



Date : 03/05/2018

## CERTIFICATE OF COMPLIANCE

This certificate of compliance validates the following			
<b>TEST REPORT NUMBER</b> 'Assessment Reports' are not acceptable	18564A 18565A	<b>CERTIFICATE NUMBER</b>	CF5602
<b>DATE OF ISSUE</b>	See below	<b>DATE OF ISSUE</b>	30 <sup>th</sup> January 2018
<b>DATE OF EXPIRY</b>	N/A	<b>DATE OF EXPIRY</b>	29 <sup>th</sup> January 2023
Manufacturer details			
<b>NAME OF FACTORY / MANUFACTURER</b>	Den Braven Benelux BV Denariusstraat 11 4903 RC OOSTERHOUT Netherlands	<b>NAME OF THE BRAND</b>	Zwaluw <sup>®</sup>
<b>FACTORY ADDRESS / REGION</b> (STREET / TOWN / CITY / COUNTRY )	Industriestrasse 1-7, 01936 Schwepnitz, Germany	<b>MODEL / NO</b>	FP PU Foam
<b>WEBSITE</b>	www.denbraven.com	<b>LOGO ON THE PRODUCT</b>	Zwaluw <sup>®</sup> FP PU Foam
<b>TEL</b>	+ 31(0) 162491000	<b>EMAIL</b>	Ruud.Schrama@denbraven.nl



## Product Details From Test Report

Reference  
Test Report  
page NO

### DESCRIPTION OF THE PRODUCT

(TECHNICAL DETAILS FROM TEST REPORT, SUCH AS ACTUAL FIRE RATINGS/DIMENSIONS/THICKNESS/ SENSITIVITY ETC)

**18564A**

A PU Foam for fire protection where there are substrates about walls and floors.

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### TEST STANDARD

(SUCH AS ASTM/BS EN/ DN ETC)

EN 1366-4:2006

1

### TEST DESCRIPTION

EN 1366-4:2006-Fire resistance tests for service installations  
Part 4 Linear Joint seals

2

### SPECIFICATION OF TEST SPECIMEN

#### 1.3.1.4 Overview of the joint seals

Position	Supporting construction		Joint seal				Movement		
	Types*	Orientation	Type	Width [mm]	Thickness [mm]	Type	Δ [%]	Δ [mm]	
A	RW/RW	Vertical	Zwaluw * FP Silicone Sealant [4]	10	10	-	-	-	
B	RW/RW	Vertical	Zwaluw * FP Silicone Sealant [4]	20	13	-	-	-	
C	RW/RW	Vertical	Zwaluw * FP Silicone Sealant [4]	30	16	-	-	-	
D	RW/RW	Vertical	Zwaluw * FP Silicone Sealant [4]	40	20	-	-	-	
E	RW/RW	Vertical	Zwaluw * FP PU Foam [5]	10	100	-	-	-	
F	RW/RW	Vertical	Zwaluw * FP PU Foam [5]	20	100	-	-	-	
G	RW/RW	Vertical	Zwaluw * FP PU Foam [5]	30	100	-	-	-	
H	RW/RW	Vertical	Zwaluw * FP Acrylic Sealant [2]	10	10	-	-	-	
I	RW/RW	Vertical	Zwaluw * FP Acrylic Sealant [2]	20	13	-	-	-	
J	RW/RW	Vertical	Zwaluw * FP Acrylic Sealant [2]	30	16	-	-	-	
K	RW/RW	Horizontal	Zwaluw * FP Acrylic Sealant [2]	30	16	Shear	5	1.5	
L	RW/RW	Horizontal	Zwaluw * FP Hybrid Sealant [3]	20	13	Shear	25	5	
M	RW/RW	Horizontal	Zwaluw * FP Acrylic Sealant [2]	10	10	Shear	5	0.5	
N	RW/RW	Horizontal	Zwaluw * FP Hybrid Sealant [3]	10	10	Shear	25	2.5	

\* RW = Standard rigid wall construction.

