UBAtc
Union belge pour l'Agrément technique de la Construction asbl
rue du Lombard, 42
B-1000 Bruxelles
http://www.ubatc.be

Membre de l'EOTA et de l'UEAtc
Tél. +32 (0)2 716 44 12
Fax +32 (0)2 725 32 12
info@ubatc.be

ATG Technical Approval with Certification

ATG 2642

Woodwork - Waterproofing system for facade openings

CLADSEAL EXT

Valid from 15/05/2019
until 14/05/2024

Approval and Certification Body

BCCA

Belgian Construction Certification Association
Rue d'Arlon, 53 - 1040 Brussels
www.bcca.be - info@bcca.be

Approval holder:

SEALECO AB
PO BOX 514
33125 Värnamo - Sweden
Tel.: +46 (0) 370 510 100
Fax.: +46 (0) 370 510 101
Website: www.sealeco.com
E-mail: info@sealeco.com

Dealer:

SEALECO Belgium NV
Bethovenstraat 62 / 2
2960 Brecht
Tel.: +32 (0) 3 313 86 66
Fax.: +32 (0) 3 313 60 63
Website: www.sealeco.com
E-mail: info.be@sealeco.com

1 Objective and scope of the Technical Approval

This Technical Approval is based on the favourable evaluation of the system (as described above) by an independent Approval Body designated by UBAtc, BCCA, for the application mentioned in this Technical Approval.

The Technical Approval serves as a record of the approval inspection. This inspection consists of the following: identification of relevant properties of the system for the intended application, laying/installation method, system design and reliability of production.

The Technical Approval provides a high level of reliability, based on the statistical interpretation of inspection results, regular monitoring and adjustments, in order to keep abreast of the situation, the latest technical developments and quality monitoring by the Approval Holder.

In order to retain the Technical Approval, the Approval Holder must continuously provide evidence that he is taking all necessary steps to demonstrate that the system is suitable for use. In order to do so, it is vital that the conformity of the system with the Technical Approval is monitored. This monitoring is entrusted by the UBAtc to an independent certification body known as BCCA.

The approval holder is required to adhere to the inspection results described in the technical approval if he makes information available to third parties. The UBAtc or certification body may take any steps that become appropriate if the approval holder [or the distributor] intentionally fails to do so (to a sufficient extent).

The Technical Approval and certification for conformity of the system to the Technical Approval are independent of tasks conducted individually. The contractor and/or architect remain fully responsible for the conformity of the completed work with the provisions contained in the specifications.

The technical approval does not cover, unless stated in specific provisions, on-site safety, health and safety aspects and the sustainable use of raw materials. As a result, the UBAtc shall not be responsible, under any circumstances, for any damage caused by the failure of the approval holder, contractor(s) and/or architect to respect provisions relating to on-site safety, health aspects and the sustainable use of raw materials.

Note: in this technical approval, the word "contractor" will always be used when referring to the entity that completes the work. This word has the same meaning as other frequently used words, such as "operator", "installer" and "fitter".

2 Object

This approval relates to a waterproofing system located between the building structure and windows or curtain walls, which is fitted to the outer side (waterproofing, vapour inhibiting) and consists of a flexible EPDM used to seal the joints between the facade and the exterior joinery on the outer side. The area of application is described in Table 1.

The Technical Approval relates to the actual coating, including the fitting technique, but does not cover the quality of execution. The Technical Approval with Certification includes in-house monitoring of manufacturing and periodic/regular external monitoring.

This approval for the waterproofing system is also based on the use of auxiliary components. An attestation guarantees that these components fulfil the performance characteristics or identification criteria mentioned in § 3.2.

This Technical Approval only covers combinations, whose suitability for use has been demonstrated by the shear test conducted on the relevant surface, in compliance with the UBAtc test method BA-400-1, in order to establish the compatibility of the adhesive with the intended surface. In order to include adhesion on wet concrete, it is necessary to have demonstrated adhesion on this surface in compliance with UBAtc test method BA 400 2.

This Technical Approval does not assess or test the effect of cyclic loading (e.g. wind action) on exterior membranes with non-mechanical fasteners.

