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Authorised and notified according to Article 29 of the Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011

European Technical Assessment ETA-22/0805 of 2024/06/24

I General Part

Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011: ETA-Danmark A/S

Trade name of the construction product:	Matacryl (one coat) bridge deck waterproofing system
Product family to which the above construction product belongs:	Liquid applied bridge deck waterproofing system
Manufacturer:	Alteco Technik GmbH Raiffeisenstrasse 16 D-27239 Twistringen Internet www.alteco-technik.de/
Manufacturing plant:	Alteco Technik GmbH Raiffeisenstrasse 16 D-27239 Twistringen Germany
This European Technical Assessment contains:	8 pages including 1 annex which is an integral part of the document
This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of:	European Assessment Document (EAD) No. EAD 030675-00-0107: Liquid Applied Bridge Deck Waterproofing Kits
This version replaces:	The ETA with the same number issued on 2023-03-01

II SPECIFIC PART OF THE EUROPEAN TECHNICAL ASSESSMENT

1 Technical description of product

Matacryl (One Coat) Bridgedeck Waterproofing System is a medium viscosity, urethane-modified, pre-reacted 100 % solid membrane system based on acrylic monomers.

The Matacryl (One Coat) Bridgedeck Waterproofing System comprises:

- Matacryl Primer CM — a single-component reactive resin, based on methyl methacrylate
- Matacryl Waterproofing — a two-part urethane modified resin, based on methyl methacrylate, comprising Part A and B pigmented grey
- Matacryl STC Tack Coat — a single-component reactive resin pigmented grey, based on methyl methacrylate, for use with hot-rolled asphalt (HRA) surfacing
- Matacryl Tack Coat Number 1 – modified bonding bitumen for use to increase bond between substrate and asphalt (CBM) overlay
- Matacryl Catalyst — a 50% dibenzoyl peroxide with a solid plasticiser, for use in Matacryl Primer CM, Matacryl Waterproofing and Matacryl STC Tack Coat
- Natural quartz (0.3 to 0.7 mm) — fire-dried natural quartz sand, for broadcast into the applied Matacryl Primer CM or Matacryl STC Tack Coat (<100mm surfacing) when still wet
- Natural quartz (2.0 to 3.5 mm) — fire-dried natural quartz sand, for broadcast into the applied Matacryl STC Tack Coat when still wet (for surfacing >100mm)
- Matacryl Accelerator — a single-component, yellow-coloured resin solution, for use in Matacryl STC Tack Coat (where applicable), Matacryl Primer CM and Matacryl Waterproofing to accelerate curing at temperatures below 0°C
- Matacryl Adcol Thinner — a single-component colourless liquid, based on methyl methacrylate, for use in Matacryl Waterproofing to improve workability and flow. Also, used as a cleaner before overlapping with the system.

See annex A for consumption and thickness of the components.

This liquid applied bridge deck waterproofing kit is not intended to receive direct vehicular traffic in service and in this case will always be used beneath overlays of asphalt (mastic asphalt, asphalt concrete or concrete) which may have a protective character and/or additional waterproofing function. The kit (One Coat) Bridgedeck Waterproofing System is designed and installed in accordance with the manufacturer, design and installation instructions.

2 Specification of the intended use(s) in accordance with the applicable European Assessment Document (hereinafter EAD)

The intended use of Liquid Applied Bridge Deck Waterproofing Kits is the waterproofing of the concrete deck of the bridge preventing or controlling the passage of water to the support.

This kit is made of non-load bearing construction elements. It does not contribute directly to the stability of the bridge on which is installed, but it can contribute its durability by providing enhanced protection from the effect of weathering.

This applied kit fulfils the Basic works requirements nº 1 (Mechanical resistance and stability), nº. 3 (Hygiene, health and the environment) and nº. 4 (Safety in use) of the European Regulation 305/11.

The kit is suitable for the following use categories according: (A) with overlay and intended to receive vehicular traffic:

- A.1 Overlay asphalt concrete applied at (160 ±10) °C (CBM).
- A,2 Overlay of mastic asphalt applied at 220 ºC (MA).

In the manufacturer's technical dossier (MTD) to this ETA the manufacturer gives specific information concerning the application of the product.

Kits used beneath ballast are not covered under the scope of this ETA

Concerning product packaging, transport, storage, maintenance, replacement and repair it is the responsibility of the manufacturer to undertake the appropriate measures and to advise their clients on the transport, storage, maintenance, replacement and repair of the product, as the manufacturer considers necessary.

It is assumed that the product will be installed according to the manufacturer’s instructions “Matacryl Installation Guide vAug23”.

The provisions made in this European Technical Assessment are based on an assumed working life of the Matacryl (One Coat) Bridgedeck Waterproofing System of at least 25 years.

The indications given on the working life cannot be interpreted as a guarantee given by the manufacturer or the Assessment Body but are to be regarded only as a means for choosing the right 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.

