

# REPORT

## TSR measurements on 4 panels

**Client :** Monopol AG

**Date :** 23<sup>rd</sup> July 2018

**Distribution list :** Mr Tim Kröger

**Author :** Mr Jacky Mallégo

## **Context**

Request from Monopol AG to measure the Total Solar Reflectance on 4 panels.

## **Materials**

We received 4 small panels from Monopol Colors with the indication:

- Coating System 1 : 2 panels → Codes 1 and 2 in our study
- Coating System 2 : 2 panels → Codes 3 and 4

Study Q1056

## **Results**

The total solar reflectance (TSR) is measured with a spectrophotometer following “ASTM E903 – Standard Test Method for Solar Absorbance, Reflectance, and Transmission of Materials Using Integrating Spheres.”

The results are summarized in Table 1.

The 4 different panels have been numbered Code 1 to Code 4.

<b>Code</b>	<b>Identification</b>	<b>TSR</b>
<b>1</b>	<b>System 1</b>	<b>0.819</b>
<b>2</b>	<b>System 1</b>	<b>0.815</b>
<b>3</b>	<b>System 2</b>	<b>0.872</b>
<b>4</b>	<b>System 2</b>	<b>0.872</b>

*Table 1. Summary of TSR values found for the four samples.*

Note that we provide 3 meaning numbers in the results of Table 1. We can thus observe that there are some slight differences between the measurements for System 1. This corroborates with the usual precision that we provide for TSR measurements. We normally measure TSR values with only 2 meaning numbers, which is to say a precision to the closest percent.

Results can then be summarized as:

- **Coating System 1 : TSR = 0.82**
- **Coating System 2 : TSR = 0.87**

# REPORT

## TSR measurements on 2 panels

**Client :** Monopol AG

**Date :** 5<sup>th</sup> December 2018

**Distribution list :** Mr Tim Kröger

**Author :** Mr Jacky Mallégo

## **Context**

Request from Monopol AG to measure the Total Solar Reflectance on 2 panels.

## **Materials**

We received 2 panels with white colour. One sample is noted “mit primer” and the second one is noted “ohne primer”.

- White panel TSR 1 (mit Primer) → Code 1 in our study
- White panel TSR 2 (ohne Primer) → Code 2 in our study

Study Q1108

## **Results**

The total solar reflectance (TSR) is measured with a spectrophotometer following “ASTM E903 – Standard Test Method for Solar Absorbance, Reflectance, and Transmission of Materials Using Integrating Spheres.”

The results are summarized in Table 1.

<b>Code</b>	<b>TSR</b>
<b>1</b>	<b>0.883</b>
<b>2</b>	<b>0.884</b>

*Table 1. Summary of TSR values found for the two samples.*

Note that we provide 3 meaning numbers in the results of Table 1, even if we normally measure TSR values with only 2 meaning numbers, which is to say a precision to the closest percent. But even if the precision is not guaranteed, this shows a very close performance between the two products.