0143-L-18/1
25 July 2018

Test report

PIR TechnoNICOL – sample 1
PIR TechnoNICOL – sample 2

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0143-L-18/1
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Test report

PIR TechnoNICOL – sample 1
PIR TechnoNICOL – sample 2

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Details

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Date of order	23 May 2018
Project number	0143-L-18/1
Author	A.R. Hameete
Subject	determination of product characteristics

Contents

1 Introduction

By order of TechnoNICOL Corp., Kiwa BDA Testing B.V. has determined a number of product characteristics of the thermal insulation product **PIR TechnoNICOL – sample 1** and **PIR TechnoNICOL – sample 2**.

On 15 June 2018 two samples, provided by Mr A. Slesarev of TechnoNICOL Corp., have been received at Kiwa BDA Testing B.V. for the purpose of testing.

On the samples the following data were found.

Description sample 143 A

- Product : PIR TechnoNICOL – sample 1 (180 kPa)
- Manufacturer : not revealed
- Production date/code : not revealed

Description sample 143 B

- Product : PIR TechnoNICOL – sample 2 (200 kPa)
- Manufacturer : not revealed
- Production date/code : not revealed

See annex I for photos of the delivered samples and further package data.

2 Investigation

The investigation has been performed in coherence with the stipulations mentioned in:

- EN 13165+A2:2016 – Thermal insulation products for buildings – Factory made rigid polyurethane foam (PU) products – Specification.
- European directive UEAtc M.O.A.T. No. 50:1992 – Technical guidelines for the assessment of thermal insulation systems intended for supporting waterproof coverings on flat and sloping roofs.
- Dutch KOMO directive BRL 1309:2004/Wijzigingsblad:2014 – Thermische isolatie voor platte of hellende daken op een onderconstructie in combinatie met een gesloten dakbedekkingssysteem[1].

The investigation has been performed in the period from week 26 up to and including week 28, 2018.

[1] Thermal insulation for flat or sloping roofs at a substructure in combination with a closed roof waterproofing system.

3 Test methods and results

3.1 Compression behaviour

The compression behaviour (compressive stress at 10% strain) has been determined according to EN 826:2013 – Thermal insulating products for building applications – Determination of compression behaviour.

The investigation has been performed on the product with an original thickness of 50 mm.

The dimensions of the test specimens have been set at 50 mm × 50 mm.
Before testing the test specimens have been conditioned for at least 6 h at 23 °C and 50% relative humidity.

Table 1 – Compressive stress at 10% strain of sample 143 A (PIR TechnoNICOL – sample 1)

Test specimen	Thickness [mm]	Compressive stress [kPa] at 10% strain
1	49,6	161,6
2	49,5	160,6
3	49,5	162,6
4	49,6	163,6
5	49,5	164,9
Mean	**50**	**163**

Table 2 – Compressive stress at 10% strain of sample 143 B (PIR TechnoNICOL – sample 2)

Test specimen	Thickness [mm]	Compressive stress [kPa] at 10% strain
1	48,5	191,6
2	48,6	190,8
3	48,5	195,7
4	48,6	189,2
5	48,6	186,7
Mean	**49**	**191**

3.2 Dimensional stability under specified temperature and humidity conditions

The dimensional stability has been determined according to EN 1604:2013 – Thermal insulating products for building applications – Determination of dimensional stability under specified temperature and humidity conditions.

In a time period of one week the test specimens have been conditioned to dimensional equilibrium with an atmosphere at 23 °C and 50% relative humidity. The dimensions of the test specimens have been set at 200 mm × 200 mm.

By request of the principal the test conditions have been set at 48 hours at 70 °C and 90% relative humidity.

The investigation has been performed on the product with a thickness of 50 mm.

