

EUROPEAN TECHNICAL ASSESSMENT

ETA 17/0296

Version 01

Date of issue: 2017-05-18

UBAtc Assessment Operator:
Belgian Construction Certification Association
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Technical Assessment Body issuing the European Technical Assessment: UBAtc.
UBAtc has been designated according to Article 29 of Regulation (EU) No 305/2011
and is member of EOTA (European Organisation for Technical Assessment)

**Trade name of the
construction product:****POLYAC® BDM SYSTEM 5****Product family to which the
construction product belongs:**

Liquid Applied Roof Waterproofing Kits

Manufacturer:

Resiplast N.V.

Manufacturing plant(s):Gulkenrodestraat, 3
B - 2160 Wommelgem
Belgium**Website:**www.resiplast.be**This European Technical
Assessment is issued in
accordance with Regulation
(EU) No 305/2011, on the basis
of:**European Technical Approval Guidelines (ETAG): 005, used as
European Assessment Document (EAD)**This European Technical
Assessment contains:**7 pages, including 1 annex, which forms an integral part of
the document.**European Organisation
for Technical Assessment**

Legal bases and general conditions

- 1 This European Technical Assessment is issued by UBAtc (Union belge pour l'Agrément technique de la construction, i.e. Belgian Union for technical Approval in construction), in accordance with:
 - Regulation (EU) No 305/2011¹ of the European Parliament and of the Council of 9 March 2011 laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC, as amended
 - Commission Implementing Regulation (EU) No 1062/2013² of 30 October 2013 on the format of the European Technical Assessment for construction products
 - European Technical Approval Guidelines (ETAG): 005, parts 1 and 4
- 2 Under the provisions of Regulation (EU) No 305/2011, UBAtc is not authorized to check whether the provisions of this European Technical Assessment are met once the ETA has been issued.
- 3 The responsibility for the conformity of the performances of the products with this European Technical Assessment and the suitability of the products for the intended use remains with the holder of the European Technical Assessment.
- 4 Depending on the applicable Assessment and verification of constancy of performance (AVCP) system, (a) notified body(ies) may carry out third-party tasks in the process of assessment and verification of constancy of performance under this Regulation once the European Technical Assessment has been issued.
- 5 This European Technical Assessment allows the manufacturer of the construction product covered by this ETA to draw up a declaration of performance for the construction product.
- 6 CE marking should be affixed to all construction products for which the manufacturer has drawn up a declaration of performance.
- 7 This European Technical Assessment is not to be transferred to other manufacturers, agents of manufacturers, or manufacturing plants other than those indicated on page 1 of this European Technical Assessment.
- 8 The European Technical Assessment holder confirms to guarantee that the product(-s) to which this assessment relates, is/are produced and marketed in accordance with and comply with all applicable legal and regulatory provisions, including, without limitation, national and European legislation on the safety of products and services. The ETA-holder shall notify the UBAtc immediately in writing of any circumstance affecting the aforementioned guarantee. This assessment is issued under the condition that the aforementioned guarantee by the ETA-holder will be continuously observed.
- 9 According to Article 11(6) of Regulation (EU) No 305/2011, when making a construction product available on the market, the manufacturer shall ensure that the product is accompanied by instructions and safety information in a language determined by the Member State concerned which can be easily understood by users. These instructions and safety information should fully correspond with the technical information about the product and its intended use which the manufacturer has submitted to the responsible Technical Assessment Body for the issuing of the European Technical Assessment.
- 10 Pursuant to Article 11(3) of Regulation (EU) No 305/2011, manufacturers shall adequately take into account changes in the product-type and in the applicable harmonised technical specifications. Therefore, when the contents of the issued European Technical Assessment do not any longer correspond to the product-type, the manufacturer should refrain from using this European Technical Assessment as the basis for their declaration of performance.
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- 13 Subject to the application introduced, this European Technical Assessment is issued in English and may be issued by the UBAtc in its official languages. The translations correspond fully to the English reference version circulated in EOTA.
- 14 This European Technical Assessment was issued for the 1st time on 18 May 2017.

¹ OJEU, L 88 of 2011/04/04

² OJEU, L 289 of 2013/10/31

Technical Provisions

1 Technical description of the product

1.1 General

This ETA is being issued for the products specified on the cover page on the basis of agreed data/information, deposited with the UBAtc, which identifies the products that have been assessed and judged. Changes to the product/production process, which could result in the deposited data/information being incorrect, should be notified to the UBAtc before the changes are introduced. The UBAtc will decide whether or not such changes affect the ETA and consequently the validity of the CE marking on the basis of the ETA and if so whether further assessment/alterations to the ETA, shall be necessary.

