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ATG Technical Approval with Certification

ROOFS

SINGLE LAYER SYNTHETIC ROOF WATERPROOFING SYSTEM

EPDM

TECHNO RUBBER EPDM
TECHNO RUBBER EPDM FLEECEBACK

ATG 3236

Valid from 31/05/2022
until 30/05/2027

Approval and Certification Body

Belgian Construction Certification Association
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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 listed 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, product 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 for flat or sloping roofs whose area of application is indicated on the installation instruction sheets (see , Table 23 and Table 24) and in Annex A[1].

The system consists of TECHNO RUBBER EPDM and TECHNO RUBBER EPDM FLEECEBACK waterproof roof membranes, which are fitted with the auxiliary products described in this approval, according to the instructions described in § 5.

The waterproof roof membranes are subject to product certification, according to the applicable ATG certification regulation. This certification procedure takes the form of continuous production monitoring by the manufacturer, in addition to regular monitoring of production by the certification body designated by the UBAtc.

This approval for the entire system is also based on the use of auxiliary components. A certificate guarantees that these components fulfil the performance characteristics or identification criteria listed in § 3.2.

3 Materials and roof waterproofing system components

3.1 Roof waterproofing membranes

Table 1 – Roof Waterproofing membranes

Trade name	Description
TECHNO RUBBER EPDM	EPDM-based membrane, compatible with bitumen, non-reinforced
TECHNO RUBBER EPDM FLEECEBACK	EPDM-based membrane, compatible with bitumen, non-reinforced, and covered with layer of 300g/m² non-woven polyester fleece.

These membranes are applied as a monolayer. They are waterproof provided they are fitted according to the instructions in § 5 and the installation sheet.

3.1.1 Description of the membranes

TECHNO RUBBER EPDM and TECHNO RUBBER EPDM FLEECEBACK membranes are made from ethylene and propylene copolymers, unsaturated diene monomers (EPDM), oils, mineral fillers and additives. They are non-reinforced. TECHNO RUBBER EPDM FLEECEBACK includes a non-woven polyester fleece on its under side.

The membranes are obtained by extrusion and calendering followed by vulcanisation.

The certification body is aware of the composition and characteristics of the different layers.

The characteristics of the membranes are shown in Table 2.

TECHNO RUBBER EPDM membranes are available in two thicknesses (1.20 mm and 1.50 mm), while TECHNO RUBBER EPDM FLEECEBACK membranes are available in a single thickness (1.20 mm) (effective thickness).

TECHNO RUBBER EPDM FLEECEBACK membranes can be obtained, which are covered with a pre-applied self-adhesive tape (see § 3.2.4) in order to create longitudinal connections between the strips. These membranes can be identified by the suffix PT.

Table 2 – TECHNO RUBBER EPDM

Identification characteristics		TECHNO RUBBER EPDM	
		1.20	1.50
Framework type		-	-
Cladding type		-	-
Membrane			
Effective thickness [mm]	-5 %, +10 %	1.20	1.50
Mass per unit area [kg/m²]	-5 %, +10%	1.47	1.84
Nominal length [m]	-0 %, +5 %	30.00 / 60.00 [1]	
Nominal width [m]	-0,5 %, +1 %	3.050 [1]	
Upper side colour		Black	
Lower side colour		Black	
Use (suitable membranes)			
Loosely laid		X	X
Fully adhered			
With cold adhesive		X	X
Mechanically fastened (in the joint)		-	-
[1]: Other lengths available on request			

Table 3 – TECHNO RUBBER EPDM FLEECEBACK

Identification characteristics		TECHNO RUBBER EPDM FLEECEBACK
		1.20
Framework type		-
Cladding type		PY 300
Membrane		
Effective thickness [mm]	-5 %, +10 %	1.20
Mass per unit area [kg/m²]	-5 %, +10%	1.86
Nominal length [m]	-0 %, +5 %	15.00 / 30.00 [1]
Nominal width [m]	-0,5 %, +1 %	1.500 [1]
Upper side colour		Black
Lower side colour (membrane)		Black
Use (suitable membranes)		
Loosely laid		X
Fully adhered		
With cold adhesive		X
Partially bonded		
With cold adhesive		X
Mechanically fastened (in the joint)		-
[1]: Other lengths available on request		

The characteristics of the backing used with TECHNO RUBBER EPDM FLEECEBACK membranes are listed in Table 4.

Table 4 – Backing

Identification characteristics		PY 300
Type		Polyester fleece
Mass per unit area [g/m²]	±15 %	300

[1]Annex A is an integral part of the technical approval ATG.

3.1.2 Performance characteristics of the membranes

The performance characteristics of the TECHNO RUBBER EPDM and TECHNO RUBBER EPDM FLEECEBACK MEMBRANES are listed in § 6.1 of Table 21 AND IN § 6.3 of Table 22.

3.2 Auxiliary products

3.2.1 Synthetic cold adhesives

The cold adhesives described below are subject, within the framework of this ATG, to an initial investigation and limited certification by the certification body designated by the UBAtc asbl.

The following requirements must be met for this purpose:

- The product has been identified by means of initial tests.
- The product is traceable.
- The product has been checked by the manufacturer and the in-house results from the production control have been verified by the certification body.
- The product is subject to external verification tests, which are conducted on an annual basis.

3.2.1.1 FRP EUROPE cold contact adhesive

Contact adhesive based on silaprene and organic solvents, which is applied cold, used as a fully bonded adhesive in order to fit TECHNO RUBBER EPDM to different surfaces. This adhesive is also available under the trade names FRP EUROPE BONDING ADHESIVE and FRP EUROPE CONTACT ADHESIVE.

Table 5 – FRP EUROPE CONTACT ADHESIVE

Identification characteristics		FRP EUROPE CONTACT ADHESIVE
Volumetric mass [kg/l]	± 5 %	0.839
Dry extract [%]		Approx. 23
Flash point [°C]		≥ -18
Colour		Yellow
Application temperature (°C)		≥ +5
Performance		
Consumption [g/m²]		Approx. 500 – 650(1)(2)
Shelf life [months]		12 (between +15 °C and +27 °C)
Packaging		18.9 litre tub
Surface		
See § 5.3.2.		
(1): Depending on the roughness and nature of the surface (2): Total consumption (quantity applied to surface membrane)		

3.2.1.2 FRP EUROPE COLD PRESSURE ADHESIVE

Synthetic contact adhesive spray, which is chlorine-free, with organic solvents, applied cold and used to fit TECHNO RUBBER EPDM and TECHNO RUBBER EPDM FLEECEBACK to different surfaces as a fully bonded adhesive. This adhesive is also available under the trade names FRP EUROPE SPRAYABLE BONDING ADHESIVE and FRP EUROPE SPRAY CONTACT ADHESIVE.