Table 1 - Area of application for the CLADSEAL EXT waterproofing system

			CLADSEAL EXT
			Outer side of facade
Traditional construction	No Cavity	Wall	N/A
		Opening	X
		Joinery	X
	Cavity	Wall	N/A
		Opening	X
		Joinery	X
Timber frame	No Cavity	Wall	N/A
		Opening	X
		Joinery	X
	Cavity	Wall	N/A
		Opening	X
		Joinery	X
Metal construction	No Cavity	Wall	N/A
		Opening	X
		Joinery	X
	Cavity	Wall	N/A
		Opening	X
		Joinery	X
N/A : not applicable			

3 Materials and waterproofing system components

3.1 Waterproof membrane

Table 2 – Area of application for CLADSEAL EXT

Trade name	Description	Airtight	Waterproof	Water vapou permeable	Vapour barrier	Vapour proo
CLADSEAL EXT	Non-reinforced membrane based on a copolymer of ethylene, propylene and unsaturated diene bonds (EPDM)		X		X	

3.1.1 Description of the waterproof membranes

CLADSEAL EXT membranes are made from a copolymer of ethylene, propylene and unsaturated diene bonds (EPDM), oils, fillers and additives. They are obtained by extrusion or calendering, followed by vulcanisation. The characteristics of the membranes are shown in Table 3.

Table 3 – Characteristics of CLADSEAL EXT

Identification characteristics		CLADSEAL EXT
Type of reinforcement		-
Membrane		
Thickness [mm]	-5 % + 10 %	0.60 – 0.75 – 1.00 – 1.20– 1.,50
Area density [g/m²]	± 10 %	0.77 – 0.97 – 1.29 – 1.55 – 1.94
Nominal length [m] (*)	-0 %	25
Nominal width [cm] (*)	-0.5% + 1 %	10 - 170
Colour		Black
(*) Other widths and lengths are available on request from the manufacturer.		

3.1.2 Performance characteristics of waterproofing products

The performance characteristics of CLADSEAL EXT are listed in § 8.

3.2 Adhesives / Mastics

Within the framework of this Technical Approval, all the following adhesives have been subjected to an approval assessment and limited certification by the certification body designated by UBAtc asbl. This assessment focuses on the following elements:

- The adhesives have been identified using initial tests.
- Deliveries of adhesives are traceable and analysis certificates issued by the adhesive manufacturer are available for each delivery from the Technical Approval holder.
- The adhesives are subjected to external control tests on an annual basis.

3.2.1 PASTE ADHESIVE 3300

PASTE ADHESIVE 3300 is based on synthetic rubber, which is used to fit membranes to different surfaces and create joints with CLADSEAL EXT.

Table 4 – PASTE ADHESIVE 3300

Identification properties	PASTE ADHESIVE 3300
Density [g/cm³]	1.20
Dry matter content [%] ±2 %abs	78
Flash point [°C]	≤ 0
Brookfield viscosity [mPa.s]	± 900
Colour	Black
Performance	
Working temperature [°C]	≥ 2
Application period [months]	9 (between +5 °C and +25 °C)
Packaging	600 ml tubes

With porous surfaces, it is necessary to apply a layer of PRIMER 9800 before the CLADSEAL membranes are fitted using PASTE ADHESIVE 3300.

Table 5 – Surfaces compatible with PASTE ADHESIVE 3300

Type	Examples	-/X
Mineral	Concrete (porous or non-porous stone, mineral coatings)	X
Metallic	Aluminium, steel	X
Galvanised	Zinc, galvanised steel	X
Wood (untreated)	-	X
PVC	-	X
Coated	Lacquered wood	X
Bituminous	Bituminous membranes with mineral protection	-
Moist concrete	-	-

3.2.2 ECOBOND paste adhesive

ECOBOND is a paste adhesive based on MS polymers and used for fitting CLADSEAL EXT membranes to different surfaces.

Table 6 – ECOBOND paste adhesive

Identification properties	ECOBOND
Density [g/cm³]	1.58
Flash point [°C]	≤ 0
Brookfield viscosity [mPa.s]	± 900
Colour	Grey/black
Performance	
Working temperature [°C]	≥ 2
Application period [months]	12 (between +5 °C and +25 °C)
Packaging	600 ml tubes

With porous surfaces, it is necessary to apply a layer of PRIMER 9800 before the CLADSEAL membranes are fitted using ECOBOND adhesive.

