SAFIERA
ENERGY RATING CERTIFICATION

South African Fenestration & Insulation Energy Rating Association

Origin Aluminium 340 Casement Window Range	
ENERGY PERFORMANCE RATINGS	
U-Value ($W/m^2.K$) **3.8***	Solar Heat Gain Coefficient **0.52***
ADDITIONAL PERFORMANCE RATINGS	
Air Infiltration **0.01 ℓ/m^2/s**	Visible Transmittance **0.37***
MECHANICAL PROPERTIES	
Category	**Design Wind load**
A3	**2000 Pa**

The Manufacturer stipulates that these ratings conform to applicable SAFIERA procedures for determining whole product performance. SAFIERA ratings are determined for a fixed set of environmental conditions and a specific product size. SAFIERA does not recommend any product and does not warrant the suitability of any product for any specific use. Consult manufacturer's literature for other product performance information.

NFRC MEMBER
National Fenestration Rating Council ®
Country Representative

Applicant:
Origin Aluminium
P O Box 214, Eppingdust, 7475
P O Box 6062, Walmer, 6065
PO Box 20971, Riverhorse Valley, 4016
PO Box 14602, Wadeville, 1422

*Note! Thermal values differ from configuration to configuration. Values shown are conservative. Contact Messrs Origin for detailed information

Product Information:

Frame material:	Aluminium
Product name:	340 Casement window range
Dimensions:	**Width** from 600mm-2400mm **Height** from 600mm-1800mm
Drawing #:	Origin 340
Glass:	SIGU 4 + 8 + 4
Outer Glass type:	4mm clear IGDB#: 16015
Inner Glass Type:	4mm Energy Advantage Low-E IGDB#: 9922
Air Space:	Dehydrated

Testing Protocol

Thermal Transmittance:	ASTM C 1199-2009 NFRC 102-2010
Mechanical Properties:	SANS 613:2009
Computer Simulation:	NFRC 100:2004, NFRC 200:2004, NFRC 500:2004

Certification Authority:

Thermal Testing Facility:	Mechanical Testing Facility:	Computer Simulator:
Thermal Test Laboratory	R Sauderson PrEng 703219	TBA
Report # RGHB 13-027HB	Report #: B2038	
Date: 4 May 2013	Date: 5 April 2007	

Date of Issue: 11 September 2013

CERTIFICATE #

..... **SAFIERA Administrator**

..... **NFRC Country Representative**

Note: This certificate is not transferable and applies only to the test unit provided for testing by the applicant. Fenestration manufacturers must individually test their workmanship in respect of the mechanical performance of the manufactured product. See reverse of this page.

Postal Address:
P O Box 7861
Halfway House
1685

Tel: (011) 805-5002
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Administered by

AAAMSA Group

THERMAL TESTING

This Certificate applies only to the specimen tested.

1. The U-value indicated in this certificate obtained by actual test conducted at the Thermal Test Laboratory in the Rotatable Guarded Hot Box.
2. For full details and finding of the test reference is to be made to the actual test report issued by the Thermal Test Laboratory and referenced in this Certificate.

MECHANICAL TESTING

1. Sample

The sample together with three (3) sets of full sized details shall be provided by the applicant to the testing authority without charge. After testing, one set of full size details shall be retained by the applicant and one set by AAAMSA in their original form.

2. Test Results in accordance with SANS 613:2009

The Test Results recorded are accepted by the applicant as being applicable and restricted only to the sample and the testing thereof under the standard laboratory testing conditions and procedures of the testing authority, and no other product or unit apart from the sample itself or said testing conditions or procedures are to be implied.

3. Extended Applicability

The Performance Test Certificate applies equally to products of the same nature and function as that tested which products shall be identical in construction and configuration to the test sample, save only that the overall sizes recorded in the section B of the Certificate and the size of any ventilator, or subunit may be reduced.

4. Testing Authority

The testing authority shall not be responsible or liable to the applicant for any loss or damage of whatsoever nature and howsoever arising in any way connected with or consequent upon the test carried out or the report finished which shall be at the risk of the applicant. The applicant hereby indemnifies the testing authority and holds it harmless against any claims as herein contemplated by any third party.

COMPUTER SIMULATION

1. Energy Rating properties in this report are based on NFRC 100-2001 environmental conditions and were generated using current versions of WINDOW 5.2 and THERM 5.2. These environmental conditions are for benchmarking purposes only. Computer Simulation does not imply or claim that the product simulated in this report will perform as stated in actual, variable conditions of use.
2. Rated properties are based on NFRC technical procedures NFRC 100-2004 (U-factor), NFRC 200-2004 (Solar Heat Gain Coefficient) and NFRC 500-2004 (Condensation Resistance). The terms “U-factor” and “U-value” are synonymous.
3. This report is based on input data supplied by the Applicant and all information in the primary table of this report is consistent with NFRC reporting requirements.
4. This report does not constitute complete certification of this product and only relates to the fenestration product simulated.
5. Rounding of values in this report is 1 decimal place for U-factor and 2 decimal places of SHGC, per NFRC unit conversion and rounding policy, modified for the needs of SI units.

General

1. The applicant hereby indemnifies the Association of Architectural Aluminium Manufacturers of South Africa (AAAMSA) and holds it harmless against any claims as herein contemplated by any third party.
2. This test certificate is not transferable to any third party.

NOTE

When deriving a U-value from Hot Box test data, it is necessary to standardize it. By standardization it, the actual heat transfer coefficients prevalent on both the climate and room side of the Hot Box are corrected via a complex process to the nominal values specified in ASTM C1199 and also NFRC 102. This allows test results obtained in various Hot Boxes to be compared at exactly the same test conditions (air temperatures, flow velocities and heat transfer coefficients).
Results reflected for U-values in the SAFIERA Thermal performance test results are therefore counter-intuitive.