Table 6 – FRP EUROPE PRESSURE ADHESIVE

Identification characteristics		FRP EUROPE PRESSURE ADHESIVE
Volumetric mass [kg/l]	± 5 %	0.84
Dry matter content [%]	±2 %abs	Approx. 35
Colour		Green
Application temperature (°C)		between 15 and 25
Performance		
Consumption [g/m²]		Approx. 230 (1) (2)
Shelf life [months]		12 (between +15 °C and +35 °C)
Packaging		22 litre can
Surface		
See § 5.3.2.		
(1): Depending on the roughness and nature of the surface (2): Total consumption (quantity applied to surface membrane)		

3.2.1.3 FRP EUROPE PG1 FLEECEBACK COLD ADHESIVE

FRP EUROPE PG1 FLEECEBACK ADHESIVE is a bi-component, solvent-free PU adhesive, which is applied cold and used as a partially bonded adhesive in order to fit TECHNO RUBBER EPDM FLEECEBACK membranes to different surfaces.

Table 7 – FRP EUROPE PG1 FLEECEBACK ADHESIVE

Identification characteristics		FRP EUROPE PG1 FLEECEBACK ADHESIVE
Volumetric mas– Part A [kg/l]	±5 %	1.22
Volumetric mas– Part B [kg/l]	±5 %	1.00
Dry matter content [%]	±2 %abs	Approx. 35
Flash point [°C]		≥ 220
Colour		White-amber
Application temperature (°C)		≥ +5
Performance		
Consumption [g/m²]		160 - 200 (1)
Shelf life [months]		12 (between +7 °C and +35 °C)
Packaging		1.5 litre can
Surface		
See § 5.3.2.		
(1): Depending on the roughness and nature of the surface with a maximal distance of 30 cm between the adhesive strips		

3.2.2 Preformed corners and roof accessories

Preformed corners and roof accessories form part of the system but are not included in this approval and certification.

3.2.3 FRP EUROPE NADENTAPE joint tapes

Joint tapes are made from extruded and cured pressure-sensitive adhesive tapes.

These FRP EUROPE NADENTAPE joint tapes are used to create joints between strips. The tapes are applied to the joint, after being treated with FRP EUROPE SEMI-ADHESIVE PRIMER. They are then secured by placing pressure on the actual joints (see § 5.3.4.1.).

This tape can be applied to the TECHNO RUBBER EDPM FLEECEBACK membrane in advance at the production site. These membranes can be identified by the suffix PT.

Table 8 – FRP EUROPE NADENTAPE

Identification characteristics	FRP EUROPE NADENTAPE
Thickness [mm]	Approx. 0,76
Width [mm]	76.3
Length [m]	30.5
Colour	Black
Performance	
Shelf life [months]	24 (between +5 °C and +45 °C)

FRP EUROPE NADENTAPE joint tapes form part of the system but are not included in this approval and certification.

3.2.4 FRP EUROPE COVER STRIP cover tapes

These cover strips consist of a semi-cured EPDM tape, onto which an extruded and cured black pressure sensitive adhesive is laminated across the entire width.

FRP EUROPE COVER STRIPS are used to create transverse joints using TECHNO RUBBER EPDM FLEECEBACK. The strips are applied across the area between two adjacent membranes, after being treated with FRP EUROPE SEMI-ADHESIVE PRIMER. They are then secured by placing pressure on the actual joints (see § 5.3.4.2.).

Table 9 – FRP EUROPE COVER STRIP

Identification characteristics	FRP EUROPE COVER STRIP
Thickness [mm]	Approx. 0,76
Width [mm]	127 / 152 / 229 / 305
Length [m]	30,5 (15,24 for a width of 305 mm)
Colour	Black
Performance	
Shelf life [months]	24 (between +5 °C and +40 °C)

FRP EUROPE COVER STRIPS form part of the system but are not included in the certification.

3.2.5 FRP EUROPE EPDM FLASHING TAPE

This self-curing EPDM tape is laminated onto an EPDM membrane. The tape is used to ensure that metallic pipe fittings are waterproof, as well as for T-joint coverings, corners, pipes and other applications.

Table 10 – FRP EUROPE EPDM FLASHING TAPE

Identification characteristics	FRP EUROPE EPDM FLASHING TAPE
Thickness [mm]	EPDM membrane: 0.64 Self-curing tape: 1,14
Width [mm]	127 / 152 / 229 / 305 / 458
Length [m]	30.4 (15.24 for the following widths: 229 mm, 305 mm and 458 mm)
Colour	Black
Performance	
Shelf life [months]	24 (between +5 °C and +40 °C)

The FRP EUROPE EPDM FLASHING TAPE product forms part of the system, but is not covered by this approval and is not included in this certification.

3.2.6 FRP EUROPE SEMI-ADHESIVE PRIMER

FRP EUROPE SEMI-ADHESIVE PRIMER has a high quality hydrocarbon and toluene base and is used for finishing all joints, as well as for creating detail finishes.

Table 11 – FRP EUROPE SEMI-ADHESIVE PRIMER

Identification characteristics	FRP EUROPE SEMI-ADHESIVE PRIMER
Volumetric mass [kg/l]	0.79
Dry matter content [%]	Approx. 17
Flash point [°C]	≥ -4
Colour	Blue
Performance	
Shelf life [months]	12 (between +5 °C and +25 °C)
Packaging	1 and 3.78 litre cans

The FRP EUROPE SEMI-ADHESIVE PRIMER product forms part of the system, but is not covered by this approval and is not included in this certification.

3.2.7 MASTIC FRP EUROPE LS-100

FRP EUROPE LS-100 is synthetic, solvent-based mastic, which is used to create details, T-junctions and for finishing strip joints.

Table 12 – FRP EUROPE LS-100

Identification characteristics	FRP EUROPE LS-100
Volumetric mass [kg/l]	5.3
VOC-content [g/l]	≤ 250
Dry matter content [%]	Env. 80
Colour	Black
Performance	
Shelf life [months]	24 (between +5 °C and +40 °C)
Packaging	300 ml tubes

The FRP EUROPE LS-100 product forms part of the system, but is not covered by this approval and is not included in this certification.

3.2.8 MASTIC FRP EUROPE LPS-100

FRP EUROPE LPS-100 is a single component, isocyanate-free polyurethane mastic, which is used to create details and for minor repairs.

Table 13 – FRP EUROPE LPS-100

Performance	FRP EUROPE LS-100
Shelf life [months]	12 (between +5 °C and +27 °C)
Packaging	300 ml tubes

The FRP EUROPE LPS-100 product forms part of the system, but is not covered by this approval or included in this certification.

3.2.9 FPR EUROPE EDPM CLEANER

FRP EUROPE EPDM CLEANER is an organic, solvent-based product, which is used to clean EPDM areas prior to the use of adhesives.