1.2 Characteristics and components of the Liquid Applied Roof Waterproofing Kits

The Liquid Applied Roof Waterproofing system POLYAC® BDM SYSTEM 5 is a kit.

The kit consists of a first layer of POLYAC® BDM-M+ on which POLYAC® REINFORCEMENT FLEECE reinforcement is embedded, and a second layer of POLYAC® BDM-M.

Specific substrates require a POLYAC® 14 primer to promote adhesion of the waterproofing layer.

As assembled, these components form a homogeneous waterproofing system.

The waterproofing layer shall be covered by a finishing layer that consist of a spreading of Quartz 0,2/0,8 and the application of POLYAC® 65 or POLYAC® 64 AF.

Table 1. POLYAC® BDM SYSTEM 5 – thickness of layers

Layer of the system (from bottom to top)	Product	Thickness [mm]	Coverage [kg/m ²]
Primer	POLYAC® 14	~ 0,3	~0,25
1 st layer	POLYAC® BDM-M+	1,0 – 2,0	1,2 – 1,8
Reinforcement	POLYAC® REINFORCEMENT FLEECE	-	-
2 nd layer	POLYAC® BDM-M	1,0 – 2,0	1,2 – 1,8
Sand	Quartz 0,2/0,8	2,0 – 3,0	4,0 – 6,0
Finishing layer	POLYAC® 65 or POLYAC® 64 AF	0,6 – 1,0	0,6 – 1,0

1.2.1 Waterproofing layers

1.2.1.1 POLYAC® BDM-M+ layer

POLYAC® BDM-M+ is a three-components polymethyl-methacrylate (PMMA) that forms an elastic film after polymerisation.

POLYAC® BDM-M+ layer consists of a mixture of 0,6 kg of POLYAC® BDM-M+ (part C) for each 25,0 kg parts of POLYAC® BDM-M+ (part A). The mixture can be kept during 8 hours. According to the temperature, 1 % to 4% of POLYAC® CATALYST (see Table 9) shall be added to the mixture. The mixture shall be applied within the 15 minutes.

Table 2. POLYAC® BDM-M+ layer - components

Test	Standard	Result
1st component – POLYAC® BDM-M+ (part A)		
Specific gravity [kg/m ³]	EN ISO 1675	995
Viscosity [Pa.s] (Spindle RV4, 100 rpm)	EN ISO 2555	0,233
Ash content (950°C) [%]	EN ISO 3451-1 (A)	0
2nd component – POLYAC® CATALYST		
3rd component – POLYAC® BDM-M (part C)		
Specific gravity [kg/m ³]	EN ISO 1675	1,128
Viscosity [Pa.s]	EN ISO 2555	0,392
Ash content (950°C) [%]	EN ISO 3451-1 (A)	0

1.2.1.2 POLYAC® BDM-M layer

POLYAC® BDM-M is a three-components polymethyl-methacrylate (PMMA) that forms an elastic film after polymerisation.

POLYAC® BDM-M layer consists of a mixture of 0,6 kg of POLYAC® BDM-M (part C) for each 25,0 kg parts of POLYAC® BDM-M (part A). The mixture can be kept during 8 hours. According to the temperature, 1 % to 4% of POLYAC® CATALYST (see Table 9) shall be added to the mixture. The mixture shall be applied within the 15 minutes.

Table 3. POLYAC® BDM-M layer - components

Test	Standard	Result
1st component – POLYAC® BDM-M (part A)		
Specific gravity [kg/m ³]	EN ISO 1675	1,213
Viscosity [Pa.s] (Spindle RV4, 100 rpm)	EN SO 2555	1,448
Ash content (950°C) [%]	EN ISO 3451-1 (A)	26,8
2nd component – POLYAC® CATALYST		
3rd component – POLYAC® BDM-M (part C)		
Specific gravity [kg/m ³]	EN ISO 1675	1,128
Viscosity [Pa.s]	EN ISO 2555	0,392
Ash content (950°C) [%]	EN ISO 3451-1 (A)	0

1.2.2 POLYAC® REINFORCEMENT FLEECE reinforcement

POLYAC® REINFORCEMENT FLEECE reinforcement is a non-woven polyester and polypropylene fleece.

