warringtonfire
Proud to be part of element

Reaction to fire test report

Issuing laboratory: WFRGENT NV

Test standard: EN ISO 11925-2: 2020

Test sponsor(s): WESTLAKE TAPCO EUROPE LIMITED

Product(s): DaVinci Select Shake

Report number: 23675C

Version: 1

WFRGENT NV , accredited for compliance with ISO/IEC 17025:2017 – Testing

egolf

BELAC 196-TEST

NOTIFICATIE BPV-RPC 1173

Quality management

Version	Summary of amendments including reasons	
1	Description	Initial issue
	Prepared by	Authorised by
Name	Ruben Vercouter	Niek De Pauw
Signature	 Ruben Vercouter (Signature) Project leader Ghent 2024.09.16 15:13:31 +02'00'	 Niek De Pauw (Signature) Senior Project Lead Ghent 2024.09.16 16:20:21 +02'00'
	*Signed for and on behalf of WFRGENT NV	

The authenticity of the electronic signatures is assured by Belgium Root CA.

Table of contents

1. Introduction

This report documents the findings of the reaction to fire test of ‘‘DaVinci Select Shake ’’ in accordance with EN ISO 11925-2: 2020.

WFRGENT NV (Warringtonfire) performed the test on 24 July 2024 at the request of the test sponsor listed in Table 1.

Table 1 Test sponsor details

Entity	Address
Test sponsor	
WESTLAKE TAPCO EUROPE LIMITED	Unit 32 Tokenspire Business Park Beverley - East Yorkshire, Hull Road, Woodmansey HU17 0TB United Kingdom

2. Test specimens

The description of the test specimens is detailed in Table 2. Unless otherwise specified:

- The information including measurements was provided by the test sponsor.
- All measurements taken by Warringtonfire are clearly identified.

Table 2 Test specimen description

	Nominal values (1)	Measured values (2)
DaVinci Select Shake		
Type of product	Roofing tiles made of polyethylene and fillers	
Manufacturer/Supplier	Westlake DaVinci Roofscapes LLC	
Total thickness (mm)	16 (max thickness due to the ribs) to 5 (minimal thickness, no ribs)	15 (max thickness)
Type of shape	Wedge shaped	
Total surface mass (kg/m²)	8,9	8,4
Total density (kg/m³)	1480	(3)
Colour	brown/grey	Brown
Surface texture	Ribbed	Ribbed
Use of fire retardants	Yes ($CaCO_3$)	
Amount of fire retardants (weight %)	58	(3)

(1) Based on the information given by the sponsor
(2) Values verified by the laboratory
(3) Unverifiable by the laboratory
(4) Known by the laboratory

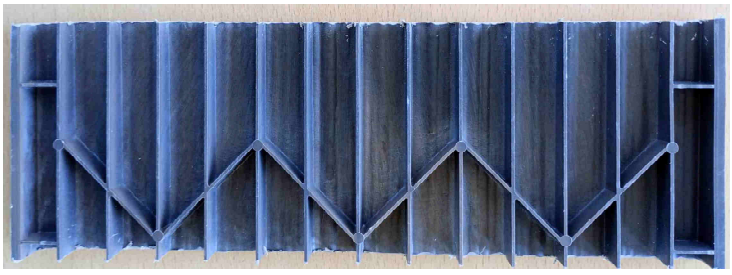

Figure 1: backside of DaVinci Select Shake

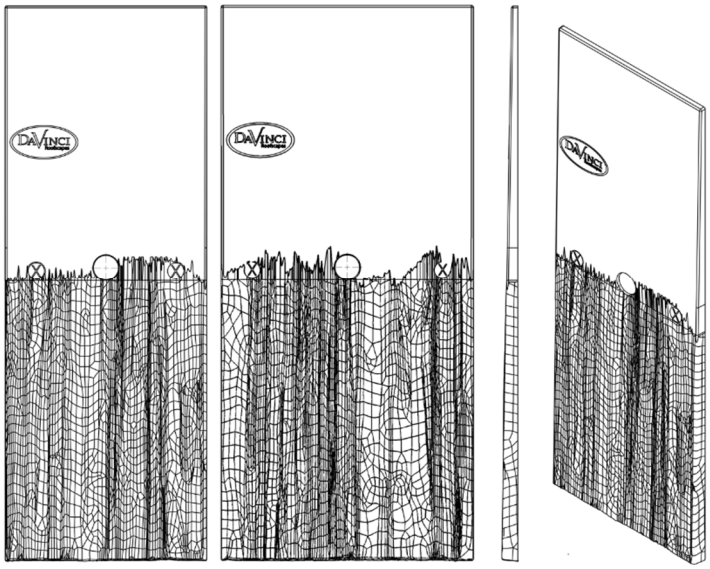

Figure 2:technical drawing of the DaVinci Select Shake

Figure 3: DaVinci Select Shake (left – lengthwise direction; right – crosswise direction)

3. Test procedure

Table 3 details the test procedure for this reaction to fire test.

