

## Test report

**Test report relating to a glass product according to European standard EN 1279-2, concerning the product marked as: Insulating Glass Unit, manufactured by: Zhengzhou Zhongyuan Silande High Technology Co., Ltd**

Report number	89205967-03 rev2
Date	18 August 2018
Author(s)	Mr. M.A.A.M. Schets, B.Sc.
Client	Zhengzhou Zhongyuan High Technolgy Co., Ltd. No.28, Dongqing West St. Zhengzhou Hi-tech Development Zone, 450001 China
Project number	89205967
Project name	14.A130 - EN1279-2
Number of pages	10



*All rights reserved.*

*No part of this report may be reproduced, provided to and/or examined by third parties, and/or published by print, photoprint, microfilm, in electronic form or any other means without the explicit previous written consent of TÜV Rheinland Nederland B.V.*

*In case this report was drafted within the context of an assignment to TÜV Rheinland Nederland B.V, the rights and obligations of contracting parties are subject to the General Terms & Conditions for Advisory, Research and Certification assignments to TÜV Rheinland Nederland B.V and/or the relevant agreement concluded between the contracting parties.*

© 2010 TÜV Rheinland Nederland B.V.

Headoffice:

Boogschutterstraat 11A  
P.O. Box 541  
7300 AM Apeldoorn  
Tel. +31 (0)88 888 7 888  
Fax +31 (0)88 888 7 879

Locations:

Vissenstraat 6  
P.O. Box 541  
7324 AL Apeldoorn  
Tel. +31 (0)88 888 7 888  
Fax +31 (0)88 888 7 879

Eiberkamp 10  
P.O. Box 37  
9350 AA Leek  
Tel. +31 (0)88 888 7 888  
Fax:+31 (0)594 504 804

Josink Esweg 10  
P.O. Box 337  
7500 AH Enschede  
Tel. +31 (0)88 888 7 888  
Fax +31 (0)88 888 7 859

TÜV Rheinland Nederland B.V. is a registered company at the Dutch Chamber of Commerce under number 27288788  
info@nl.tuv.com  
www.tuv.com/nl

## Contents

<b>1 Introduction</b>	<b>3</b>
1.1 Purpose	3
1.2 Description of the samples	3
1.3 Sampling procedure	4
1.4 Application	4
1.5 Method of testing	4
1.6 Put out to contract	4
1.7 Privacy statement	4
1.8 Remark concerning this ITT report	4
1.9 Notifications, accreditations, designations	4
<b>2 Test results</b>	<b>5</b>
<b>3 Conclusion</b>	<b>6</b>
<b>4 References</b>	<b>7</b>
<b>5 Signatures</b>	<b>8</b>
<b>Appendix A, Summary of test results</b>	<b>9</b>
<b>Appendix B, Pictures of the tested object(s)</b>	<b>10</b>

# 1 Introduction

## 1.1 Purpose

The tests have been performed in order to establish whether or not an insulating glass unit with sealant Silande MF910G and Silande MF881-25HM meets the requirements of the European standard EN 1279-2 [1].

Revision 1 was made because of some spelling errors.

Revision 2 was made because of a name change of the client.

## 1.2 Description of the samples

### General

Name of the manufacturer	Zhengzhou Zhongyuan Silande High Technology Co., Ltd
Address of the manufacturer	No.28, Dongqing West St. Zhengzhou Hi-tech Development Zone, 450001 China
Production plant of the samples	Anonymous
Line ID where the samples are made	-
Production date	3 May 2014
Sampling date	5 May 2014
The product was marked as	Insulating Glass Unit
System description, file number	not applicable
Dimensions of the samples	(502 ±2) mm x (352 ±2) mm

### Specific

Type of glass	Clear float glass
Configuration of the samples	4-12-4 mm
DESICCANT	
Trademark / type of desiccant	FULONG / 3A
INNER sealant	
Trademark / type of inner sealant	SILANDE MF910G
Kind of inner sealant	polyisobutylene (butyl)
OUTER sealant	
Trademark / type of outer sealant	SILANDE MF881-25HM
Kind of outer sealant	silicone 2 component structural sealant
SPACER	
Trademark / type of spacer	SILANDE ALU.SPACER - BENDABLE 12A
Trademark / type of corners	bent

### **1.3 Sampling procedure**

The samples have been submitted by the assignor. The test house, acting as notified test body, has had no influence on the selection of the samples.

### **1.4 Application**

The request for testing was submitted by the assignor on 21 May 2014. Assignment Form number: 14.A130.

### **1.5 Method of testing**

All applicable tests have been performed according to the European standard EN 1279-2 [1].

### **1.6 Put out to contract**

No tests were performed at third parties.

### **1.7 Privacy statement**

Due to privacy reasons, the names of involved personnel that executed the tests, are not disclosed in the report. However, this information is available on internal work sheets, test forms etc. in the project file.

### **1.8 Remark concerning this ITT report**

For any other manufacturer this initial type test (ITT) report is not automatically valid. The manufacturer for this ITT report is defined under 1.2.

### **1.9 Notifications, accreditations, designations**

TÜV Rheinland Nederland B.V. has been notified by the Dutch Ministry of Infrastructure and the Environment as Notified Test Body (number 1750) and Notified Certification Body (number 0336) for the European Construction Products Directive 89/106/EEC.

TÜV Rheinland Nederland B.V. has been accredited by the Dutch Accreditation Council (RvA) as ISO 17025 Test Laboratory (nr. L 484) and ISO 17065 Certification Body (nr. C078).

