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project: **test report**  
**P 10864-E**

plant: -

order date: 2017-05-18

order: water-vapour transmission

sample description: epoxide resins

number of samples: 3

sampling: -

sample receipt date: 2017-05-23

test period: 2017-05-23 – 2017-07-04

Flörsheim, 2017-07-05



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## 1 SUBJECT

Polymer Institut was charged by SCHOMBURG GmbH & Co. KG, Detmold, to determine the water-vapour transmission of

**ASODUR-SG2**  
**ASODUR-SG3**  
**ASODUR-SG3 Superfast**

according to EN ISO 7783:2012-02 "Paints and varnishes. Determination of water-vapour transmission properties. Cup method. "

## 2 RECEIPT OF SAMPLES

The following samples were delivered to Polymer Institut on.2017-05-23.

table 1: receipt of samples

no	material	batch	amount
1	ASODUR-SG2	0121194	2 kg
2	ASODUR-SG3	041701144/0	1 kg
3	ASODUR-SG3 Superfast	041700337/0	1 kg

## 3 PREPARATION OF THE TEST SPECIMENS

Mixing and application of the samples were performed at standard temperature according to DIN EN 23270 following the technical data sheets of the manufacturer.

The mixing ratios can be seen in the following table.

overview 1: mixing ratio

no	material	mixing ratio in mass parts	
		component A	component B
1	ASODUR-SG2	100	12
2	ASODUR-SG3	100	52
3	ASODUR-SG3 Superfast	100	47

The application took place by an employee of Polymer Institut with the following consumptions.

overview 2: consumptions

material	specimen	dimensions (l x w) [mm]	consumption [g/m <sup>2</sup> ]
ASODUR-SG2	free Film	500 x 300	1200
ASODUR-SG3			
ASODUR-SG3 Superfast			

After 1 day curing at standard temperature the free films were separated from with separating foil laminated glass plates and the required specimen with a diameter of 90 mm were punched out.





#### 4 DETERMINATION OF WATER-VAPOUR TRANSMISSION PROPERTIES

The determination of the water-vapour transmission properties was carried out in accordance with EN ISO 7783:2012-02 "Paints and varnishes – Determination of water-vapour transmission properties – Cup method", - dry cup method. The test specimens have been arranged in aluminium cups containing calcium chloride to produce a relative humidity of 0% at test temperature 23 °C. The cups have been sealed with wax using a waxing template with a diameter of 80 mm.

The test specimens have been stored according to EN ISO 7783 – method A to constant mass at standard conditions in accordance with EN 23270.

The determination of water-vapour transmission properties was performed until steady states of the samples were reached. The evaluation corresponded to chapter 8 of the standard mentioned above.

The layer thickness of the specimen has been determined using a calibrated sliding calliper according to EN ISO 2808:2007-05.

#### 5 RESULTS

table 2: results water-vapour transmission ASODUR-SG2

no	dry layer thickness [ $\mu\text{m}$ ]	water vapour transmission rate* V [ $\text{g}/(\text{m}^2 \times \text{d})$ ]	$S_d(\text{H}_2\text{O})$ [m]	$\mu(\text{H}_2\text{O})^*$ [ ]
1	866	0,10	201	230.000
2	1144	0,09	237	210.000
3	776	0,08	256	330.000
4	818	0,09	225	280.000
<b>MW</b>	<b>901</b>	<b>0,09</b>	<b>230</b>	<b>260.000</b>

\* rounded to 2 value indicating digits

table 3: results water-vapour transmission ASODUR-SG3

no	dry layer thickness [ $\mu\text{m}$ ]	water vapour transmission rate* V [ $\text{g}/(\text{m}^2 \times \text{d})$ ]	$S_d(\text{H}_2\text{O})$ [m]	$\mu(\text{H}_2\text{O})^*$ [ ]
1	1580	0,21	112	71.000
2	970	0,26	93	96.000
3	1240	0,26	92	74.000
<b>MW</b>	<b>1263</b>	<b>0,24</b>	<b>99</b>	<b>80.000</b>

\* rounded to 2 value indicating digits

table 4: results water-vapour transmission ASODUR-SG3 Superfast

no	dry layer thickness [ $\mu\text{m}$ ]	water vapour transmission rate* V [ $\text{g}/(\text{m}^2 \times \text{d})$ ]	$S_d(\text{H}_2\text{O})$ [m]	$\mu(\text{H}_2\text{O})^*$ [ ]
1	1060	0,15	154	150.000
2	1070	0,15	166	160.000
3	1170	0,15	160	140.000
4	1110	0,13	183	160.000
<b>MW</b>	<b>1103</b>	<b>0,14</b>	<b>166</b>	<b>150.000</b>

\* rounded to 2 value indicating digits