Table 7 – Surfaces compatible with ECOBOND adhesive

Type	Examples	-/X
Mineral	Concrete (porous or non-porous stone, mineral coatings)	X
Metallic	Aluminium, steel	X
Galvanised	Zinc, galvanised steel	X
Wood (untreated)	-	X
PVC	-	X
Coated	Lacquered wood	-
Bituminous	Bituminous membranes with mineral protection	-
Moist concrete	-	X

3.3 Auxiliary components

3.3.1 CLEANER 9700 (cleaner/degreaser)

CLEANER 9700 is a solvent (naphtha-based) used for cleaning or degreasing areas before adhesive is applied, if polluting impurities are present.

Table 8 – CLEANER 9700

Identification properties	CLEANER 9700
Density [g/cm³]	0.74
Flash point [°C]	≤ 0
Colour	Colourless
Performance	
Working temperature [°C]	≥ 2
Application period [months]	12 (between +5 °C and +25 °C)
Packaging	0.5/1.0/5.0 litre can

The CLEANER 9700 product forms part of the system, but is not covered by this approval and is not included in this certification.

3.3.2 PRIMER 9800

PRIMER 9800 is made from synthetic rubber mixed with resins and inflammable solvents. PRIMER 9800 is used to improve the adhesion of membranes on different porous surfaces.

Table 9 – Primer 9800

Identification properties	PRIMER 9800
Density [g/cm³]	0.84
Dry matter content [%] ±2 %abs	36
Flash point [°C]	≤ 0
Brookfield viscosity [Pa.s]	± 900
Colour	Black
Performance	
Working temperature [°C]	≥ 2
Application period [months]	12 (between +5 °C and +25 °C)
Packaging	1.0/5.0/14.88 litre can

The PRIMER 9800 product forms part of the system, but is not covered by this approval and is not included in this certification.

3.3.3 Pre-fabricated components

Pre-fabricated moulded parts make it possible to install simple and sound waterproofing in all possible critical places, such as:

- Upper corners around the frame
- When linking larger lengths
- Inner and outer corners, drainage pipes, etc., tailor-made components

3.3.3.1 Sleeves

Sleeves make pre-assembly possible, regardless of the weather conditions. The sleeves can be fitted mechanically using ties or fitted to the frames using adhesive.

3.3.4 Mechanical fasteners

Mechanical fasteners are made from a plate (profiled in aluminium) and secured by screws every 25 cm. The holes in the membrane must then be made waterproof using a mastic.

4 Manufacture and marketing

4.1 CLADSEAL EXT

The CLADSEAL EXT waterproof membranes are manufactured at the SEALECO AB production unit in Värnamo (Sweden).

Labelling: the membranes bear the mark, manufacturer, thickness and Technical Approval number.

It is necessary to indicate the production code on the membranes or packaging.

SEALECO BELGIUM NV markets the products.

4.2 Auxiliary components

PRIMER 9800, PASTE ADHESIVE 3300 / ECOBOND adhesives and CLEANER 9700 are manufactured for SEALECO AB. SEALECO BELGIUM NV produces the pre-fabricated moulded parts to measure.

SEALECO BELGIUM NV markets these auxiliary components.

5 Design and installation

The contractor is required to use only highly qualified workers and ensure, by means of regular and strict supervision, that work is conducted in compliance with the specifications of the Technical Approval holder at all times and in all places.

5.1 Storage

It is necessary to store the membranes and auxiliary components on a clean and smooth surface, which is sheltered from adverse weather conditions, at temperatures between 5 °C and 35 °C.

5.2 Installation conditions

The membranes must be laid onto a fixed surface, which is clean, free of grease and dust.

If using ECOBOND adhesive, it is possible to work on a wet surface.

The laying of membranes must be halted in the event of wet weather (rain, snow, thick fog) and if there is any risk of condensation when using the adhesive. The adhesive must not be applied to a frozen surface, but the membranes can be laid at a minimum temperature of 5 °C.

5.3 Waterproofing for facades and windows on various surfaces

This Technical Approval does not assess or test the effect of cyclic loading (e.g. wind action) on exterior membranes with non-mechanical fasteners. In addition, this Technical Approval does not provide an assessment of the durability of the sealing.

In the case of prolonged exposure, it is necessary to fit an additional mechanical fastener, particularly in places where the adhesive is exposed to the maximum mechanical load.

5.3.1 Laying the CLADSEAL EXT exterior facade membrane

CLADSEAL EXT membranes can be laid using PASTE ADHESIVE 3300 and ECOBOND adhesive mastic.

5.3.1.1 *Concrete or masonry building structure*

5.3.1.1.1 With PASTE ADHESIVE 3300

PASTE ADHESIVE 3300 mastic can be used for fitting CLADSEAL EXT to the following surfaces (see the overview in Table 5). It **cannot** be used for fitting membranes to a (slightly) moist concrete surface.

