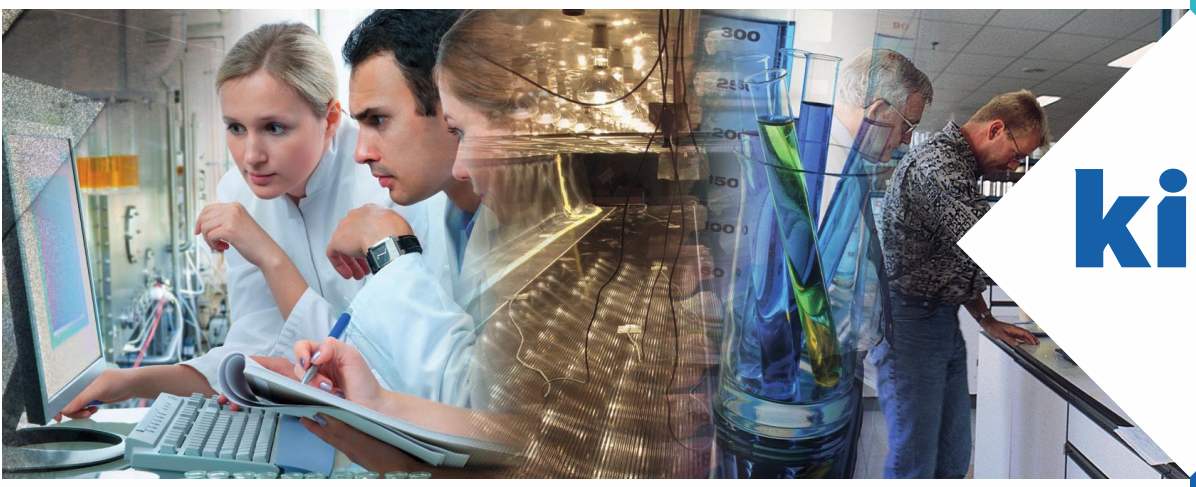
0148-L-19/2
22 July 2019

Test report

Uniflex P Express (Technoelast P FIX) / Technoelast K (Décor, Plamya Stop)



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Kiwa BDA Testing B.V.
Avelingen West 35-37
P.O. Box 389
4200 AJ Gorinchem
The Netherlands

Tel. +31 183 669 690
testing@bda.nl
www.kiwabda.nl

Commercial register Registered by Chamber of Commerce
Midden Nederland 23059445

Details

Principal	TechnoNICOL Ltd Russia, 129110, MOSCOW Gilyarovskogo 47 Building 5, Floor 5, Premises 1, Room 13
Contact person	A. Urtenkov
Email	urtenkov@tn.ru
Reference principal	Contract № 1
Date of order	28 May 2019
Project number	0148-L-19/2
Author	A.R. Hameete
Subject	determination of resistance to hail

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1 Introduction

By order of TecnoNICOL Ltd, Kiwa BDA Testing B.V. has determined the resistance to hail of the two layer bitumen roof waterproofing system **Uniflex P Express (Tecnhoelast P FIX)** with **Technoelast K (Décor, Plamya Stop)**.

On 19 June 2019 the samples, provided by Mr A. Urtenkov of TechnoNICOL Ltd, have been received at Kiwa BDA Testing B.V. for the purpose of testing.

On the samples the data were found that are shown on the photos in annex I.

This product has not been retested. In the original test report some incorrect data appeared to be incorporated. This test report replaces the original test report 0148-L-19/2, dated 12 July 2019, which herewith has been withdrawn.

2 Investigation

The investigation has been performed in coherence with the stipulations mentioned in EN 13707:2013 – Flexible sheets for waterproofing – Reinforced bitumen sheets for roof waterproofing – Definitions and characteristics.

The investigation has been performed in week 26, 2019.

EN 13707:2013 states that when the product is tested for purposes other than initial type testing or factory production control, the tests to determine product characteristics indicated in this standard shall be started within one month of delivery from the manufacturer.
For the sample concerned the moment of delivery from the manufacturer has not been revealed. Nevertheless by request of the principal the investigation has been performed.

3 Test method and results

The investigation into the resistance to hail has been performed according to EN 13583:2012 – Flexible sheets for waterproofing – Bitumen, plastic and rubber sheets for roof waterproofing – Determination of hail resistance.
The testing equipment used for the determination of the resistance to hail has been a BDA Hail Resistance Tester.

The mass per unit area has indicatively been determined at 10037 $g.m^{-2}$ according to the principle of EN 1849-2:2009 – Flexible sheets for waterproofing – Determination of thickness and mass per unit area – Part 2: Plastic and rubber sheets
The test specimens have been taken from the whole width of the sample.
Before testing the test specimens have been conditioned for at least 24 h at 23 °C and 50% relative humidity.

The test has been performed on a hard support and a soft support.
The testing equipment used for testing on occurrence of leakage has been a BDA Watertightness Tester, type J, applying a pressure difference of 15 kPa to the zone of impact with the positive pressure at the side subjected to impact.

Table 1 – Hail resistance

Support	Result at a velocity (v_s) of [$m.s^{-1}$]	
	49	50
Hard [1)]	-	5 × no perforation
Soft [2)]	5 × no perforation	1 × perforation 4 × no perforation

[1)] Hard support: steel plate with sand paper Matador 991C, P120.
[2)] Soft support EPS 100: CS(10) = 104,17 kPa, thickness 20 mm.

Remarks:

The results are only related to the investigated samples, products and/or systems. Kiwa BDA Testing B.V. is not liable for interpretations or conclusions that are made in consequence of the results obtained.

The uncertainty of measurement can be retrieved at Kiwa BDA Testing B.V.

If sampling was not performed by Kiwa BDA Testing B.V., no judgement can be given with regard to the origin and representativeness of the samples.

Gorinchem, 22 July 2019
The laboratory

A.R. Hameete
operational manager

Kiwa BDA Testing B.V.

C.W. van der Meijden MSc
technical director

I Photos of the delivered samples and further package data