Table 14 – FPR EUROPE EPDM CLEANER

Identification characteristics	FPR EUROPE EPDM CLEANER
Volumetric mass [kg/l]	0.75
VOC-content [g/l]	825
Colour	Black
Performance	
Shelf life [months]	6 (between +15 °C and +27 °C)
Packaging	500 ml tubes

The FRP EUROPE EPDM CLEANER product forms part of the system, but is not covered by this approval or included in this certification.

3.2.10 FPR EUROPE KIMFIXATIE PERIPHERAL ATTACHMENT

FRP EUROPE KIMFIXATIE is an EPDM-reinforced membrane tape, laminated with a 0.9 mm EPDM-based pressure sensitive adhesive tape (adhesive layer of vulcanised rubber). FRP EUROPE KIMFIXATIE is used for the non-invasive attachment of EPDM membranes on roof systems that are ballasted or secured with adhesive.

Table 15 – FPR EUROPE KIMFIXATIE

Identification characteristics	FPR EUROPE KIMFIXATIE
Adhesive tape thickness [mm]	0.9
Width [mm]	152
Length [m]	30.48
Colour	Black
Performance	
Shelf life [months]	24 (between +5 °C and +40 °C)

The FRP EUROPE LS-100 product forms part of the system, but is not covered by this approval and is not included in this certification.

3.2.11 Heat insulation

The thermal insulation must be covered by a technical approval (ATG) with certification for use on roofs.

3.2.12 Separation and protective layers

Separation and protective layers are used as follows:

- **Immediately under the EPDM membrane (for TECHNO RUBBER EPDM only):**
  - In order to avoid direct contact between the membrane and surfaces at risk of mechanical damage due to piercing or cracking (e.g. rough surfaces);
- **Immediately under the EPDM membrane:**
  - In order to avoid direct contact between the membrane and materials at risk of causing mechanical damage due to piercing, cracking, etc.;
  - In order to avoid direct contact between the membrane and incompatible chemical materials (e.g. inverted roofs) (see Table 16).

Table 16 – Separation and protective layers

Type	Trade name	Mass per unit area [g/m²]
Mechanical separation layers		
Polyester non-woven fabric	-	≥ 150
Protection layers		
Synthetic fleece	-	≥ 300

Separation and protective layers are part of the described system, but not part of this approval and are not subject to certification.

3.2.13 Vapour barrier

For information concerning vapour barriers and their installation, please refer to Chapter 6 of NIT 280.

Vapour barriers are part of the described system, but not part of this approval and are not subject to certification.

4 Manufacture and marketing

4.1 Membranes

TECHNO RUBBER EPDM membranes and TECHNO RUBBER FLEECEBACK are manufactured at the TechnoRubber Company Ltd factory in Dammam (Saudi Arabia).

Labelling: rolls of roofing material can be identified by the trade name of the product, the approval holder, the ATG brand logo and the ATG number. The article number, dimensions (thickness, length, width) are also indicated on the packaging.

It is necessary to display the production code on the rolls of roofing material or heat-shrinkable film.

The FRP EUROPE company (Oudenaarde, BE) markets the product.

4.2 Auxiliary products

Auxiliary products (adhesives, primers, cleaners, etc.) are manufactured for the TechnoRubber Company Ltd factory.

The company FRP EUROPE (Oudenaarde) markets the auxiliary products.

5 Design and installation

If used, monolayer roof waterproofing materials require greater care than multi-layer materials. 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.

The materials can only be fitted by contractors trained by TechnoRubber Company Ltd and/or FRP EUROPE (Oudenaarde).

5.1 Reference documents

- NIT 280: "Flat roofs (updated version of NIT 215" (BBRI)
- NIT 239: "Mechanical fastening of insulation and waterproofing materials on profiled steel sheets" (BBRI)
- NIT 244: "Building flat roofs: general principles" (BBRI)
- « UEAtc Technical Guide for the assessment non-reinforced, reinforced and/or backed Roof Waterproofing Systems made of EPDM (2001) ».
- Information sheet UBAtc n° 2012/02: "Wind action on flat roofs according to the wind action standard NBN EN 1991-1-4"
- Fitting instructions of the approval holder.

5.2 Hygrothermal conditions – vapour barrier

See NIT 280.

5.3 Laying the roof waterproofing material

Roof waterproofing materials must be fitted according to NIT 280.

Work should be halted in the event of damp weather (rain, snow or fog) and if the ambient temperature is below 5 °C. Work can only resume if the surface is dry.

The installation sheet indicates the authorised roof composition according to the installation type, nature of the surface and states whether the Royal Decree of 7/07/1994 and its amendments of 19/12/1997, 04/04/2003, 01/03/2009, 12/07/2012 and 18/01/2017 apply.

The roofing materials are fitted to a flat, dry surface without tension.

5.3.1 Loose laid membranes

Loose laid membranes are only authorised for 5% (3°) slopes (or less) if gravel ballast is used and 10% (6°) if tiles are to be fitted.

Loose laid membranes are authorised for all types of surfaces.

If laid on concrete or a rough surface, a separation layer is applied between the membrane and the surface (see § 3.2.12).

Ballast must be present in order to obtain the required wind resistance. A protective layer is applied between the membrane and the ballast (see § 3.2.12).

It is necessary to apply a linear fixing mechanism (fixing mechanism on the roof edge corner) around the entire roof perimeter, as well as each piercing (domes, etc.) (see NIT 244, § 5.4.2).

Overlapping joints are created according to § 5.3.4.

5.3.2 Fully bonded membranes

TECHNO RUBBER EPDM MEMBRANES and TECHNO RUBBER EPDM FLEECEBACK CAN BE FULLY BONDED USING FRP EUROPE CONTACT ADHESIVE AND FRP EUROPE SPUITLIJM SPRAY ADHESIVE.

The characteristics of the adhesives are listed in § 3.2.1.

Table 17 – Compatibility of adhesives and membranes

Membrane	A (1)	B (1)
TECHNO RUBBER EPDM	X	X
TECHNO RUBBER EPDM FLEECEBACK	-	X

A = FRP EUROPE CONTACTLIJM / B = FRP EUROPE SPUITLIJM
(1): X = compatible
- = not evaluated

Table 18 – Compatibility of adhesives and surfaces

Surface	A (1)	B (1)
Coated PU		
With bituminised glass fleece	-	-
With mineral glass fleece	-	-
With aluminium	-	-
With aluminium multi-layer complex	X	X
MW		
Uncoated	-	-
With bituminised glass fleece	-	-
With mineral glass fleece	-	-
Bitumen impregnated	-	-
EPS		
Uncoated	-	-
With bituminised glass fleece	-	-
EPB		
Uncoated	-	-
Bitumen impregnated	-	-
Bituminous sheet (2)	-	-
Concrete	-	-
Cellular concrete	-	-
Wood, multiplex, …	-	-

A = FRP EUROPE CONTACTLIJM / B = FRP EUROPE SPUITLIJM
(1): X = compatible
- = not included within the framework of this approval
(2): if fitting a bituminous sheet with adhesive so that it is fully bonded.

