

Test report

Test report relating to a glass product according to European standard EN 572-9, Product aspects, concerning the product marked as: Low iron solar textured glass thickness 2.1, 2.5, 2.8 and 3.2mm, manufactured by: Borosil Renewables Limited

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1 Introduction

1.1 Purpose

The tests have been performed in order to establish whether or not the product meets the requirements of the European standard EN 572-9 [1].

A revision of this report was made, due to change the name of the company in the report.

1.2 Description of the test specimen

General

Name of the manufacturer	Borosil Renewables Limited
Address of the manufacturer	Govali, Ankleshwar Rajpipala Road Jhagadia Taluka, Dist. : Bharuch, Gujarat INDIA
Production plant of the samples	Govali, Ankleshwar Rajpipala Road Jhagadia Taluka, Dist. : Bharuch, Gujarat INDIA
Line ID where the samples are made	-
Production date	-
Sampling date	-
The product was marked as	Low iron solar textured glass
Dimensions of the samples	Chemical composition: 50 x 50 mm
	Thickness: 50 x 50 mm
	Light transmittance: 50 x 50 mm

Specific

Kind of glass	Patterned glass, clear
Nominal thickness	2.1, 2.5, 2.8 and 3.2 mm

1.3 Sampling procedure

TÜV Rheinland B.V., acting as Notified Test Laboratory, has had no influence on the selection of the sample. All test specimen within the sample were test-worthy and were received on 29rd June 2021.

1.4 Application

The request for testing was submitted by the manufacturer on 20th April 2021, order or reference number or name: -. Assignment Form number: 21.A132.

1.5 Method of testing

All applicable tests have been performed according to the European standard EN 572-9 [1].

1.6 Put out to contract

The chemical composition test was performed at third party Philips Lightning B.V. the Netherlands at Eindhoven.

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 Notifications, accreditations, designations

TÜV Rheinland Nederland B.V. has been notified by the Dutch Minister for Housing and the Central Government Sector as Notified Laboratory (number 1750) and Notified (Factory Production Control) Certification Body (number 0336) for the European Construction Products Regulation 305/2011 (EU).

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 Germany (KBA – E1) and the Netherlands (RDW – E4) for automotive safety glass (ECE R43, 92/22/EC, 2009/144/EC).

TÜV Rheinland Nederland B.V. has been recognised by the German Institute for building technics (DIBt) under number NL005 as test, control and certification body.

Remark

The reported tests were performed under ISO 17025 accreditation.

2 Test results

Test results after performing all applicable tests according to European standard EN 572-9 [1].

Required		Value of the test	Pass / fail
EN 572-1, § 5.1, Chemical composition		3,2mm	
Element as oxide	Mass percent (%)		
Silicon oxide (SiO ₂)	69 to 74	71.9	pass
Calcium oxide (CaO)	5 to 14	11.2	pass
Sodium oxide (Na ₂ O)	10 to 16	13.62	pass
Magnesium oxide (MgO)	0 to 6	1.62	pass
Aluminium oxide (Al ₂ O ₃)	0 to 3	1.24	pass
Others	0 to 5	0.70	pass
Remark : for the thickness of 2.1-2.5-2.8mm , no chemical composition test was done. Nevertheless client has stated that the glass composition is made out of the same chemical process as from the same glass composition in thicknesses 3.2mm. Therefore thickness 2.1-2.5-2.8mm also complies with the requirements.			
EN 572-2, Table 1, Thickness			
Nominal Thickness (mm)	Tolerances (mm)		
3,2	± 0.2	3,2 mm	pass
2,8	± 0.2	2,7 mm	pass
2,5	± 0.2	2,5 mm	pass
2,1	± 0.2	2,1 mm	pass
EN 572-1, Table 2, Light transmittance			
Nominal Thickness (mm)	Minimum value of light transmittance (clear glass according to table 2 of EN410)		
3,2 mm	0.88	0,90	pass
2,8 mm	0.88	0,91	pass
2,5 mm	0.88	0,91	pass
2,1 mm	0.89	0,91	pass

Period of measurement

The measurements took place in the period July/ August 2021.

EN 572-1, Chemical composition, all elements, including 'Others' specified

compound	3.2 [w%]
B₂O₃	< 0.1
F	< 0.1
Na₂O	13.62
MgO	1.62
Al₂O₃	1.24
SiO₂	71.9
P₂O₅	< 0.01
SO₃	0.20
Cl	0.02
K₂O	< 0.01
CaO	11.2
TiO₂	0.02
Cr₂O₃	< 0.001
MnO	< 0.001
Fe₂O₃	0.009
ZnO	< 0.01
As₂O₃	< 0.01
SrO	< 0.01
ZrO₂	0.001
Sb₂O₃	0.17
BaO	< 0.01
Ce₂O₃	< 0.01
PbO	< 0.01

3 Conclusion

The tested glass product, marked by the client or manufacturer as: Low iron solar textured glass, manufactured by: Borosil Renewables Limited, meets the applicable requirements concerning Chemical composition according to EN 572-1 [1], Thickness according to EN 572-2 [2] and Light transmittance according to EN 572-1 [1] as stated in Table 2 of the European standard EN 572-9 [3].

The test results exclusively relate to the tested objects.

Remark 1

When and if changes are made in production method and/or equipment, assessment according to this standard shall be reconsidered and re-tests shall be performed when the changes can lead to different specifications of the glass. The decision and responsibility lies at the manufacturer.



Remark 2

It was to the manufacturer's responsibility that the samples delivered for initial type test are representative to the production and deviations from perfection were included in the delivered test samples.

4 References

- 1 European standard EN 572-1:2012 (E),
Glass in building – Basic soda lime silicate glass products – Part 1: Definitions and general physical and mechanical properties,
European Committee for Standardization, July 2012.
- 2 European standard EN 572-2:2012 (E),
Glass in building – Basic soda lime silicate glass products – Part 2: Float glass,
European Committee for Standardization, July 2012.
- 3 European standard EN 572-9:2004 (E),
Glass in building – Basic soda lime silicate glass products – Part 9: Evaluation of conformity/Product standard,
European Committee for Standardization, October 2004.

5 Signatures

Author	Authorized by
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(This is the end of this report).