test report No. 09155-A

### Results in detail :

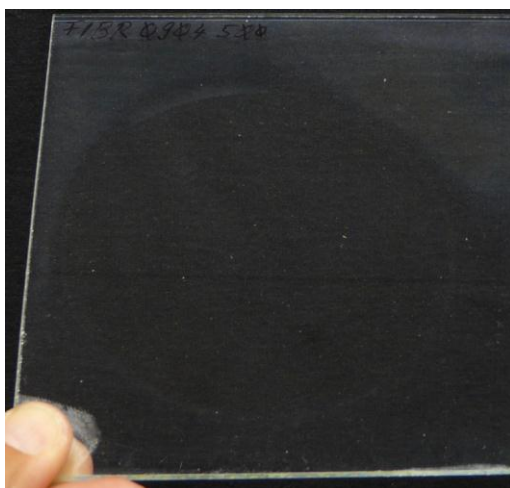
The mineral wool plate FIBRANgeo H-060 (delivery 23.4.2009) is not leading to visible precipitation at the condensation trap (see following pictures).

The change of the solar transmission is within the acceptable range (that means less than 0.015; see following table and diagrams).

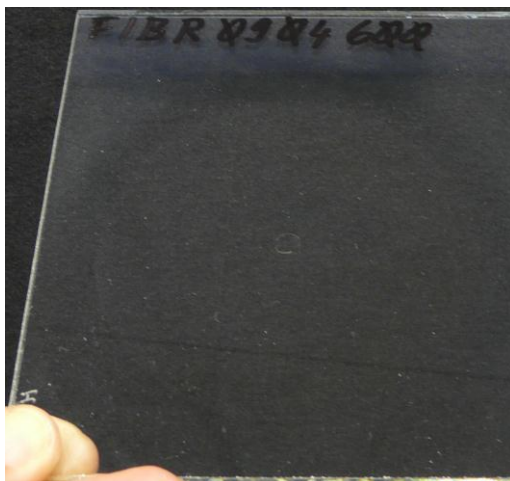
sample	solar transmission		
	referenz	after exposition	change
1	0.930	0.922	-0.008
2	0.930	0.923	-0.007

**Table 1** : measurements of solar transmission

### Pictures of the condensation trap after 150h @ 220 °C :



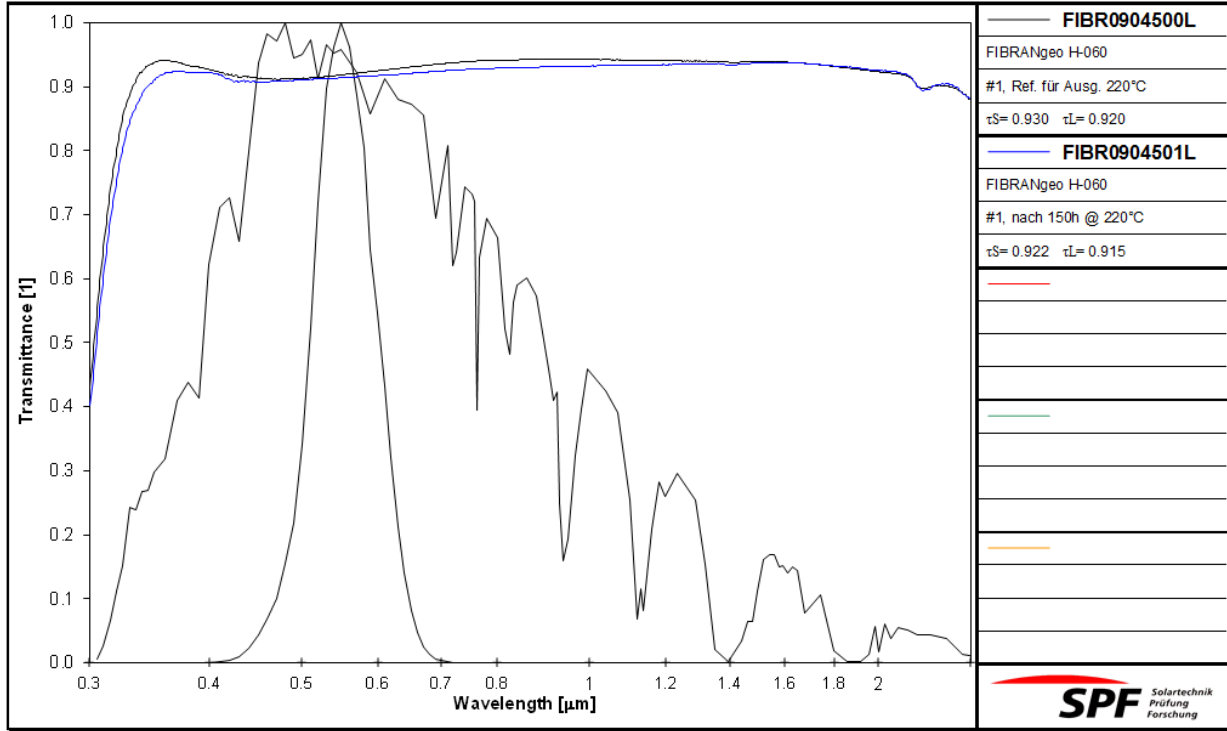
Sample 1 :