Basic requirement for construction works 1; Mechanical resistance and stability					
Essential characteristic		**Relevant clause in EAD**		**Condition test**	**Values**
Bond strength (kit to support)		2.2.1		P1, S0, T5	3.04 MPa
Capacity to bridge cracks (-20 ºC)	Asphalt concrete 160 ºC (CBM)	2.2.2		P1, S1.2+S2, T2	Watertight
	Mastic Asphalt 220 ºC (MA)			P1, S1.1+S2, T2	Watertight
Resistance to chloride ion penetration		2.2.3			Pass
Resistance to dynamic actions	Resistance to perforation	2.2.4	2.2.4.1	P1, S0, T5	Pass (I_4)
	Resistance to compaction of asphalt concrete		2.2.4.2	P1, S1.2, T5	Resistant and watertight
Resistance to heat impact (indirect method) (150 ºC)	Bond strength (kit to support)	2.2.5		P1, S1.1, T5	3.16 MPa
	Tensile stress (initial- ageing) 10 mm/min 23 ºC / 1 mm/m -10 ºC			P1, S1.1, T5 P1, S1.2, T5	-0,4% 9,7%
	Elongation (initial- ageing) εt 10 mm/min 23 ºC / 1 mm/m -10 ºC			P1, S1.1, T5 P1, S1.2, T5	-1,6% 6,3%
	Capacity to bridge cracks			P1, S1.1, T2	Watertight
Resistance to shear between the substrate and overlay	Mastic Asphalt 220 ºC (MA)	2.2.6		P1, S1.1., T5	1,02 MPa*
	Mastic Asphalt 220 ºC (MA)			P1, S1.1/S3, T5	1,91 MPa*
	Asphalt Concrete 160 ºC (CBM)			P1, S1.2, T5	0.92 MPa*
Water-tightness (23 ºC)		2.2.7		P1, S0, T5	Watertight
Resistance to high and low service temperatures	Low temperature	2.2.8	2.2.2	P1, S1.1+S2, T2	Watertight
	Bond strength to the support at +40 ºC, -10 ºC or -20 ºC		2.2.1	P1, S3, T6 P1, S3, T3 P1, S0, T2	2.53 MPa 4.83 MPa
	Resistance to shear to support (2.2.6) at +40 ºC and/or –10 ºC		2.2.6	P1, S1.1/S3, T3	1.91 MPa
Capacity to penetrate pores in the support		2.2.9 Viscosity Viscosity		P1, S0, T5 P2, S0, T5 T5 T1 – T4	3.04 MPa 3.24 MPa 100-130 mPa-s (25°C) No performance assessed
Resistance to flow (associated with the application to non- horizontal surfaces)		2.2.10		P1, S0, T5	0 %
Dry film thickness		2.2.11		P1, S0, T5	≥2.0 mm
Resistance to the effects of climatic conditions on application	Bond strength to the support 5 ºC	2.2.12	2.2.1	P2, S1.1, T5	1.64 MPa
	Bond strength to the support 40 ºC			P2, S1.1/S3, T5	1.43 MPa
Resistance to the effects of quality of the support (SC)	Moisture Content (MC)	2.2.13		P3, S0, T5	3.20 MPa
	Day Joints (OA) (24h/ 48h)			P4, S0, T5	3,70 MPa A/B
	Section Joints (up to six months) (OA) (7d)			P4, S0, T5	3,53 MPa A/B
Resistance to contact with water (Wa)	Variation in mass (edges not sealed)	2.2.14		P1, S5.1. T5	2,11 %
	Micro hardness Initial/ageing (variation)				97º / 92º (1,4 %)

Resistance to alkali solution contact (Al)	Variation in mass	2.2.15		P1, S5.2. T5	0.48 %
	Micro hardness Initial/ageing (variation)			P1, S5.2. T5	1.2 %
Resistance to oil, petrol or, diesel contact	Variation in mass	2.2.16		Hydraulic oil Diesel	0.16 % -4.78 %
	Micro hardness Initial/ageing (variation)			Hydraulic oil Diesel	-1.1 % 8.0 %
Resistance to bitumen contact (Bi)	Micro hardness Initial/ageing	2.2.17		P1, S5.3, T5	2,8 %
Resistance to heat ageing (HA)	Capacity to bridge cracks	2.2.18	2.2.2	P1, S0+S2, T2	Watertight
	Tensile stress (initial- ageing) 10 mm/min 23 ºC / 1 mm/m -10 ºC		2.2.18	P1, S0, T5 P1, S2, T5	8,8 MPa 10,0 MPa
	Elongation (initial- ageing) εt 10 mm/min 23 ºC / 1 mm/m -10 ºC		2.2.18		269 % 260 %
	Bond strength to the support		2.2.1	P1, S2, T5	4.21 MPa

*In the cases of the National regulations demand a specific minimum values of the resistance to shear between the kit and the overlay, this test shall be performed for the specific overlay used in each work.