If the TECHNO RUBBER EPDM and TECHNO RUBBER EPDM FLEECEBACK are fully bonded, it will be necessary to fit a fixing mechanism on the corner of the roof curb. (See NIT 244, § 5.4.2).

5.3.2.1 Using FRP EUROPE CONTACTLIJM CONTACT ADHESIVE

Membranes and surfaces that are compatible with FRP EUROPE CONTACTLIJM are listed in Table 17 and Table 18.

The FRP EUROPE CONTACTLIJM contact adhesive must first be mixed thoroughly before the undiluted product is applied using an adhesive roller onto the surface and the lower side of the membrane, using the total quantity of 500 – 650 g/m² (surface + membrane). After the adhesive has reached "tacky point", the membrane is unrolled onto the adhesive, before being laid immediately onto the surface.

Overlapping joints are created according to § 5.3.4.

5.3.2.2 Using FRP EUROPE SPUITLIJM SPRAY ADHESIVE

Membranes and surfaces that are compatible with FRP EUROPE SPUITLIJM spray adhesive are listed in Table 17 and Table 18.

THE FRP EUROPE SPUITLIJM ADHESIVE IS APPLIED BOTH TO THE SURFACE AND THE LOWER SIDE OF THE MEMBRANE, AT A RATE OF 25 G/M² OF DRY WEIGHT (PER SIDE) OR 115 G/M² OF WET WEIGHT PER SIDE (EQUIVALENT TO A TOTAL CONSUMPTION OF 230 G/M² ON THE SURFACE AND MEMBRANE), WITH A PRESSURISED ADHESIVE CYLINDER AND SPRAY SYSTEM FITTED WITH AN APPROPRIATE ADHESIVE SPRAY NOZZLE.

Overlapping joints are created according to § 5.3.4.

5.3.3 Fitting loose laid membranes using adhesive

TECHNO RUBBER EPDM FLEECEBACK MEMBRANES CAN E PARTIALLY BONDED USING FRP EUROPE PG1 FLEECEBACK ADHESIVES.

The characteristics of the adhesives are listed in § 3.2.1.

Table 19 — Compatibility of adhesives and surfaces

Surface	FRP EUROPE PG1 FLEECEBACK ADHESIVE (1)
Coated PU	
With bituminised glass fleece	-
With mineral glass fleece	-
With aluminium	-
With aluminium multi-layer complex	X
MW	
Uncoated	-
With bituminised glass fleece	-
With mineral glass fleece	-
Bitumen impregnated	-
EPS	
Uncoated	-
With bituminised glass fleece	-
EPB	
Uncoated	-
Bitumen impregnated	-
Bituminous sheet (2)	-
Concrete	-
Cellular concrete	-
Wood, multiplex, …	-

(1): X = compatible
- = not included within the framework of this approval
(2): if fitting a bituminous sheet with adhesive so that it is fully bonded.

If applying loose laid TECHNO RUBBER EPDM FLEECEBACK, it is fully bonded onto the roof corner using a tape measuring at least 500 mm in length along the edges. (See NIT 244, § 5.4.2).

5.3.3.1 Using FRP PG1 ADHESIVE

Membranes and surfaces compatible with FRP PG1 ADHESIVE are listed in Table 19.

The adhesive is applied using an automatic adhesive applicator, which makes it possible to apply the adhesive onto the surface in strips. This enables you to create adhesive beads measuring 1.5 cm – 2.0 cm, which cause the tapes to expand in width to 5.0 cm – 7.5 cm when they expand. After the adhesive has foamed for about 1 - 2 minutes, the sheet is rolled onto the wet adhesive, as the membrane must then be laid onto the surface. The amount used will be between 160 g/m² - 200 g/m² depending on the surface, with a maximum distance of 30 cm between the strips of adhesive.

The adhesive cannot be used at temperatures below 5 °C.

Overlapping joints are created according to § 5.3.4.

5.3.4 Overlap joints

5.3.4.1 Longitudinal joints

The sheets are laid without tension with a minimum covering of 100 mm in longitudinal direction, both for loose laid and fully bonded membranes. Any dust and grease is removed from both edges using the primer, as described in § 3.2.6. The FRP EUROPE NADENTAPE self-adhesive tape is then applied to the lower strip, while the PE film protecting the self-adhesive tape is removed and both strips are laid on top of each other before the joint is pressed into place using a roller. The FRP EUROPE NADENTAPE tape must extend 3 mm - 5 mm below the joint (see Fig. 1).

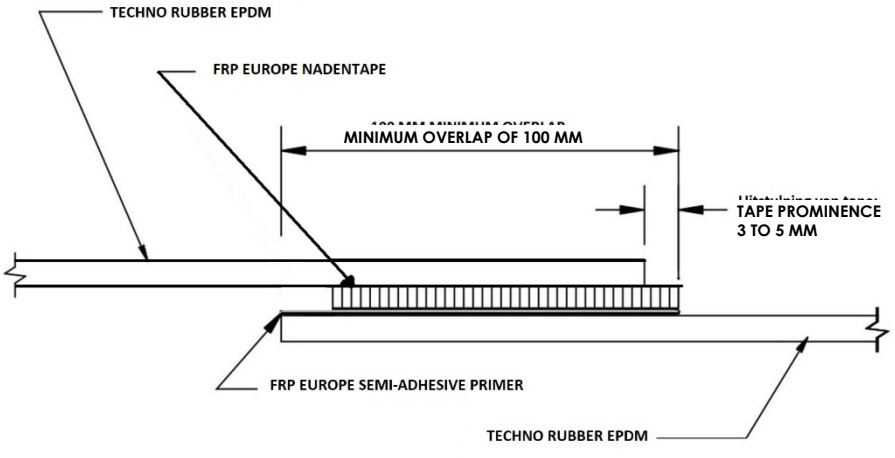

Fig. 1– Overlapping joints in longitudinal direction

The principle, according to which the self-adhesive tape is first applied (PT version of TECHNO RUBBER EPDM FLEECEBACK) is identical to that described for FRP EUROPE NADENTAPE.

Work will be interrupted if the temperature falls below 5 °C.

5.3.4.2 Transversal joints

For TECHNO RUBBER EPDM, the sheets are laid without tension with a 100 mm overlap in transversal direction, whether they are loose laid or applied with adhesive. Any dust and grease is removed from both edges using the primer, as described in § 3.2.6. The FRP EUROPE NADENTAPE self-adhesive tape is then applied to the lower strip, while the PE film protecting the self-adhesive tape is removed and both strips are laid on top of each other before the joint is pressed into place using a roller. The FRP EUROPE NADENTAPE tape must extend 3 mm - 5 mm below the joint.