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### TEST RESULT

(SUCH AS PASSED CRITERIA \_\_\_/  
COMPLIED TO \_\_\_/  
DURATION \_\_\_/OBSERVATION \_\_\_/ETC)

OBSERVATIONS		EXCEEDS (MINUTES)		
Position	Thermal insulation - I*	Integrity - E*		
	ΔT <sub>180</sub> = 180°C	Ignition of cotton pad	Spontaneous and sustained flaming	Failure with gap gauge
A	220	241 <sup>(1)</sup>	241 <sup>(1)</sup>	241 <sup>(1)</sup>
B	150	241 <sup>(1)</sup>	241 <sup>(1)</sup>	241 <sup>(1)</sup>
C	182	241 <sup>(1)</sup>	241 <sup>(1)</sup>	241 <sup>(1)</sup>
D	132	241 <sup>(1)</sup>	241 <sup>(1)</sup>	241 <sup>(1)</sup>
E	75 <sup>(2)</sup>	75 <sup>(2)</sup>	75 <sup>(2)</sup>	75
F	51 <sup>(2)</sup>	51 <sup>(2)</sup>	51 <sup>(2)</sup>	51
G	46 <sup>(2)</sup>	46 <sup>(2)</sup>	46 <sup>(2)</sup>	46
H	215	241 <sup>(1)</sup>	241 <sup>(1)</sup>	241 <sup>(1)</sup>
I	154	241 <sup>(1)</sup>	241 <sup>(1)</sup>	241 <sup>(1)</sup>
J	159	241 <sup>(1)</sup>	241 <sup>(1)</sup>	241 <sup>(1)</sup>
K	207	241 <sup>(1)</sup>	241 <sup>(1)</sup>	241 <sup>(1)</sup>
L	192	241 <sup>(1)</sup>	241 <sup>(1)</sup>	241 <sup>(1)</sup>
M	220	241 <sup>(1)</sup>	241 <sup>(1)</sup>	241 <sup>(1)</sup>
N	241 <sup>(1)</sup>	241 <sup>(1)</sup>	241 <sup>(1)</sup>	241 <sup>(1)</sup>

\* Classification according to EN 13501-2.

(1) The test was stopped after 241 minutes at the sponsor's request.

(2) Not failed until the moment of failure with gap gauge.

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<p><b>PRODUCT APPLICATION GUIDELINE (END USE)</b> (CLEARLY STATE THE END USE WITH SPECIFIC APPLICATION, SUCH AS EXACT FIRE RATING/TO BE INSTALLED IN___/TO BE INSTALLED AT___/TO BE CONNECTED WITH___/TO BE INSTALLED WITH___ ETC ALONG WITH ANY WARNINGS SUCH AS NOT TO BE USED IN___/NOT TO BE INSTALLED AT___/ NOT TO BE INSTALLED WITH___ETC.</p>	<p>The walls shall be at least 100mm thick and have at least the same fire rating as that required for the linear joint seal.</p> <p>Block/masonry and concrete gap faces will be within the density min of 550 kg/m<sup>3</sup>, and gap faces will be free from loose or flaking material.</p> <p>Timber substrates min thickness 100mm, min density 460kg/m<sup>3</sup></p>	
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## Product Details From Test Report

Reference  
Test Report  
page NO

**DESCRIPTION OF THE PRODUCT**  
(TECHNICAL DETAILS FROM TEST REPORT, SUCH AS ACTUAL FIRE RATINGS/DIMENSIONS/THICKNESS/ SENSITIVITY ETC)

**18565A**  
A PU Foam for fire protection where there are substrates about walls and floors.

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**TEST STANDARD**  
(SUCH AS ASTM/BS EN/ DN ETC)