Sample 2 :

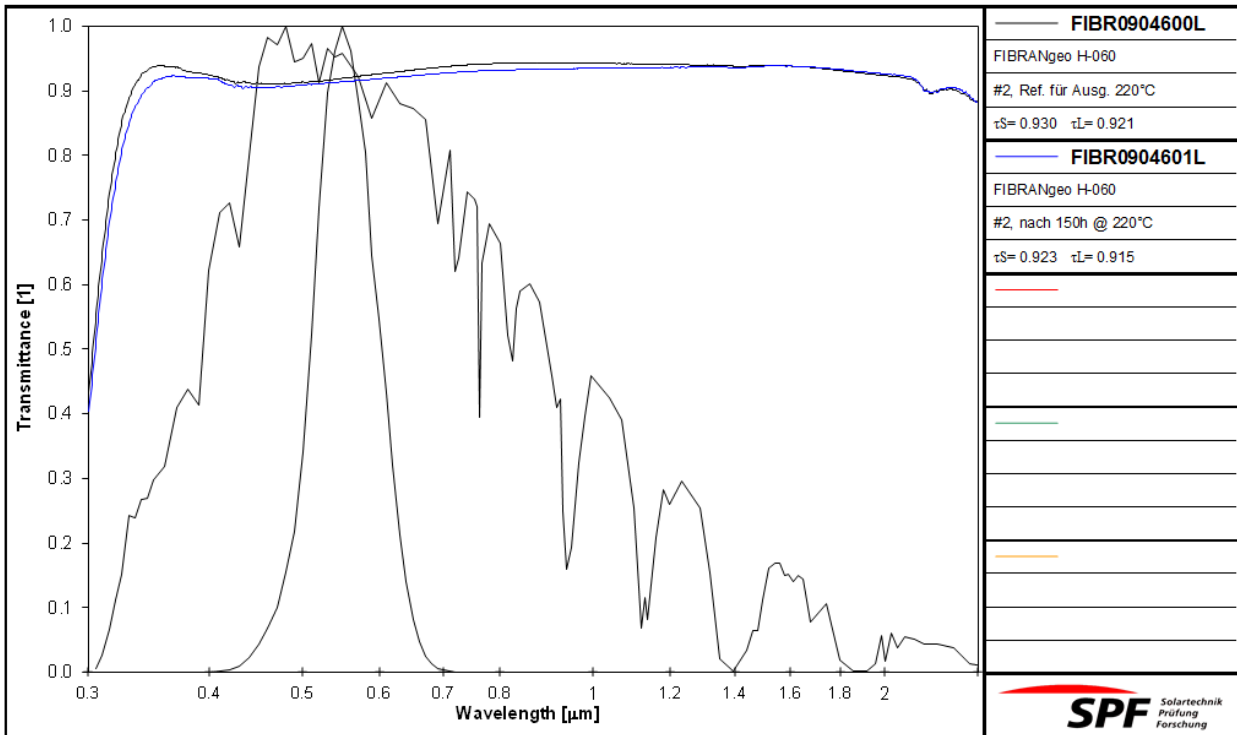
### Spectral transmittance of the condensation trap, before and after testing

#### FIBRANgeo H-060, Anl.23.4.9 , Sample 1



Rapperswil, den 18.Mai 2009

#### FIBRANgeo H-060, Anl.23.4.9 , Sample 2



Rapperswil, den 18.Mai 2009