For TECHNO RUBBER EPDM FLEECEBACK, the transverse joints are created by laying the membranes edge to edge. On both sides of the joint, the surface is cleaned across a sufficient width using FRP EPDM CLEANER. After FRP EUROPE SEMI-ADHESIVE PRIMER has been applied, the FRP EUROPE COVER STRIP self-adhesive joint tape is applied using adhesive and pressed onto this surface.

5.4 Roof details

For the installation of expansion joints, flashings, ridges and gutters, please refer to NIT 244 from the BBRI and the approval holder's instructions.

In order to ensure that the roof is airtight and protect against fire, roof details must be added in order to prevent air leaks and protect against fire while work is conducted.

5.5 Storage and preparing the site

See NIT 280.

The membranes must be stored flat on a clean, smooth and dry surface, without any pointed lumps and away from adverse weather conditions.

5.6 Wind resistance

The wind resistance of the roof waterproofing is determined according to the anticipated wind action, which is calculated according to Information sheet UBAtc n° 2012/2: "Wind action on flat roofs according to the wind action standard NBN EN 1991-1-4".

The dimensions and type of ballast take account of the calculated wind action, as well as the criteria required in order to meet the Royal Decree (A.R.) of 07/ 07/ 1994 and its amendments of 19/12/1997, 04/04/2003, 01/03/2009, 12/07/2012 and 18/01/2017 if the latter apply.

The relevant calculated wind resistance values for the waterproofing are listed in Table 20.

Table 20 – Calculated values for wind action (waterproofing system)

Application	System	Calculation value [N/fastener]
Loose laid **(LL)**	Ballast according to Information sheet UBAtc n° 2012/2: "Wind action on flat roofs according to the wind action standard NBN EN 1991-1-4" (UBAtc).	
Application	**Surface**	**Calculation value** [Pa]
Fully adhered **(TC)**	**TECHNO RUBBER EPDM**	
	using FRP EUROPE CONTACTLIJM Coated PU Multi-layer aluminium complex	**2,650** (1)
	using FRP EUROPE SPUITLIJM Coated PU Multi-layer aluminium complex	**2,325** (1)
	TECHNO RUBBER EPDM FLEECEBACK	
	using FRP EUROPE SPUITLIJM Coated PU Multi-layer aluminium complex	**2,650** (1)
Partially adhered **(PC)**	**using FRP EUROPE PG1 FLEECEBACK ADHESIVE** Coated PU Multi-layer aluminium complex	**5,650** (1)
(1): These values are based on a wind test, using a safety coefficient of 1.5.		

The above-mentioned calculated values are comparable to the effect of wind action with a return period of 25 years, as indicated in the Information Sheet 2012/02 from the UBAtc "Wind action on flat roofs according to the wind action standard NBN EN 1991-1-4 » (UBAtc).

If the above calculated values are used, the installation sheet must be followed.

These calculated values must be checked against the calculated values for the roof insulation material (see ATG for insulation material), with reference to the lowest calculated value.

6 Performance

- The performance characteristics of TECHNO RUBBER EPDM membranes are listed in § 6.1 of Table 21, while those for TECHNO RUBBER EPDM FLEECEBACK are listed in § 6.3 of TABLE 22.

  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.

- The performance characteristics of the system are listed in § 6.2 of Table 21 (for TECHNO RUBBER (EPDM) membranes)

  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.

Table 21 – TECHNO RUBBER EPDM

Properties	Test methods	Criteria UEAtc/BUtgb (1)	Evaluated criteria TECHNO RUBBER EPDM	Evaluation tests (2)
6.1 Performance of the membrane				
Effective thickness [mm]	NBN EN 1849-2	MDV (≥ 1,10) -5 %, +10 %		
1.20			1.20	X
1.50			1.50	X
Visible defects	NBN EN 1850-2			
After exposure to bitumen	(UEAtc § 4.4.1.2)	No damage	No damage	X
After exposure to ozone	(NBN EN 1844)	No damage	No damage	X
Dimensional stability [%]	NBN EN 1107-2			
Longitudinal		≤ 0.5	≤ 0.5	X
Transversal		≤ 0.5	≤ 0.5	X
Water-tightness	NBN EN 1928	Waterproof at 10 kPa	Waterproof at 10 kPa	X
Tensile strength (N/50 mm)	NBN EN 12311-2: 2013 (Method B)			
Initial				
Longitudinal		≥ 6,0	≥ 8,0	X
Transversal		≥ 6,0	≥ 8,0	X
After 24 weeks at 70 °C	(NBN EN 1297)			
Longitudinal		Δ ≤ 20 %	Δ ≤ 20 %	X
Transversal		Δ ≤ 20 %	Δ ≤ 20 %	X
Elongation at break [%]	NBN EN 12311-2: 2013 (Method B)			
Initial				
longitudinal		≥ 300	≥ 300	X
transversal		≥ 300	≥ 300	X
After 24 weeks at 70 °C	(NBN EN 1296)			
longitudinal		Δ ≤ 40 % and ≥ 200	Δ ≤ 40 % and ≥ 200	X
transversal		Δ ≤ 40 % and ≥ 200	Δ ≤ 40 % and ≥ 200	X
Tear resistance [N]	NBN EN 12310-2			
Longitudinal		≥ MLV	≥ 30	X
Transversal		≥ MLV	≥ 30	X
Foldability at low temperature [°C]	NBN EN 495-5			
Initial		≤ -30	≤ -40	X
After 2,500 h of UV exposure (A)	(UEAtc §4.4.1.3)	Δ ≤ 10 °C	Δ ≤ 10 °C	X
After exposure to bitumen	(UEAtc § 4.4.1.2)	Δ ≤ 5 °C	Δ ≤ 5 °C	X
Water absorption [%]	UEAtc § 4.3.13	≤ 2.0	≤ 2.0	X
Weight loss				
After exposure to bitumen	(UEAtc § 4.4.1.2)	Δ ≤ 3 %	Δ ≤ 3 %	X
6.2 System performance				
6.2.1 Full roof composition				
Resistance to static loading [class L]	NBN EN 12730			
On EPS 100	Method A	≥ MLV	≥ L20	X
On concrete	Method B	≥ MLV	≥ L20	X
Resistance to impact [mm]	NBN EN 12691			
On aluminium	Method A	≥ MLV	≥ 150	X
On EPS 150	Method B	≥ MLV	≥ 2.000	X

