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 Glass 3,2 and 4mm, manufactured by: Gujarat Borosil LTD.

Report number	89208069-01
Date	07 September 2015
Author(s)	R. Brandhorst
Client	Gujarat Borosil LTD. Govali, Ankleshwar Rajpipala Road, Jhagadia Taluka Bharuch Gujarat 393001 INDIA
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TESTING
RvA L 484

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

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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].

1.2 Description of the test specimen

General

Name of the manufacturer	**Gujarat Borosil LTD.**
Address of the manufacturer	Govali, Ankleshwar Rajpipala Road, Jhagadia Taluka, Bharuch Gujarat 393001, INDIA
Production plant of the samples	Govali, Ankleshwar Rajpipala Road, Jhagadia Taluka, Bharuch Gujarat 393001, INDIA
Line ID where the samples are made	Information not supplied
Production date	Information not supllied
Sampling date	Information not supplied
The product was marked as	Low Iron Solar Glass
Dimensions of the samples	Chemical composition: 50 x 50 mm
	Thickness: 300 x 300 mm
	Light transmittance: 50 x 50 mm

Specific

Kind of glass	Low Iron Solar Glass, clear
Nominal thickness	3,2 and 4mm

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 2nd July 2015.

1.4 Application

The request for testing was submitted by the manufacturer on 7th May 2015. Assignment Form number: 14.A098.

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

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.

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1.8 Notifications, accreditations, designations

TÜV Rheinland Nederland B.V. has been notified by the Dutch Ministry of Infrastructure and the Environment 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.

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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			
Element as oxide	Mass percent (%)		
Silicon oxide (SiO_2)	69 to 74	72,8 %	pass
Calcium oxide (CaO)	5 to 14	11,0 %	pass
Sodium oxide (Na_2O)	10 to 16	12,60 %	pass
Magnesium oxide (MgO)	0 to 6	1,34 %	pass
Aluminium oxide (Al_2O_3)	0 to 3	1,48 %	pass
Others	0 to 5	0,78	pass
EN 572-2, Table 1, Thickness			
Nominal Thickness (mm)	**Tolerances (mm)**		
3,2	± 0.2	3,16 mm	pass
4	± 0.2	4,03 mm	pass
EN 572-1, Table 3, Light transmittance			
Nominal Thickness (mm)	**Minimum value of light transmittance of translucent glass**		
3,2	0.83	0.91	pass
4	0.82	0.91	pass

Period of measurement

The measurements took place in the period of August 2015.

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3 Conclusion

The tested glass product, marked by the client or manufacturer as: Low Iron Solar Glass, manufactured by: Gujarat Borosil LTD., 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.

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

compound	[w%]
B_2O_3	< 0.1
F	< 0.1
Na_2O	12.60
MgO	1.34
Al_2O_3	1.48
SiO_2	72.8
P_2O_5	< 0.01
SO_3	0.18
Cl	0.02
K_2O	0.62
CaO	11.0
TiO_2	0.005
Cr_2O_3	< 0.001
MnO	< 0.001
Fe_2O_3	0.008
ZnO	< 0.01
As_2O_3	< 0.01
Rb_2O [1]	
SrO	0.004
ZrO_2	0.003
Nb_2O_5 [1]	
Sb_2O_3	< 0.01
BaO	< 0.01
CeO_2	< 0.01
PbO	< 0.01

[1] Taken from the "Omnian" analysis.

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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.

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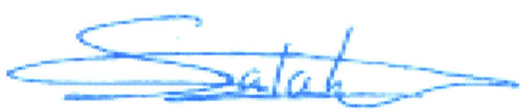
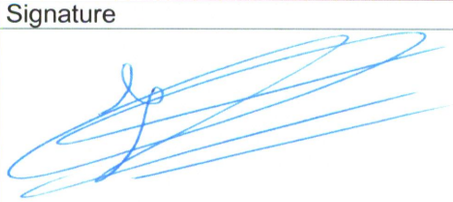
5 Signatures

Author	Signature
Mr. R. Brandhorst Specialist	
Peer review	Signature
Mr. M.A.A.M. Schets, B.Sc Specialist	By absence Mr.S el. Bardai, 
Approved by	Signature
Mr. H. van Ginkel Business field manager	

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