Table 3 Test procedure

Item	Detail
Test standard	The test was performed in accordance with EN ISO 11925-2: 2020.
Supplementary standard	EN 13501-1: 2018
Deviations from the test standard	None
Product standard and/or EAD	EAD 220006-00-0402
EGOLF agreements and/or recommendations	None
Pre-test conditioning	Test specimens were received on 18/07/2024.
	Before testing, the test specimens were conditioned in accordance with the requirements of EN 13238: 2010 at a temperature of 23 ± 2 °C and a relative humidity of 50 ± 5% for a minimum period of 48 hours, until constant mass was achieved.
Sampling / test specimen selection	The test specimens were supplied by the test sponsor. Warringtonfire was not involved in any selection or sampling procedure.
	Production place: Lenexa Facility, Kansas, USA
	Production line: S8
	Production date: 21/10/2022
	ID within the quality system: WO# 22955561
Substrate	No additional substrate was used.
Test face	The roofing side of the test specimens was exposed to the heating conditions of the test when the test specimens were mounted in the test position.
Number of replicate tests	Six specimens were tested, each of which were subjected to surface exposure to flame with the roofing side exposed. Six specimens were tested, each of which were subjected to edge exposure to flame with the roofing side exposed.
Flame application time	15 s
Test duration	20 s
Intended application	Roofing Slates
Condition of specimen edges	Homogeneous product

4. Test results and observations

4.1 Test results

Table 4 shows a summary of the results for the test specimens. A fully detailed overview of the measurements is given in the laboratory record sheet (see Appendix).

Table 4 Test results

Exposure condition	Did flame front exceed 150mm above the flame application point?	Were flaming droplets/particles produced that ignited the filter paper?
Surface	No	No
Edge	No	No

4.2 Test observations

Observations of any significant behaviour of the specimen during the tests are summarised in Table 5 below.

Table 5 Test observations

Observations during test
Edge exposure to flame
Carbonisation

5. Application of test results

5.1 Validity

This document is the original version of this test report and is written in English. In case of doubt the original version prevails over a translation.

This document is issued subject to Warringtonfire's standard terms and conditions, which are available at: *Terms and Conditions | Element*.

The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use, nor can the results be extrapolated and applied to other products.

Test reports are statements of fact prepared in accordance with the referenced version of the standards stated in Section 3 of this report. Test reports are based upon the information provided to Warringtonfire. Warringtonfire takes no responsibility for the accuracy or completeness of such information.

The results stated in this report apply to the sample as received. Any differences in composition, production process, thickness, density or colour of the product may significantly affect the performance and will therefore invalidate the application of the test results to the variant product. It is recommended that any proposed variation to the tested configuration or product should be referred to the test sponsor. The test sponsor should then obtain appropriate documentary evidence of compliance from Warringtonfire or another notified testing authority. The supplier of the product is responsible for ensuring that the product which is supplied for use is identical to the test sample as received.

This test report may only be reproduced in full. Extracts or abridgements shall not be published without the express written permission of Warringtonfire.

The test report is issued for the benefit of Warringtonfire's direct customer only, and may not be relied upon by any third parties without Warringtonfire's express written consent.

5.2 Uncertainty of measurement

The uncertainty of test results for this test is described in Annex A of the test standard. The evaluation is based on an interlaboratory trial involving 10 laboratories and 12 products. For all times measured, the absolute reproducibility was within 5 s.

For the yes/no answers the degree of uncertainty was generally a function of the product itself, rather than of the method.

Appendix A Test data

A.1 Laboratory record sheet – Surface Application

Centre line of the specimen, 40 mm above the bottom edge (see figure 11 of the standard).

Specimen number	Test date	Ignition	Time from start of test for flame to reach 150 mm	Extent of flame spread	Flaming droplets / particles that ignite filter paper	Test direction
(-)	(-)	(-)	(s)	(mm)	(-)	(-)
Specimen 1	24/07/2024	No	Did not ignite	Did not ignite	Did not ignite	Lengthwise
Specimen 2	24/07/2024	No	Did not ignite	Did not ignite	Did not ignite	Lengthwise
Specimen 3	24/07/2024	No	Did not ignite	Did not ignite	Did not ignite	Lengthwise
Specimen 4	24/07/2024	No	Did not ignite	Did not ignite	Did not ignite	Crosswise
Specimen 5	24/07/2024	No	Did not ignite	Did not ignite	Did not ignite	Crosswise
Specimen 6	24/07/2024	No	Did not ignite	Did not ignite	Did not ignite	Crosswise

A.2 Laboratory record sheet – Edge Application

Centre of the width of the bottom edge of the test specimen 1,5 mm behind the surface (see figure 8b of the standard).

Specimen number	Test date	Ignition	Time from start of test for flame to reach 150 mm	Extent of flame spread	Flaming droplets / particles that ignite filter paper	Test direction
(-)	(-)	(-)	(s)	(mm)	(-)	(-)
Specimen 1	24/07/2024	Yes	Did not reach	30	Filter paper not ignited	Lengthwise
Specimen 2	24/07/2024	Yes	Did not reach	20	Filter paper not ignited	Lengthwise
Specimen 3	24/07/2024	No	Did not ignite	Did not ignite	Did not ignite	Lengthwise
Specimen 4	24/07/2024	Yes	Did not reach	20	Filter paper not ignited	Crosswise
Specimen 5	24/07/2024	Yes	Did not reach	10	Filter paper not ignited	Crosswise
Specimen 6	24/07/2024	Yes	Did not reach	20	Filter paper not ignited	Crosswise

warringtonfire
Proud to be part of element

Registered office:	**WFRGENT NV** Ottergemsesteenweg-Zuid 711, B-9000 Gent, Belgium. Registered Company No. RPR GENT, department Ghent 0870.418.414
Name & address of issuing laboratory:	**WFRGENT NV** Ottergemsesteenweg-Zuid 711, B-9000 Ghent, Belgium
Location of performance of laboratory activities:	**WFRGENT NV** Ottergemsesteenweg-Zuid 711, B-9000 Ghent, Belgium

Reaction to Fire laboratory locations:

Ghent, Belgium
BELAC accredited laboratory 196-TEST
T: +32 9 243 77 50
Notified Body Number 1173

Warrington, United Kingdom
a UKAS accredited testing laboratory No.0249
T: +44 (0) 1925 655 116
Approved Body Number 0833

General conditions of use