Table 21 (cont'd 1) – TECHNO RUBBER EPDM

Properties	Test methods	Criteria UEAtc/UBAtc (1)	Evaluated criteria	Evaluation tests (2)
			TECHNO RUBBER EPDM	
6.2.2 Overlap joints				
Peel resistance of joints using FRP EUROPE NADENTAPE [N/50 mm]	NBN EN 12316-2			
Initial		≥ 25 (average)	≥ 25 (average)	X
After 4 weeks at 80 °C		Δ ≤ 20 %	Δ ≤ 20 %	X
After 1 week in water at 60 °C		Δ ≤ 20 %	Δ ≤ 20 %	X
Shear resistance of joints using FRP EUROPE NADENTAPE [N/50 mm]	NBN EN 12317-2			
Initial (+23 °C)		≥ 200	≥ 200	X
Initial (-20 °C)		≥ 50	≥ 50	X
Initial (+80 °C)		Δ ≤ 20 %	Δ ≤ 20 %	X
After 4 weeks at 80 °C		Δ ≤ 20 %	Δ ≤ 20 %	X
After 24 weeks at 80 °C (+ 23 °C)		Δ ≤ 20 %	Δ ≤ 20 %	X
After 24 weeks at 80 °C (+ -20 °C)		Δ ≤ 20 %	Δ ≤ 20 %	X
After 24 weeks at 80 °C (+ +80 °C)		Δ ≤ 20 %	Δ ≤ 20 %	X
After 1 week in water at +60 °C		Δ ≤ 20 %	Δ ≤ 20 %	X
6.2.3 Surface adhesion – peeling test				
TECHNO RUBBER EPDM using FRP EUROPE CONTACTLIJM on:				
PU with aluminium multi-layer complex [N/50 mm]				
Initial	UEAtc § 4.3.3	≥ 25	≥ 25	X
After 28 days at 80 °C		≥ 25 and Δ ≤ 50 %	≥ 25 and Δ ≤ 50 %	X
TECHNO RUBBER EPDM using FRP EUROPE SPUITLIJM on:				
PU with aluminium multi-layer complex [N/50 mm]				
Initial		≥ 25	≥ 25	**15**
After 28 days at 80 °C		≥ 25 and Δ ≤ 50 %	≥ 25 and Δ ≤ 50 %	X

(1): MDV = Manufacturer's Declared Value / MLV = Manufacturer's Limiting Value
(2): X: evaluated and in compliance with the ATG holder's criteria

Properties	Test methods	Assessment tests
6.2.4 Wind tests (for calculation values, see Table 20, § 5.6)		
Wood, PU (multilayer aluminium complex), 100 mm with + **TECHNO RUBBER EPDM** 1.2 mm (adhered with **FRP EUROPE CONTACTLIJM** contact adhesive - 472 g/m² (total consumption – on both sides))	UEAtc § 4.3.2	Test result = 4.000 Pa, rupture at 4,500 Pa, (delamination of membrane – isolation and delamination of the insulation material finishing)
Wood, PU (multilayer aluminium complex), 100 mm with + **TECHNO RUBBER EPDM** 1.2 mm (adhered with **FRP EUROPE SPUITLIJM** adhesive - 168 g/m² (total consumption - on both sides))		Test result = 3.500 Pa, rupture at 4,000 Pa, (delamination of membrane – isolation and delamination of the insulation material finishing)

6.2.5 Chemical resistance

The membrane is resistant to the effects of most products, but not certain substances, such as: gasoline, petroleum, benzene, organic solvents, greases, oils, tar, detergents and concentrated oxidation products at high temperatures. If in doubt, seek advice from the manufacturer or his representative.

Table 22 – TECHNO RUBBER EPDM FLEECEBACK

Properties	Test methods	Criteria UEAtc/BUtgb (1)	Evaluated criteria	Evaluation tests (2)
			TECHNO RUBBER EPDM FLEECEBACK	
6.3 Performance of the membrane				
Effective thickness [mm]	NBN EN 1849-2	MDV (≥ 1,10) -5 %, +10 %		
1.20			1.20	X
Visible defects	NBN EN 1850-2			
After exposure to ozone	(NBN EN 1844)	No damage	No damage	X
Dimensional stability [%]	NBN EN 1107-2			
Longitudinal		≤ 0.5	≤ 0.5	X
Transversal		≤ 0.5	≤ 0.5	X
Water-tightness	NBN EN 1928	Waterproof at 10 kPa	Waterproof at 10 kPa	X
Tensile strength [N/50 mm]	NBN EN 12311-2 (method A)			
Longitudinal		≥ 400	≥ 400	X
Transversal		≥ 400	≥ 400	X
Elongation at max. tensile strength [%]	NBN EN 12311-2 (method A)			
Longitudinal		≥ 40	≥ 40	X
Transversal		≥ 40	≥ 40	X
Nail tear resistance [N]	NBN EN 12310-1			
Longitudinal		≥ 150	≥ 150	X
Transversal		≥ 150	≥ 150	X
Foldability at low temperature [°C]	NBN EN 495-5			
Initial		≤ -30	≤ -40	X
After 24 weeks at 70 °C	(NBN EN 1296)	Δ= 0 °C	Δ= 0 °C	X
After 2,500 h of UV exposure (A)	(§ UEAtc 4.4.1.3)	Δ ≤ 10 °C	Δ ≤ 10 °C	X
Water absorption [%]	UEAtc § 4.3.13	≤ 2.0	≤ 2.0	X
Interlaminar adhesion [N/50 mm]	UEAtc § 4.3.16			
Between the membrane and the backing		≥ 50	≥ 50	X
6.4 System performance				
6.4.1 Full roof composition				
Resistance to static loading [class L]	NBN EN 12730			
On EPS 100	Method A	≥ MLV	≥ L20	X
On concrete	Method B	≥ MLV	≥ L20	X
Resistance to impact [mm]	NBN EN 12691			
On aluminium	Method A	≥ MLV	≥ 150	X
On EPS 150	Method B	≥ MLV	≥ 2.000	X