TÜV Rheinland Nederland B.V. has been designated as Technical Service (Laboratory) by the Approval Authorities for the Netherlands (RDW – E4) and Germany (KBA – E1) to grant approvals as mentioned in Directive 70/156/etc. and in the 1958 Agreement of the Economic Commission for Europe of the United Nations (UN-ECE) for glass as used in the automotive sector: ECE Regulation 43, safety glazing; EC Directive 92/22, Safety glass; EC Directive 2009/144, Glazing cat. T.

TÜV Rheinland Nederland B.V. has been recognised by the German Institute for building technics (DIBt) under number NL005.

## 2 Test results

Test results after performing all applicable tests according to European standard EN 1279-2 [1].

### Requirements and end result

Required	Value of the test	Pass / fail
4.1 Moisture penetration index		
Insulating glass units shall fulfil their functions during an economically reasonable working life. Therefore the following values are verified on test specimens submitted to the climate test described in this Part of the standard.		
The average moisture penetration index $I_{av}$ over the five test specimen shall not exceed 0.20	$I_{av}$ over the five test specimen = 0.06	pass
The unit with the highest moisture penetration index shall have an index value $I$ not exceeding 0.25	Highest moisture penetration index $I = 0.07$	pass

Prior to ageing, all 15 IGU's were visually inspected. No special deviations above variations due to the production process were found. After the visual inspection the test specimen were analysed on dew points. All IGU's showed dew points lower than -60°C. The test specimens were randomly numbered and the moisture contents ( $T_i$  &  $T_f$ ) were determined. From these results the individual penetration indices  $I$  and  $I_{av}$  were calculated.

### Detailed test results

Initial values					
Unit no.	$m_o$ [g]	$m_i$ [g]	$m_r$ [g]	$T_i$ [%]	
7	65.7193	86.3668	85.7349	3.16	
8	65.4439	85.7662	85.0621	3.59	
9	67.6100	87.8037	87.1795	3.19	
10	66.1278	86.5397	85.8520	3.49	
Average				3.36	
After climate exposure					
Unit no.	$m_o$ [g]	$m_i$ [g]	$m_r$ [g]	$T_f$ [%]	$I$ <sup>*)</sup>
4	66.0525	86.0552	85.2246	4.33	0.06
5	61.7195	82.1827	81.3186	4.41	0.06
6	67.8553	87.8618	87.0683	4.13	0.05
11	66.1251	86.1375	85.2594	4.59	0.07
12	65.4473	85.5247	84.6804	4.39	0.06
Average					<b>0.06</b>

<sup>\*)</sup>  $I$  is calculated with fixed value of 20.0 % for  $T_c$  as mentioned in EN 1279-2 annex D

### 3 Conclusion

The tested glass product, marked by the client or manufacturer as: Insulating Glass Unit, manufactured by/for: Zhengzhou Zhongyuan Silande High Technology Co., Ltd, with inner sealant with trade mark/type: SILANDE MF910G and outer sealant with trade mark/type: SILANDE MF881-25HM, meets the applicable requirements as stated in the European standard EN 1279-2 [1].

The test results exclusively relate to the tested objects.

#### Remark 1

Due to the fact that the purpose of this test report is not an initial type test for a IG manufacturer no system description can be mentioned to be used as reference. This report is thus also not allowed to be used in cascading and/or shared ITT procedures (if allowed or applicable). The identification of the actual IG manufacturer for this ITT report is not relevant and is called anonymous or published only if the IG manufacturer has given written agreement that his/her name is allowed to be mentioned. When this statement is not communicated on forehand to TÜV Rheinland, then anonymous will be used per default.

## 4 References




- 1 European standard EN 1279-2:2002 (E),  
Glass in building – Insulating glass units – Part 2: Long term test method and requirements for  
moisture penetration, European Committee for Standardization, November 2002.

## 5 Signatures

<b>Author</b> Mr. M.A.A.M. Schets, B.Sc.	Signature 
Specialist	
<b>Peer review</b> Mr. R. Brandhorst	Signature 
Specialist	
<b>Approved by</b> Mr. H. van Ginkel	Signature 
Business field manager	



## Appendix A, Summary of test results

TÜV Rheinland Nederland B.V. P.O. Box 541, 7300 AM Apeldoorn The Netherlands Lab.no. 1750		 <b>TÜVRheinland</b> <sup>®</sup> Precisely Right.	
<b>Summary of report no:</b> 89205967-03 rev2		<b>Date:</b> 18 August 2018	
<b>Insulating glass units - Moisture penetration results according to EN 1279-2</b> For details is referred to the full test report			
Company (demonstrator):	Name:	Zhengzhou Zhongyuan Silande High Technology Co., Ltd	
	Address:	No.28, Dongqing West St. Zhengzhou Hi-tech Industrial Development Zone 450001 China	
	Plant:	Name:	Anonymous
		Address:	
System description, file number:		not applicable	
	Product name:	The glass product: Insulating Glass Unit with inner sealant SILANDE MF910G and outer sealant: SILANDE MF881- 25HM	
System conforms:		<b>YES</b>	
NOTE: Comparisons of moisture penetration indices of different insulating glass unit system are meaningless.			
			
Signature: M.A.A.M. Schets, B.Sc Project leader		Signature: H. van Ginkel Business field manager	

**NOTE: This Summary is not a certificate.**

## Appendix B, Pictures of the tested object(s)



- End of report -