EN 1366-4:2006

1

**TEST DESCRIPTION**

EN 1366-4:2006-Fire resistance tests for service installations

2

**SPECIFICATION OF TEST SPECIMEN**

### 1.3.1.4 Overview of the joint seals

Position	Supporting construction		Orientation	Joint seal			Movement		
	Types*			Type	Width [mm]	Thickness [mm]	Type	Δ [%]	Δ [mm]
1	RW/RW		Vertical	Zwaluw® FP Hybrid Sealant [3]	10	10			-
2	RW/RW		Vertical	Zwaluw® FP Hybrid Sealant [3]	20	13			-
3	RW/RW		Vertical	Zwaluw® FP Hybrid Sealant [3]	30	16			-
4	RW/RW		Vertical	Zwaluw® FP Hybrid Sealant [3]	40	20			-
5	RW/TSC		Vertical	Zwaluw® FP Hybrid Sealant [3]	5	10			-
6	RW/TSC		Vertical	Zwaluw® FP Hybrid Sealant [3]	20	13			-
7	RW/TSC		Vertical	Zwaluw® FP PU Foam [4]	8	100			-
8	RW/TSC		Vertical	Zwaluw® FP PU Foam [4]	20	100			-
9	RW/PW		Vertical	Zwaluw® FP Acrylic Sealant [2]	10	10			-
10	RW/PW		Vertical	Zwaluw® FP Acrylic Sealant [2]	10	10			-
11	RW/RW		Horizontal	Zwaluw® FP Hybrid Sealant [3]	40	20	Shear	25	10
12	RW/PW		Horizontal	Zwaluw® FP Acrylic Sealant [2]	10	10			-
13	RW/TSC		Horizontal	Zwaluw® FP PU Foam [4]	20	100			-
14	RW/TSC		Horizontal	Zwaluw® FP Hybrid Sealant [3]	20	13			-
15	RW/TSC		Horizontal	Zwaluw® FP PU Foam [4]	8	100			-
16	RW/TSC		Horizontal	Zwaluw® FP Hybrid Sealant [3]	5	10			-

RW = Standard rigid wall construction (thickness: 100 mm; density: 550 kg/m³)  
TDC = Timber standard construction (thickness: 100 mm; density: 450 kg/m³)  
PW = Standard flexible wall construction (thickness: 100 mm; according to EN 15662-4:2012 § 4.2.4 Separating elements – Flexible constructions)

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### TEST RESULT

(SUCH AS PASSED CRITERIA \_\_\_/  
COMPLIED TO \_\_\_/  
DURATION \_\_\_/OBSERVATION \_\_\_/ETC)

OBSERVATIONS		EXCEEDS (MINUTES)		
Position	Thermal insulation - I*	Integrity - E*		
	$\Delta T_u = 180^\circ\text{C}$	Ignition of cotton pad	Spontaneous and sustained flaming	Failure with gap gauge
1	242 <sup>(1)</sup>	242 <sup>(1)</sup>	242 <sup>(1)</sup>	242 <sup>(1)</sup>
2	178	242 <sup>(1)</sup>	242 <sup>(1)</sup>	242 <sup>(1)</sup>
3	200	242 <sup>(1)</sup>	242 <sup>(1)</sup>	242 <sup>(1)</sup>
4	208	242 <sup>(1)</sup>	242 <sup>(1)</sup>	242 <sup>(1)</sup>
5	154 <sup>(2)</sup>	154 <sup>(2)</sup>	154	154 <sup>(2)</sup>
6	125	138 <sup>(2)</sup>	138	138 <sup>(2)</sup>
7	150 <sup>(2)</sup>	150 <sup>(2)</sup>	150	150 <sup>(2)</sup>
8	121	123 <sup>(2)</sup>	123	123 <sup>(2)</sup>
9	157	198 <sup>(2)</sup>	198	198 <sup>(2)</sup>
10	151	198 <sup>(2)</sup>	198	198 <sup>(2)</sup>
11	238	242 <sup>(1)</sup>	242 <sup>(1)</sup>	242 <sup>(1)</sup>
12	153	191 <sup>(2)</sup>	191	191 <sup>(2)</sup>
13	92	94 <sup>(2)</sup>	94	94 <sup>(2)</sup>
14	134	242 <sup>(1)</sup>	242 <sup>(1)</sup>	242 <sup>(1)</sup>
15	112 <sup>(2)</sup>	112 <sup>(2)</sup>	112	112 <sup>(2)</sup>
16	148 <sup>(2)</sup>	148 <sup>(2)</sup>	148	148 <sup>(2)</sup>

\* Classification according to EN 13601-2.