Table 22 (cont'd 1) – TECHNO RUBBER EPDM FLEECEBACK

Properties	Test methods	Criteria UEAtc/UBAtc (1)	Evaluated criteria	Evaluation tests (2)
			TECHNO RUBBER EPDM FLE ECEBACK	
6.4.2 Overlap joints				
Peel resistance of joints using FRP EUROPE NADENTAPE [N/50 mm]	NBN EN 12316-2			
Initial		≥ 25 (average)	≥ 25 (average)	**X**
After 4 weeks at 80 °C		Δ ≤ 20 %	Δ ≤ 20 %	**X**
After 1 week in water at 60 °C		Δ ≤ 20 %	Δ ≤ 20 %	**X**
Shear resistance of joints using FRP EUROPE NADENTAPE [N/50 mm]	NBN EN 12317-2			
Initial (+23 °C)		≥ 200	≥ 200	**X**
Initial (-20 °C)		≥ 50	≥ 50	**X**
Initial (+80 °C)		Δ ≤ 20 %	Δ ≤ 20 %	**X**
After 4 weeks at 80 °C		Δ ≤ 20 %	Δ ≤ 20 %	**X**
After 24 weeks at 80 °C (+ 23 °C)		Δ ≤ 20 %	Δ ≤ 20 %	**X**
After 24 weeks at 80 °C (+ -20 °C)		Δ ≤ 20 %	Δ ≤ 20 %	**X**
After 24 weeks at 80 °C (+ +80 °C)		Δ ≤ 20 %	Δ ≤ 20 %	**X**
After 1 week in water at +60 °C		Δ ≤ 20 %	Δ ≤ 20 %	**X**
6.4.3 Surface adhesion – peeling test				
TECHNO RUBBER EPDM using FRP EUROPE SPUITLIJM on:				
PU with aluminium multi-layer complex [N/50 mm]				
Initial	UEAtc § 4.3.3	≥ 25	≥ 25	**21**
After 28 days at 80 °C		≥ 25 and Δ ≤ 50 %	≥ 25 and Δ ≤ 50 %	**X**
TECHNO RUBBER EPDM using FRP EUROPE PG1 ADHESIVE on:				
PU with aluminium multi-layer complex [N/50 mm]				
Initial		≥ 25	≥ 25	**X**
After 28 days at 80 °C		≥ 25 and Δ ≤ 50 %	≥ 25 and Δ ≤ 50 %	**X**

(1): MDV = Manufacturer's Declared Value / MLV = Manufacturer's Limiting Value
(2): X: evaluated and in compliance with the ATG holder's criteria

Properties	Test methods	Assessment tests
6.4.4 Wind tests (for calculation values, see Table 20, § 5.6)		
Wood, PU (multilayer aluminium complex), 100 mm with + **TECHNO RUBBER EPDM FLEECEBACK** 1.2 mm (adhered with **FRP EUROPE SPUITLIJM** spray adhesive - 178 g/m² per side (total consumption - on both sides))	UEAtc § 4.3.2	Test result = 4.000 Pa, rupture at 4,500 Pa, (delamination of membrane – isolation and delamination of the insulation material finish)
Wood, PU (multilayer aluminium complex), 100 mm with + **TECHNO RUBBER EPDM FLEECEBACK** 1.2 mm (partially adhered with **FRP EUROPE PG1 FLEECEBACK ADHESIVE** - 168 g/m², 30 cm between adhesive strips)	UEAtc § 4.3.2	Test result = 8.500 Pa, rupture at 9,000 Pa (delamination in the insulation material under the adhesive tapes)

6.4.5 Chemical resistance

The membrane is resistant to the effects of most products, but not certain substances, such as: gasoline, petroleum, benzene, organic solvents, greases, oils, tar, detergents and concentrated oxidation products at high temperatures. If in doubt, seek advice from the manufacturer or his representative.

7 Instructions

7.1 Accessibility

Only waterproof sheets fitted with tiles or an equivalent coating are accessible. Access to other roofing sheets is permitted only for maintenance purposes.

7.2 Maintenance

Maintenance must be conducted on the roof waterproofing material and its protection every year before and after the winter. It should focus on specific areas, such as those listed in NBN B46-001 or NIT 280.

7.3 Repairs

Repairs to roof waterproofing material or its protection must be conducted using the same materials as those previously used. Repairs must be conducted with care and according to the Approval holder's instructions.

8 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 listed 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 an ATG index (ATG 3236) 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 8.

Application sheet TECHNO RUBBER EPDM

The following application sheet accompanies the notes in Table 2 and mentions the types of membranes and the associated laying techniques, depending on the surface, according to the fire protection requirements, as defined in the Royal Decree of 07/07/1994, including the amendments described in the Royal Decree of 19/12/1997, the Royal Decree of 04/04/2003, the Royal Decree of 01/03/2009 and the Royal Decree of 18/01/2017. The codes are indicated in NIT 280.

For systems shown **in colour**, ANNEXE A provides details of roof systems that meet fire requirements, as listed in the above-mentioned Royal Decrees.

Product symbols and names:

◆ = **TECHNO RUBBER EPDM**

Symbol used:

O = this application is not covered by this ATG

Application options: see Table 23 + instructions from NIT 280

Table 23 – Installation instruction sheet

Laying method	A.R.	Heavy protection (ballast, tiles, etc.)	Surface												
			PU	PF	uncoated EPS	coated EPS	uncoated CG	Coated CG	MW, EPB	Existing waterproofing	Concrete or light concrete screed	Cellular concrete, concrete tiles	Fibre cement sheets or particle boards, multiplex	Cement bonded wood fibre boards	Wooden floor
			(a)	(a)		(a)	(b)	(c)			(d)	(d)			
Loose laid membranes (1)															
Single layer **(LL)**	applicable	Without	Not authorised												
		With (e)	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
	not applicable	Without	Not authorised												
		With (e)	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆

(1): The heavy protection layer must also ensure that the waterproofing system is wind resistant (see § 5.6).

(a): coated PU/PF/EPS: the insulation material is always protected by a suitable coating.
(b): uncoated GC: a first bituminous underlayer (V3 or higher) is laid with full adhesion using hot bitumen onto the GC, or welded, cold bonded or applied so that it adheres to the cooled hot bitumen mop coat applied onto the GC.
(c): Coated GC: the insulation material is either covered with weldable finishing, onto which a first bituminous underlayer (V3 or higher) is welded so that it adheres fully (a separation layer is provided) or covered with a suitable finishing.
(d): (cellular) concrete: the concrete must be dry.
(e): A protective layer is added between the membrane and the ballast.

Table 23 (cont'd 1) - Installation instruction sheet

Laying method	A.R.	Heavy protection (ballast, tiles, etc.)	Surface												
			PU	PF	uncoated EPS	coated EPS	uncoated CG	Coated CG	MW, EPB	Existing waterproofing	Concrete or light concrete screed	Cellular concrete, concrete tiles	Fibre cement sheets or particle boards, multiplex	Cement bonded wood fibre boards	Wooden floor
			(a)												
Fully adhered – FRP CONTACTLIJM adhesive															
Single layer **(TC)**	applicable	Without	○	○	○	○	○	○	○	○	○	○	○	○	○
		With (b)	◆	○	○	○	○	○	○	○	○	○	○	○	○
	not applicable	Without	◆	○	○	○	○	○	○	○	○	○	○	○	○
		With (b)	◆	○	○	○	○	○	○	○	○	○	○	○	○
Fully adhered – FRP SPUITLLIJM ADHESIVE															
Single layer **(TC)**	applicable	Without	○	○	○	○	○	○	○	○	○	○	○	○	○
		With (b)	◆	○	○	○	○	○	○	○	○	○	○	○	○
	not applicable	Without	◆	○	○	○	○	○	○	○	○	○	○	○	○
		With (b)	◆	○	○	○	○	○	○	○	○	○	○	○	○

(a): coated PU/PF/EPS: the insulation material is always covered with a multilayer aluminiun complex finishing.
(b): A protective layer is added between the membrane and the ballast.