The adhesive width must be at least **25 mm**. PASTE ADHESIVE 3300 should only be applied to the surface using a mastic gun (see Figure 1). One or more strips of adhesive should be applied, depending on the width of the surface to be covered. Once the paste has been applied to the surface, the membrane is pressed and unrolled directly onto the adhesive. Finally, a 2 mm thick layer of adhesive is applied across the width of the adhesive. The consumption is shown in Table 10.

Surfaces that are excessively porous, absorbent and wet will always require pre-treatment with PRIMER 9800, in order to guarantee good adhesion between the membrane and the surface. The consumption is approx. 280 g/m² (≈ 3 m²/l) depending on the porosity of the surface.

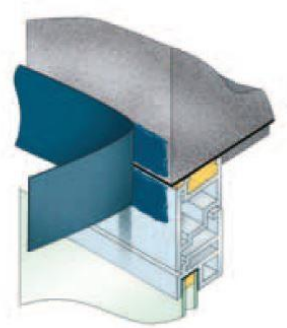

Diagram 1 – Fitting membranes using PASTE ADHESIVE 3300

Metallic surfaces (aluminium, zinc, steel, etc.) and PVC must always be cleaned, in order to remove any impurities, degreased and dried, using CLEANER 9700. No further primer is then applied.

In order to ensure that the membrane adheres to the various possible surfaces, it is always necessary take sufficient care that the adhesive has fully hardened, in order to prevent the membrane from slipping on the surface.

5.3.1.1.2 Using ECOBOND adhesive

ECOBOND adhesive can be used for fitting CLADSEAL EXT to the following surfaces (see overview in Table 7). This adhesive can also be used for fitting membranes to a (slightly) wet concrete surface. The adhesive is applied in strips onto the surface. After the adhesive has been applied, it is necessary to lay the membrane immediately and apply the roller (this stage is necessary in order to ensure good adhesion). The adhesive will still be runny under the membrane. This paste is applied using a mastic gun. For this reason, a minimum adhesive width of 25 mm is applied for a 2 mm thick layer of adhesive.

Surfaces that are excessively porous, absorbent and moist will always require pre-treatment with PRIMER 9800, in order to guarantee good adhesion between the membrane and the surface. The consumption is approx. 280 g/m² (≈ 3 m²/l) depending on the porosity of the surface.

It is advisable to check, by means of a test, adhesion on a specific surface after the adhesive has dried sufficiently.

Consumption is shown in Table 10.

Table 10 - Consumption adhesives/mastics (*)

Surface	PASTE ADHESIVE 3300	ECOBOND
Mineral Metallic Galvanised Wood (untreated) PVC Coated	50 – 60 g/rm (10-12 rm/tube)	50 – 75 g/rm (8-12 rm/tube)
Bituminous	/	/
Wet concrete	/	50 – 75 g/rm (8-12 rm/tube)
Joints	50 – 60 g/rm (8-12 rm/tube)	50 – 75 g/rm (8-12 rm/tube)
(*) For an adhesive width of 25 mm. For other adhesive widths, it is necessary to adjust the consumption proportionally.		

5.3.1.2 *Timber building structure*

CLADSEAL EXT membranes can also be fitted to smooth or untreated wood using PASTE ADHESIVE 3300 and ECOBOND adhesives.

The same principles for application as those described in § 5.3.1.1 must be followed.

5.3.1.3 *Steel building structure*

CLADSEAL EXT membranes can also be fitted to smooth or untreated wood using PASTE ADHESIVE 3300 and ECOBOND adhesives.

The same principles for application as those described in § 5.3.1.1 must be followed.

5.4 Assembling CLADSEAL EXT strips

The strips are laid without tension with a minimum overlap of 10 cm. The two edges are cleaned of dust and, if necessary, degreased using the CLEANER 9700 product (see § 3.3.1).

The joints between strips of CLADSEAL EXT exterior facade membrane must be created so that they are exposed to a minimum water load, as indicated in Figure 2.

It is necessary to lay membrane 4 on membranes 2 and 3. Membranes 2 and 3 should then be laid on membrane 1.