Table 4. POLYAC® REINFORCEMENT FLEECE reinforcement

Test	Standard	Value
Mass per unit area [g/m ²]	EN 29073-1	~100
Tensile strength [N/50 mm]	EN 29073-3	
Machine direction		> 130
Cross direction		> 150
Elongation at break [%]	EN 29073-3	
Machine direction		> 50
Cross direction		> 70

1.2.3 POLYAC® 14 primer

The POLYAC® 14 primer is two-components polymethyl-methacrylate (PMMA).

According to the temperature, 1 % to 4% of POLYAC® CATALYST (see Table 9) shall be added to the POLYAC® 14.

Table 5. POLYAC® 14 primer - components

Test	Standard	Result
1st component – POLYAC® 14		
Specific gravity [kg/m³]	EN ISO 1675	994
Viscosity [Pa.s] (Spindle RV4, 100 rpm)	EN ISO 2555	0,226
Ash content (950°C) [%]	EN ISO 3451-1 (A)	0
2nd component – POLYAC® CATALYST		

1.2.4 Finishing layer

1.2.4.1 POLYAC® 65 finishing layer

The POLYAC® 65 finishing layer is two-components polymethyl-methacrylate (PMMA).

According to the temperature, 1 % to 4% of POLYAC® CATALYST (see Table 9) shall be added to the POLYAC® 65.

Table 6. POLYAC® 65 finishing layer - components

Test	Standard	Result
1st component – POLYAC® 65		
Specific gravity [kg/m³]	EN ISO 1675	997
Viscosity [Pa.s] (Spindle RV4, 100 rpm)	EN ISO 2555	0,216
Ash content (950°C) [%]	EN ISO 3451-1 (A)	0
2nd component – POLYAC® CATALYST		

1.2.4.2 POLYAC® 64 AF finishing layer

The POLYAC® 64 AF finishing layer is two-components polymethyl-methacrylate (PMMA).

According to the temperature, 1 % to 4% of POLYAC® CATALYST (see Table 9) shall be added to the POLYAC® 64 AF.

Table 7. POLYAC® 64 AF finishing layer - components

Test	Standard	Result
1st component – POLYAC® 64 AF		
Specific gravity [kg/m³]	EN ISO 1675	1.467
Viscosity [Pa.s] (spindle RV4, 100 rpm)	EN ISO 2555	0,688
Ash content (950°C) [%]	EN ISO 3451-1 (A)	32,5
2nd component – POLYAC® CATALYST		

1.2.5 POLYAC® CATALYST

The POLYAC® CATALYST is a universal hardener for all POLYAC® resins. It starts the polymerisation process of the resins.

Table 8. POLYAC® CATALYST - components

Test	Standard	Result
Aspect	-	white powder
Specific gravity [kg/m³]	EN ISO 1675	640

Table 9. Percentage of POLYAC® CATALYST to add

Temperature	Quantity
+5°C	4 %
+10°C	3 %
+20°C	2 %
+30°C	1 %

2 Specification of the intended use(s) in accordance with the applicable EAD

The Liquid Applied Roof Waterproofing Kit POLYAC® BDM SYSTEM 5 is used for the waterproofing of roofs, terraces and balconies against penetration of water into the internal structure of the building.

The following substrate is suitable for the Liquid Applied Roof Waterproofing Kit: Concrete

The provisions made in this ETA are based on an assumed working life of the waterproofing system of 10 years (W2).

The indications given on the working life cannot be interpreted as a guarantee given by the manufacturer, but are to be used as a means for selecting the appropriate products in relation to the expected economically reasonable working life of the works.

3 Performance of the product and references to the methods used for its assessment

The assessment of the Liquid Applied Roof Waterproofing Kit for the intended use in relation to the requirements for safety in case of fire; safety in use; hygiene health and environment; energy economy and heat retention; in the sense of the Essential Requirements 2, 3, 4 and 6, has been made in accordance with the "Guideline for European Technical Approval of Liquid Applied Roof Waterproofing Kits" (ETAG 005-1 and -4). Where the guideline allows for classifications and/or choice, the selection specified below has been made.

3.1 ER2: Safety in case of fire

3.1.1 External fire performance of roofs

The Liquid Applied Roof Waterproofing Kit has an external fire performance classification class $F_{ROOF}(t1, t2, t3)$ (no test performed) according to EN 13501-5.