Table 3 – Dimensional stability after 48 h at 70 °C and 90% r.h. of sample 143 A (PIR TechnoNICOL – sample 1)

Test specimen	Dimensional change		
	length [% (*L*/*L*)]	width [% (*L*/*L*)]	thickness [% (*L*/*L*)]
1	0,35	0,16	2,31
2	0,45	0,12	2,15
3	0,45	0,35	2,39
Mean	**0,4**	**0,2**	**2,3**

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, 25 July 2018

The laboratory

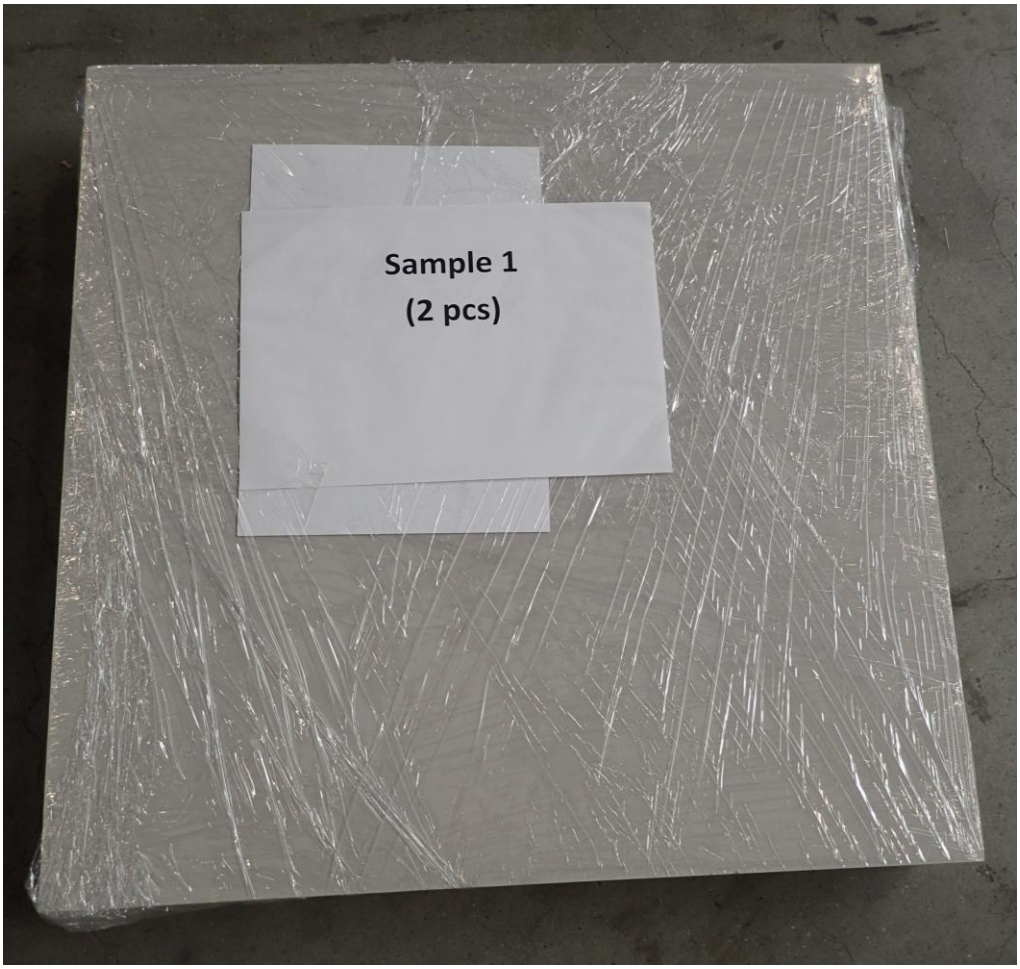
A.R. Hameete
operational manager

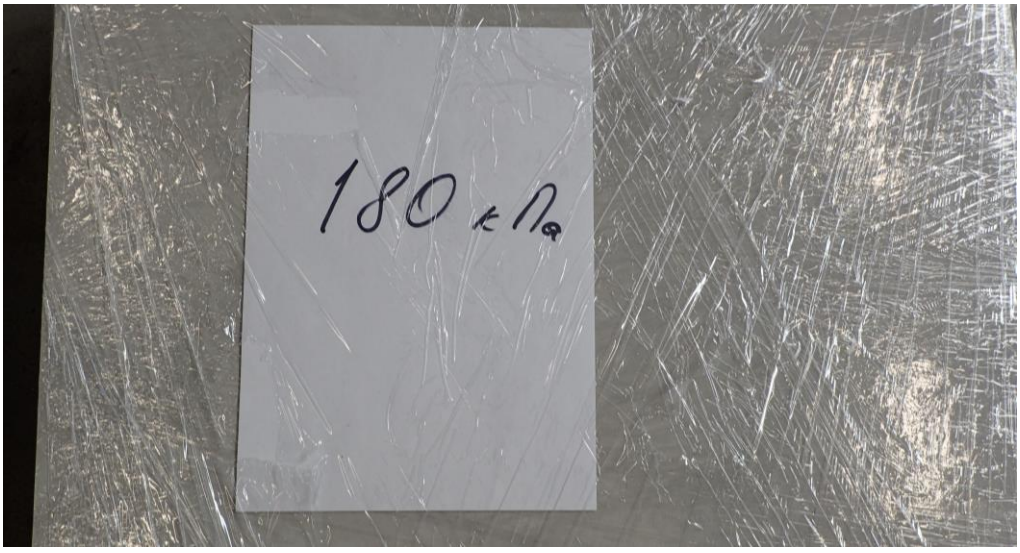
Kiwa BDA Testing B.V.

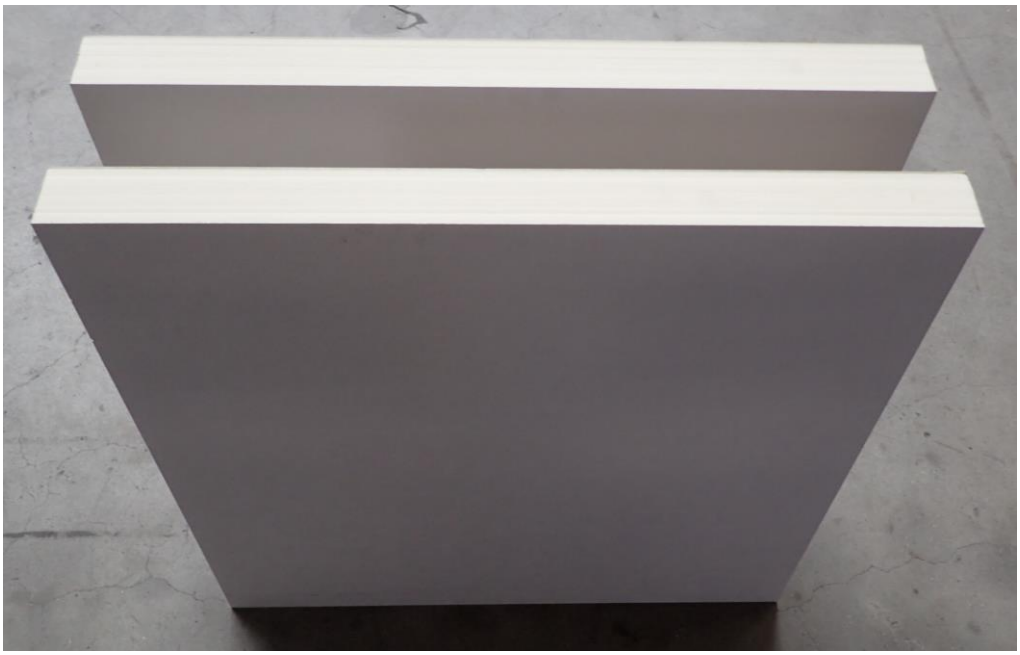
C.W. van der Meijden MSc
technical director

I Photos of the delivered samples and package data

Sample 143 A (PIR TechnoNICOL – sample 1)







Sample 143 B (PIR TechnoNICOL – sample 2)