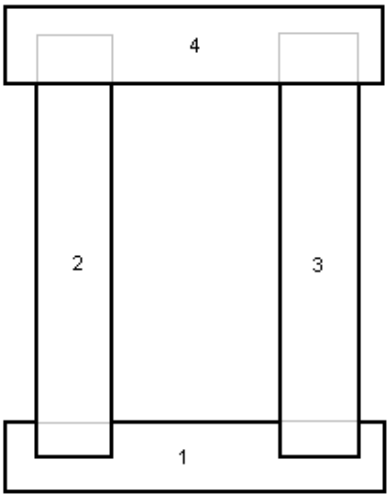

Diagram 2 – Joint adhesion method

6 Performance

The performance characteristics of the CLADSEAL EXT membrane system are indicated in § 8.1.

The "UEAtc/UBAtc" column shows the minimum acceptance criteria set by the UEAtc/UBAtc. The "Evaluated criteria" mentions the acceptance criteria required by the manufacturer.

Compliance with these criteria is verified during the different checks conducted and forms part of the product certification.

MDV = Value declared by the manufacturer, accompanied by the indicated tolerances

MLV =Value set by the manufacturer during the test (can be a maximum or minimum value)

7 Instructions

7.1 Repairs

Repairs to waterproof material must be conducted using the same materials as those previously used. They must be conducted with care and according to the manufacturer's instructions.

7.2 Compatibility

It is necessary to check the compatibility of the EPDM membrane and adhesive products with the waterproofing mastic. Please contact the manufacturer.

8 Performance

The tests were conducted in compliance with the European standards.

The "UEAtc/UBAtc" column shows the minimum acceptance criteria set by the UEAtc/UBAtc. The "Evaluated criteria" column mentions the acceptance criteria required by the manufacturer.

Compliance with these criteria is verified during the different checks conducted and forms part of the product certification.

MDV = Value declared by the manufacturer, accompanied by the indicated tolerances

MLV =Value set by the manufacturer during the test (can be a maximum or minimum value)

Table 11 – CLADSEAL EXT

Properties	Test method	UBAtc criteria	Evaluated criteria CLADSEAL EXT	Evaluation tests (1)
8.1 Performance of the membrane				
Thickness [mm]	NBN EN 1849-2	MDV- 5% +10%		
0.6			**0.60**	**X**
0.75			**0.75**	**X**
1.0			**1.00**	**X**
1.2			**1.20**	**X**
1.5			**1.50**	**X**
Resistance under water pressure [kPa]	NBN EN 1928	≥ 2	**≥ 2**	**X**
Water vapour permeability μ	NBN EN 1931	-	**32.000 ± 30%**	**X**
Tensile strength (N/50 mm)	NBN EN 12311-2			
Longitudinal	Method B	≥ 2	**≥ 2**	**X**
Transversal		≥ 2	**≥ 2**	**X**
Elongation at break [%]	NBN EN 12311-2			
Longitudinal	Method B	≥ MLV	**≥ 2**	**X**
Transversal		≥ MLV	**≥ 2**	**X**
- Nail tear resistance [N] L/T				
0.60		≥ MLV	**≥ 2**	**X**
0.75	NBN EN 12310-1	≥ MLV	**≥ 2**	**X**
1.00		≥ MLV	**≥ 2**	**X**
1.20 / 1.50		≥ MLV	**≥ 2**	**X**
8.2 System performance				
8.2.1 Puncture resistance				
Static puncture [class L]	NBN EN 12730			
Concrete	Method B	≥ MLV	**≥ L20**	**X**
Dynamic penetration [mm]	NBN EN 12691:2006			
Aluminium 0,60	Method A	≥ MLV	-	**X**
0.75/1.00/1.20/1.50		≥ MLV	**≥ 2**	**X**
8.2.2 Overlap joints				
Peel resistance [N/50 mm]	NBN EN 12316-2			
Joints created with PASTE ADHESIVE 3300		≥ 2	**≥ 2**	**X**
Joints created with ECOBOND		≥ 2	**≥ 2**	**X**
Shear strength [N/mm²]	NBN EN 12317-2			
Joints created with PASTE ADHESIVE 3300		≥ 100 or rupture out of joint	**≥ 2**	**X**
Joints created with ECOBOND			**≥ 2**	**X**
L: longitudinal T: transversal				
8.2.3 Adhesion on different surfaces				
Shear resistance on concrete [N/50 mm]	UBAtc - BA-400-1			
With PASTE ADHESIVE 3300		≥ 10	**≥ 25**	**X**
With ECOBOND		≥ 10	**≥ 25**	**X**
Shear resistance on zinc [N/50 mm]				
With PASTE ADHESIVE 3300		≥ 10	**≥ 25**	**X**
With ECOBOND		≥ 10	**≥ 25**	**X**
Shear resistance on aluminium [N/50 mm]				
With PASTE ADHESIVE 3300		≥ 10	**≥ 25**	**X**
With ECOBOND		≥ 10	**≥ 25**	**X**
Shear resistance on PVC [N/50 mm]				
With PASTE ADHESIVE 3300		≥ 10	**≥ 25**	**X**
With ECOBOND		≥ 10	**≥ 25**	**X**
Shear resistance on untreated wood [N/50 mm]				
With PASTE ADHESIVE 3300		≥ 10	**≥ 25**	**X**
With ECOBOND		≥ 10	**≥ 25**	**X**
Shear on moist concrete [min]	UBAtc - BA-400-2	≥ 15 min at 25 N/50mm	≥ 15 min at 25 N/50mm	**X**
With ECOBOND				
(1): X: tested and meets the manufacturer's criteria				