3.1.2 Reaction to fire

No performance has been assessed for the Liquid Applied Roof Waterproofing Kit regarding reaction to fire classification according to EN 13501-1.

3.1.3 Working life, durability

During the intended use, Liquid Applied Roof Waterproofing Kit remains undamaged and the properties are not subject to unacceptable changes due to external agencies in such a way as to affect the reaction to fire and the external fire performance of the assembled system

3.2 ER3: Hygiene, Health and the Environment

3.2.1 Release of dangerous substances

In matter of "Dangerous substances", the manufacturer provided a declaration of conformity to the Council Directive 76/769/EEC published in "Official Journal of the European Communities" of 27/07/1976 and its amendments.

3.2.2 Working life, durability

The product has been successfully subjected to the following tests, which are relevant for Liquid Applied Roof Waterproofing Kits: §5.3.1.1, 5.3.1.2, 5.3.3.1, 5.3.3.2.1, 5.3.3.3, 5.3.3.3.4.1, 5.3.3.4.3, 5.3.3.5.1, 5.3.3.5.2, 5.3.3.5.3 with reference to the ETAG 005-1 and -4.

3.3 ER4: Safety in use

3.3.1 Slipperiness

The product has been successfully subjected to the following tests, which are relevant for Liquid Applied Roof Waterproofing Kits: §5.4.2 with reference to the ETAG 005-1 and -4.

4 Assessment and verification of constancy of performance (AVCP) system applied, with reference to its legal base

In accordance with Regulation (EU) N° 305/2011, Article 65, Directive 89/106/EEC is repealed, but references to the repealed Directive shall be construed as references to the Regulation.

The systems of assessment and verification of constancy of performance, specified in the Decision of the Commission 98/599/EC³ of the European Commission, as amended by Commission Decision 2001/596/EC⁴, and Commission Delegated Regulation (EU) 2016/364⁵, are specified in the following Table.

Table 10. System(s) of assessment and verification of constancy of performance (AVCP)

Product(s)	Intended use(s)	Level(s) or class(es)	AVCP system(s)*
	Roof coverings	(A1, A2, B, C) ^b	1
	subject to	(A1, A2, B, C) ^c , D, E, F	3
	reaction to fire	(A1, A2, B, C, D, E, F) ^d ,	4
	regulations	NPD ^e	
Liquid Applied Roof Waterproofing Kit	Roof coverings	Products requiring testing	3
	subject to	Products deemed to satisfy without testing, to be confirmed in discussions with the Fire Regulators Group	4
	external fire performance regulations		
	All uses not referred to above	-	3

^a See Annex V to Regulation (EU) N° 305/2011
^b Products/materials for which a clearly identifiable stage in the production process results in an improvement of the reaction to fire classification (e.g. an addition of fire retardants or a limiting of organic material)
^c Products/materials not covered by footnote (*)
^d Products/materials that do not require to be tested for reaction to fire (e.g. Products/materials of class A1 according to Commission Decision 96/603/EC, as amended)
^e 'No Performance Declared' in accordance with Regulation (EU) N° 305/2011, Article 6(f)

Because the Liquid Applied Roof Water-proofing Kit can be subject to external fire regulations and the Liquid Applied Roof Waterproofing Kit are not deemed to satisfy without testing, AVCP 3 system applies.

³ OJEU L 287, 24.10.1998

⁴ OJEU L 209, 2.8.2001

⁵ OJEU L 68/4, 15.03.2016

5 Technical details necessary for the implementation of the AVCP system, as foreseen in the applicable EAD

5.1 Tasks for the ETA-holder

5.1.1 Factory production control (FPC)

5.1.1.1 General

The manufacturer shall establish, document and maintain a FPC system to ensure that the products placed on the market conform to the stated performance characteristics. The FPC system shall consist of procedures, regular inspections and tests and/or assessments and the use of the results to control raw and other incoming materials or components, equipment, the production process and the product.

The results of inspections, tests or assessments requiring action shall be recorded, as shall any action taken. The action to be taken when control values or criteria are not met shall be recorded.

5.1.1.2 Equipment

All weighing, measuring and testing equipment shall be calibrated and regularly inspected according to documented procedures, frequencies and criteria.

5.1.1.3 Raw materials and components

The specifications of all incoming raw materials and components shall be documented, as shall the inspection scheme for ensuring their conformity.