- (1) The test was stopped after 242 minutes at the sponsor's request.  
(2) Not failed until the moment of spontaneous and sustained flaming.

14

### PRODUCT APPLICATION GUIDELINE (END USE)

(CLEARLY STATE THE END USE WITH  
SPECIFIC APPLICATION, SUCH AS EXACT  
FIRE RATING/TO BE INSTALLED IN \_\_\_/TO  
BE INSTALLED AT \_\_\_/TO BE CONNECTED  
WITH \_\_\_/TO BE INSTALLED WITH \_\_\_ ETC  
ALONG WITH ANY WARNINGS SUCH AS  
NOT TO BE USED IN \_\_\_/NOT TO BE  
INSTALLED AT \_\_\_/ NOT TO BE INSTALLED  
WITH \_\_\_ ETC.

The walls shall be at least 100mm thick and have at least the same fire rating as that required for the linear joint seal.

Block/masonry and concrete gap faces will be within the density min of 550 kg/m<sup>3</sup>, and gap faces will be free from loose or flaking material.

Timber substrates min thickness 100mm, min density 460kg/m<sup>3</sup>



Laboratory and Certification body details			
<b>NAME OF CERTIFICATION BODY</b>	Exova (UK) Limited trading as Warrington Certification	<b>NAME OF TEST FACILITY</b>	WFRGENT N.V. (WARRINGTON FIRE GENT)
<b>CERTIFICATION BODY ADDRESS / REGION</b> <small>(STREET / TOWN / CITY / COUNTRY)</small>	Holmesfield Road Warrington WA1 2DS United Kingdom	<b>TEST FACILITY ADDRESS / REGION</b> <small>(STREET / TOWN / CITY / COUNTRY)</small>	Ottergemsesteenweg-Zuid 711 9000 GENT Belgium
<b>WEBSITE</b>	www.warringtoncertification.com	<b>WEBSITE</b>	www.wfrgent.com
<b>TEL</b>	+44 (0) 1925 655116	<b>TEL</b>	+32:9:243 77 50
<b>EMAIL</b>	<a href="mailto:info@exova.com">info@exova.com</a>	<b>EMAIL</b>	info@wfrgent.com
<b>ACCREDITED BY</b> <small>(NAME OF ACCREDITATION BODY WHICH ISSUED ACCREDITATION TO THE CERTIFICATION BODY, ALONG WITH WEBSITE)</small>	UKAS (United Kingdom Accreditation Services)	<b>ACCREDITED BY</b> <small>(NAME OF ACCREDITATION BODY WHICH ISSUED ACCREDITATION TO THE LABORATORY, ALONG WITH WEBSITE)</small>	BELAC - Belgian Accreditation Body
<b>AS PER</b> <small>(STANDARD TO WHICH THE CERTIFICATION BODY IS ACCREDITED TO)</small>	BS EN ISO/IEC 17065:2012	<b>AS PER</b> <small>(STANDARD TO WHICH YOUR ORGANIZATION IS ACCREDITED TO)</small>	ISO/IEC 17025:2005
<b>VALIDITY</b> <small>(EXPIRY DATE OF CERTIFICATION BODY ACCREDITATION)</small>	Initial Accreditation Granted: 01 <sup>st</sup> August 1999 Current Certificate Issued: 28 <sup>th</sup> June 2016	<b>VALIDITY</b> <small>(EXPIRY DATE OF LABORATORY ACCREDITATION)</small>	Current Certification Issued: 21 <sup>st</sup> Jan 2013
<b>REFERENCE NUMBER:</b> <small>(CERTIFICATION BODY ACCREDITATION REFERENCE NUMBER TO VERIFY ON THE ACCREDITOR'S WEBSITE)</small>	UKAS Certification Body No.0087 Notified Certification Body No. 1121	<b>REFERENCE NUMBER:</b> <small>(THE LABORATORY ACCREDITATION REFERENCE NUMBER TO VERIFY ON THE ACCREDITOR'S WEBSITE)</small>	Notified Body No. 1173
<b>CERTIFICATION MARK</b>			