



Date : 03/05/2018

CERTIFICATE OF COMPLIANCE

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

5

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.

6

TEST RESULT
(SUCH AS PASSED CRITERIA___/
COMPLIED TO___/
DURATION___/OBSERVATION___/ETC)

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

* 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.

14



<p>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.</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/m³, and gap faces will be free from loose or flaking material.</p> <p>Timber substrates min thickness 100mm, min density 460kg/m³</p>	
---	--	--



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.

5

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/FW		Vertical	Zwaluw® FP Acrylic Sealant [2]	10	10			-
10	RW/FW		Vertical	Zwaluw® FP Acrylic Sealant [2]	10	10			-
11	RW/RW		Horizontal	Zwaluw® FP Hybrid Sealant [3]	40	20	Shear	25	10
12	RW/FW		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)
FW = Standard flexible wall construction (thickness: 100 mm; according to EN 15662-4:2012 § 4.2.4 Separating elements – Flexible constructions)

6



TEST RESULT

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

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

* 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/m³, and gap faces will be free from loose or flaking material.

Timber substrates min thickness 100mm, min density 460kg/m³



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



(ENDORSEMENT) TO BE SIGNED BY MANUFACTURER			
NAME OF MANUFACTURER'S SIGNATORY	Mr. Ruud Schrama	SIGNATURE	
EMAIL / TEL	Ruud.Schrama@denbraven.nl 31(0) 162491000	FACTORY OFFICIAL SEAL	
NOTES: I Undertake that all data and information provided are genuine and accurate			

Den Braven Benelux B.V.
P.O. Box 194 | 4900 AD
Denariusstraat 11 | 4903 RC
Breda | The Netherlands
T +31 (0)162 - 491 000 | F +31 (0)162 - 451 217
info@denbraven.nl | www.denbraven.com

(ENDORSEMENT) TO BE SIGNED BY CERTIFICATION BODY			
NAME OF CERTIFICATION BODY SIGNATORY	Paul Duggan – Certification Manager	SIGNATURE	
EMAIL / TEL	ewcl@exova.com / +44 (0) 1925 655116	CERTIFICATION BODY OFFICIAL SEAL	
NOTES: I Undertake that all data and information provided are genuine and accurate			

ATTACHMENTS:

- COPY OF 'CERTIFICATE OF COMPLIANCE' ISSUED BY CERTIFICATION BODY (OLD OR NEW)

CERTIFICATE OF APPROVAL
No CF 5602

This is to certify that, in accordance with
TS00 General Requirements for Certification of Fire Protection Products
The undermentioned products of

DEN BRAVEN BENELUX B.V.

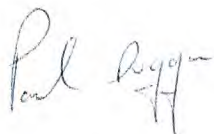
Denariusstraat 11, 4903 RC Oosterhout (NB), Netherlands
Tel: +31 (0) 162 49100

Have been assessed against the requirements of the Technical Schedule(s)
denoted below and are approved for use subject to the conditions
appended hereto:

CERTIFIED PRODUCT
Zwaluw[®] FP PU Foam

TECHNICAL SCHEDULE
TS40 Fire Resisting Linear
Joint Seal Systems

Signed and sealed for and on behalf of Exova (UK) Limited trading as
Warrington Certification



Paul Duggan
Certification Manager



Issued: 30th January 2018
Next audit test due: 30/01/2021
Frequency: Every 3 years
Valid to: 29th January 2023

Page 1 of 3



CERTIFICATE No CF 5602

DEN BRAVEN BENELUX B.V.

Zwaluw[®] FP PU Foam

1. This approval relates to the use of Zwaluw[®] FP PU Foam linear joint sealing systems for the fire protection of movement joints within walls. The detailed scope is given in the Approval Matrix included in this Certificate. This shows the thickness, width and reference for Zwaluw[®] FP PU Foam linear joint sealing systems required to provide fire resistance periods in accordance with BS EN 1366-4: 2006 of up to 120 minutes for wall constructions.
2. This Certification is designed to demonstrate compliance of the product or the system specifically with TS40, if compliance is required to other regulatory or guidance documents there may be additional considerations or conflicts to be taken into account.
3. The product is approved on the basis of:
 - i) Initial type testing
 - ii) Audit testing at the frequency specified in TS40
 - iii) A design appraisal against TS40
 - iv) Inspection and surveillance of factory production control
4. The walls shall be at least 100mm thick and have at least the same fire rating as that required for the linear joint seal.
5. Block/masonry and concrete gap faces will be within the density min of 550 kg/m³, and gap faces will be free from loose or flaking material.
6. Timber substrates min thickness 100mm, min density 460kg/m³
7. The approval relates to ongoing production. Product and/or its immediate packaging is identified with the manufacturers' name, the product name or number, the CERTIFIRE name or name and mark, together with the CERTIFIRE certificate number and application where appropriate.

Further information regarding the details contained in this data sheet may be obtained Den Braven Benelux B.V (Tel: +31 (0) 162 491000).

Further information regarding CERTIFIRE certification and other approved products can be obtained from CERTIFIRE (Tel: 01925 646777, website: www.warringtoncertification.com)

**CERTIFICATE No CF 5602
DEN BRAVEN BENELUX B.V.**

Zwaluw® FP PU Foam - Approval Matrix

Wall Installations 100 mm thick (min.)						
Product Name			Zwaluw® FP PU Foam - wall joints			
Orientation	Joint Width mm	Min Depth mm	Backing Material	Gap Face Material	Integrity (mins)	Insulation (mins)
Vertical	0-10	100	N/A	AAC/AAC	60	60
	0-20				45	45
	0-30				45	45
	0-8			TS/AAC	120	120
	0-20				120	120
Horizontal	0-8				90	90
	0-20				90	90
Application Technique		Zwaluw® FP PU Foam applied to the full depth of the substrate min 100mm				
Resistance to Smoke:		Not evaluated by this approval		Weather Capability:	Not evaluated by this approval	
Acoustic Rating:		Not evaluated by this approval		Movement Capability:	Not evaluated by this approval	

AAC- Autoclaved aerated concrete
TS - Timber Substrate