5.1.1.4 Non-conforming products

In the event of any non-conformity of any product, that product shall be placed into quarantine and action taken to rectify the cause of the non-conformity. Products may not subsequently be dispatched until the problem has been resolved.

5.1.1.5 Tests and frequencies

All the elements, requirements and provisions adopted by the manufacturer are documented in a systematic manner in the form of written policies and procedures. This production control system ensures that the product is in conformity with the European Technical Assessment (ETA).

The manufacturing and quality control procedures are confidential and deposited with the Assessment Operator.

5.2 Tasks of notified bodies

5.2.1 The Initial Type Testing

Assessment tests on the Liquid Applied Roof Waterproofing Kit have been conducted under the responsibility by the assessment body (UBA_{tc}) in accordance with Chapter 8 of the ETAG 005-1 and -4. The assessment body (UBA_{tc}) has assessed the results of these tests in accordance with Chapter 6 of this ETAG, as part of the ETA issuing procedure.

For characteristics under AVCP system 3, Regulation (EU) N° 305/2011, Annex V, clause 1.6 applies.

6 Bibliography

- ETAG 005-1 (2000) Guideline for European Technical Approval of Liquid Applied Roof Waterproofing Kits, Part 1: General
- ETAG 005-4 (2000) Guideline for European Technical Approval of Liquid Applied Roof Waterproofing Kits, Part 4: Specific stipulations for Kits on Flexible Unsaturated Polyester
- EN ISO 1675 Plastics - Liquid resins - Determination of density by the pycnometer method
- EN ISO 2555 Plastics - Resins in the liquid state or as emulsions or dispersions - Determination of apparent viscosity by the Brookfield Test method
- EN ISO 3451-1 Plastics - Determination of ash - Part 1: General methods
- EN 13501-1 Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests
- EN 13501-5 Fire classification of construction products and building elements - Part 5: Classification using data from external fire exposure to roofs tests
- EN 29073-1 Textiles - Test methods for nonwovens - Part 1: Determination of mass per unit area
- EN 29073-3 Textiles - Test methods for nonwovens - Part 3: Determination of tensile strength and elongation

NOTE: The editions of reference documents given above are those which have been adopted by the UBA_{tc} for its specific use when establishing this ETA. When new editions become available, these supersede the editions mentioned only when confirmed by the UBA_{tc}.

Annex I – POLYAC® BDM SYSTEM 5

(2) NPD = No Performance Determined

The levels of performance presented in Table 11 apply, under the assumption that the waterproofing system build-up is as follows:

- Primer POLYAC® 14;
- 1st layer of POLYAC® BDM-M+ in which POLYAC® REINFORCEMENT FLEECE reinforcement is embedded;
- 2nd layer of POLYAC® BDM-M;
- Quartz 0,2/0,8;
- Finishing layer POLYAC® 65 or POLYAC® 64 AF.

The thicknesses of the components of the system are specified in Table 1 of this ETA. The substrates, primers and finishing applicable to this kit are defined in the body of this ETA.

Table 11. Level Of Performance

External fire performance (according to EN 13501-5)	F _{ROOF} (t1, t2,t3) ⁽¹⁾
Reaction to fire (according to EN 13501-1)	NPD ⁽²⁾
Expected working life	W2
Climatic zone of use	M
User loads	P3
Roof slopes	S2
Surface temperature	
Lowest	TL3
Highest	TH3
Status on dangerous substances	None contained
Slipperiness (dynamic coefficient of friction)	≥ 0,50
Roof resistance	NPD
Resistance to wind loads	≥ 50 kPa

(1) no test performed

UBAtc asbl is a non-profit organization according to Belgian law. It is a Technical Assessment Body notified by the Belgian notifying authority, the Federal Public Services Economy, SMEs, Self-Employed and Energy, on 17 July 2013 in the framework of Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011 laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC and is member of the European Organisation for Technical Assessment, EOTA (www.eota.eu).

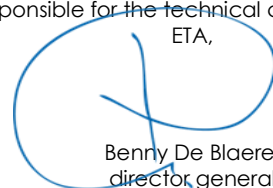
This European Technical Assessment has been issued by UBAtc asbl on the basis of the technical work carried out by the Assessment Operator, BCCA.

On behalf of UBAtc asbl,



Peter Wouters,
director

On behalf of the Assessment Operator, BCCA,
responsible for the technical content of the
ETA,



Benny De Blaere,
director, general

The most recent version of this European Technical Assessment may be consulted on the UBAtc website (www.ubatc.be).