Installation instruction sheet TECHNO RUBBER EPDM FLEECEBACK

The following application sheet accompanies the notes in Table 2 and mentions the types of membranes and the associated laying techniques, depending on the surface, according to the fire protection requirements, as defined in the Royal Decree of 07/07/1994, including the amendments described in the Royal Decree of 19/12/1997, the Royal Decree of 04/04/2003, the Royal Decree of 01/03/2009 and the Royal Decree of 18/01/2017. The codes are indicated in NIT 280.

For systems shown **in colour**, ANNEXE A provides details of roof systems that meet fire requirements, as listed in the above-mentioned Royal Decrees.

Product symbols and names:

■ = **TECHNO RUBBER EPDM FLEECEBACK**

Symbol used:

O = this application is not covered by this ATG

Application options: see Table 24 + instructions from NIT 280

Table 24 sheet

Laying method	A.R.	Heavy protection (ballast, tiles, etc.)	Surface												
			PU	PF	uncoated EPS	coated EPS	uncoated CG	Coated CG	MW, EPB	Existing waterproofing	Concrete or light concrete screed	Cellular concrete, concrete tiles	Fibre cement sheets or particle boards, multiplex	Cement bonded wood fibre boards	Wooden floor
			(a)	(a)		(a)	(b)	(c)			(d)	(d)			
Loose laid membranes (1)															
Single layer **(LL)**	applicable	Without	Not authorised												
		With (e)	■	■	■	■	■	■	■	■	■	■	■	■	■
	not applicable	Without	Not authorised												
		With (e)	■	■	■	■	■	■	■	■	■	■	■	■	■

(1): The heavy protection layer must also ensure that the waterproofing system is wind resistant (see § 5.6).

(a): coated PU/PF/EPS: the insulation material is always protected by a suitable finishing.
(b): uncoated GC: a first bituminous underlayer (V3 or higher) is laid with full adhesion using hot bitumen onto the GC, or welded, cold bonded or applied so that it adheres to the cooled hot bitumen mop coat applied onto the GC.
(c): coated GC: the insulation material either includes weldable finishing, onto which the first bituminous underlayer can be (V3 or higher) welded with full adhesion or is covered with a suitable finishing.
(d): (cellular) concrete: the concrete must be dry.
(e): A protective layer is added between the membrane and the ballast.

Table 24 (cont'd 1) – Application sheet

Laying method	A.R.	Heavy protection (ballast, tiles, etc.)	Surface												
			PU	PF	uncoated EPS	coated EPS	uncoated CG	Coated CG	MW, EPB	Existing waterproofing	Concrete or light concrete screed	Cellular concrete, concrete tiles	Fibre cement sheets or particle boards, multiplex	Cement bonded wood fibre boards	Wooden floor
			(a)												
Fully adhered – FRP SPUITLLIJM ADHESIVE															
Single layer **(TC)**	applicable	Without	O	O	O	O	O	O	O	O	O	O	O	O	O
		With (b)	■	O	O	O	O	O	O	O	O	O	O	O	O
	not applicable	Without	■	O	O	O	O	O	O	O	O	O	O	O	O
		With (b)	■	O	O	O	O	O	O	O	O	O	O	O	O
Loose laid membranes - FRP PG1 ADHESIVE															
Single layer **(PC)**	applicable	Without	O	O	O	O	O	O	O	O	O	O	O	O	O
		With (b)	■	O	O	O	O	O	O	O	O	O	O	O	O
	not applicable	Without	■	O	O	O	O	O	O	O	O	O	O	O	O
		With (b)	■	O	O	O	O	O	O	O	O	O	O	O	O

(a): coated PU/PF/EPS: the insulation material is always covered with a multilayer aluminium complex finishing.
(b): A protective layer is added between the membrane and the ballast.

This technical approval has been published by UBAtc, under the responsibility of the approval body BCCA, and based on favourable feedback from the specialist "ROOFS" group, issued on November 26th 2018.

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: 31 May 2022.

For UBAtc, declaration of the validity of the approval process

Eric Winnepenninckx,
Secretary general

Benny de Blaere,
Director

For the approval and certification body

Olivier Delbrouck,
Managing director

This technical approval shall remain valid, provided the product, 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.butgb-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 3236
UBAtc BUtgb

UBAtc asbl has been notified by the FPS Economy within the framework of Regulation (EU) 305/2011.
Certification bodies designated by UBAtc asbl operate in compliance with a system that is set to be accredited by BELAC (www.belac.be).

UBAtc asbl is an accredited body and member of:

EOTA
European Organisation for Technical Assessment
www.eota.eu

UEAtc
European Union for technical approval in construction
www.ueatc.eu

WFTAO
World Federation of Technical Assessment Organisations
www.wftao.com

ANNEX A [1]

External fire resistance of the systems covered by the technical approval ATG

Index 0: on 31/05/2022 [2]

According to the Royal Decree (A.R.) of 07/07/1994, the Royal Decree (A.R.) of 19/12/1997, the Royal Decree of 01/03/2009, the Royal Decree of 12/07/2012 and the Royal Decree of 18/01/2017, buildings are divided into 2 categories:

1. Buildings, to which the Royal Decrees do not apply:
   - Buildings with a maximum of two building levels and a total surface area of less than or equal to 100 m²;
   - Single-family houses.
2. Buildings, to which the Royal Decrees apply:

   The roof systems listed in this ATG Technical Approval must be covered with a heavy protection layer (e.g. ballast, tiles, etc.) according to the decision of the European Commission of 06/09/2000 (on the implementation of Directive 89/106/CEE concerning the classification of the external fire performance of roofs and roof coverings), which makes it possible to consider that this heavy protection layer meets the requirements of the Royal Decree concerning fire behaviour.

   In this case, it is not necessary to conduct tests in order to determine the external fire resistance of the relevant roof systems listed in this ATG Technical Approval.

   Note 1: "ballast" is "gravel spread loosely with a thickness of at least 50 mm or a mass of at least 80 kg/m² (maximum granulometry of the aggregate: 32 mm; minimum: 4 mm)"

   Note 2: "tiles" are "mineral tiles with a minimum thickness of 40 mm".

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[1]: This annex is an integral part of the technical approval.
[2]: The index of the up-to-date version of Annex A can be consulted on the UBAtc non-profit organisation website, www.butgb-ubatc.be.
[3]: Cf. Provision 2001/671/CE of the Commission.