Basic requirement for construction works 3: Hygiene, health, and the environment		
Essential characteristic	**Relevant clause in EAD**	**Performance**
Content, emission and/or release of dangerous substances	2.2.20	No Performance assessed

Basic requirement for construction works 4: Safety and accessibility in use				
Essential characteristic		**Relevant clause in EAD**	**Condition test**	**Performance**
Bond strength (kit to overlay)	Mastic Asphalt (220 ºC):	2.2.21		1.27 MPa
	Asphalt concrete (160 ºC):			1.23 MPa
Slipperiness		2.2.22		No performance assessed
Resistance to Abrasion / Wear		2.2.23		No performance assessed

Durability due to climatic Resistance to freeze/thaw (FT)				
Essential characteristic	**Relevant clause in EAD**		**Condition test**	**Performance**
Bond strength to support	2.2.24	2.2.1	P1, S3, T5	1.78 MPa
Resistance to shear to support / overlay MA		2.2.6	P1, S3., T5	1.91 MPa

See additional information in section 3.5-3.6.

3.5 Methods of verification

The assessment of the performance of Matacryl (One Coat) Bridgedeck Waterproofing System in relation to the applicable BWR's has been made in accordance with the European Assessment Document (EAD) No. EAD 030675-00-0107: Liquid Applied Bridge Deck Waterproofing Kits.

3.6 General aspects related to the fitness for use of the product.

The European Technical Assessment is issued for the product based on agreed data/information, deposited with ETA-Danmark, which identifies the product that has been assessed and judged. Changes to the product or production process, which could result in this deposited data/information being incorrect, should be notified to ETA-Danmark before the changes are introduced. ETA-Danmark will decide if such changes affect the ETA and consequently the validity of the CE marking based on the ETA and if so whether further assessment or alterations to the ETA, shall be necessary.

The construction product is manufactured in accordance with the provisions of this European Technical Assessment using the manufacturing processes as identified in the inspection of the plant by the notified inspection body and laid down in the technical documentation.

Installation. The kit is installed on site. It is the responsibility of the manufacturer to guarantee that the information about design and installation of these kits is effectively communicated to the concerned people. This information can be given using reproductions of the respective parts of this European Technical Assessment. Besides, all the data concerning the execution shall be clearly indicated on the packaging and/or the enclosed instruction sheets using one or several illustrations.

Design. In the MTD the manufacture gives information on the quantities consumed and the processing, which shall lead to a thickness of the deck waterproofing ≥ 2.3 mm.

Usage range of temperatures. The range of operational temperatures of the waterproofing layer is -40 °C to +60 °C. EN 1991-1-5 provides a correlation between the shade air temperature and bridge temperature component.

Condition of support. The support on which the waterproofing is applied shall have a surface texture of 0.3 mm to 1.5 mm. EN 1766, clause 7.2 or EN 13036-1 describe suitable methods for measuring surface texture.

The age of the concrete support is normally assumed to be in excess of three weeks and unless specific assessments have been made the cohesive strength of the concrete surface shall be greater than 1.5 MPa.

Weather conditions. The waterproofing system cannot be put in place during rain, hail or snow. The support temperature shall be greater than 5 °C and at least 3 °C above the dew point, unless specific assessments have been made.

Execution. Particularly, it is recommended to consider:

- The kit installation has to be carried out by qualified installers,
- it can only be used the components of the kit indicated in this ETA,
- the supervision of the amount of material used (kg/m^2) and the control visual to check that each coat cover totally the one below, can ensure the minimum thickness of the kits,
- inspection of deck surface (cleanliness and correct preparation) before applying the deck waterproofing,

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

4.1 AVCP system

According to the decision 2003/722/EC as amended by 2001/596/EC, the system(s) of assessment and verification of constancy of performance (see Annex V to Regulation (EU) No 305/2011) is 2+.

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

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited at ETA-Danmark prior to CE-marking.

Issued in Copenhagen on 2024-06-24 by

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Managing Director, ETA-Danmark

Annex A
Consumption and thickness of the components

Component	Name	Consumption	Thickness
Primer	Matacryl Primer CM	0,3 – 0,5 kg/m^2	0.4 mm (Average)
Waterproofing membrane	Matacryl Waterproofing	≥ 2,8 kg/m^2	≥ 2.0 mm
Binding layer	Matacryl STC Top Coat	0,5 – 0,6 kg/m^2	0.5 mm (Average)
Binding layer	Matacryl Tack Coat Number 1	1 – 1,25 kg/ m^2	1mm (Average)
Catalyst	Matacryl Catalyst	1 – 6 %, by weight	N/A
Low temperature accelerator	Matacryl Accelerator	0.5 – 2 %, by weight	N/A
Thinning/cleaning agent	Matacryl Adcol Thinner	≤ 5 %, by weight	N/A