9 Conditions

A. This Technical Approval refers exclusively to the system mentioned on the cover page of the Technical Approval.

B. Only the approval holder and, if applicable, the distributor may assert rights based on the technical approval.

C. The approval holder and, if applicable, the distributor are not permitted, in any way, to use the name of the UBAtc, its logo, the Technical Approval mark, the technical approval or the approval number to demand the evaluation of products that fail to comply with the technical approval or products, equipment or systems, including their properties or characteristics, which do not form the object of the technical approval.

D. Information provided in any way by the Approval Holder, distributor or an approved contractor or by their representatives for (potential) users of the system, which is described in the Technical Approval (e.g. for clients, contractors, architects, consultants, designers, etc.) must not be incomplete or contradict the content of the Technical Approval or information mentioned in the Technical Approval.

E. The Approval Holder is bound at all times to provide UBAtc, the Approval Body and the Certification Body with prompt or prior notification of any adjustments made to primary materials and products, installation instructions and/or the manufacturing, installation and equipment process. According to the information communicated, the UBAtc, the approval body and the certification body will judge whether it is necessary to adjust the technical approval.

F. The Technical Approval is based on the available knowledge and technical/scientific information, together with information provided by the applicant and complemented by an approval inspection, which takes account of the specific nature of the system. However, users remain responsible for selecting the system, as described in the Technical Approval, for the specific use intended by the user.

G. The intellectual property rights associated with the Technical Approval, including the copyright, belong exclusively to the UBAtc.

H. Any references to the technical approval must be accompanied by a Technical Approval index (ATG 2642) and the validity period.

I. The UBAtc, the approval body and the certification body cannot be held responsible for any damage or adverse consequences suffered by third parties (e.g. the user) that result from the failure of the approval holder or distributor to respect the provisions of Article 1.

UBAtc asbl is an approval body and member of the European Union for Construction Approval (UEAtc, see www.ueatc.eu) notified by the FPS Economy within the framework of Regulation 305/2011/EEC and member of the European Organisation for Technical Approvals (EOTA, see www.eota.eu). Certification bodies designated by UBAtc asbl operate in compliance with a system that is set to be accredited by BELAC (www.belac.be).

This technical approval has been published by UBAtc, under the responsibility of the approval body BCCA, and based on favourable feedback from the specialist "FAÇADES" group, issued on 22 March 2019.

In addition, the BCCA certification body has confirmed that the production process meets the conditions for certification and that a certification agreement was signed by the Technical Approval holder.

Date of issue: 15 May 2019.

For UBAtc, declaration of the validity of the approval process

Peter Wouters,
director

For the approval and certification body

Benny De Blaere,
Managing director

This Technical Approval shall remain valid, provided the system, its manufacture and all processes that are appropriate for this purpose:

- are maintained, in order to achieve, as a minimum, the inspection results defined in the approval document;
- are continuously monitored by the Certification Body, which confirms that the certification continues to be valid;

If these conditions are no longer met, the technical approval shall be suspended or withdrawn and the approval document shall be deleted from the UBAtc website. The technical approvals are regularly updated. It is recommended that you always use the version published on the UBAtc website (www.ubatc.be).

The most recent version of the technical approval can be consulted using this QR code.

Belgische Unie voor de technische goedkeuring in de bouw
Union belge pour l'Agrément technique de la construction
ATG 2642
UBAtc BUtgb