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European Technical Assessment

ETA 16/0068
of 20/02/2023

I General Part

Technical Assessment Body issuing the European Technical Assessment:

Technical and Test Institute for Construction Prague

Trade name of the construction product:	**E121L, E118L, E123L, E132L, E137L** - glass fibre meshes for reinforcement of cementitious or cement based renderings
Product family to which the construction product belongs:	Product area code: 4 Thermal insulation products. Composite insulating kits/systems.
Manufacturer:	Masterplast YU d.o.o. Bodrogvari Ferenc 172. Subotica SRB24000 Serbia
Manufacturing plant(s):	Masterplast YU d.o.o. Bodrogvari Ferenc 172. Subotica SRB24000 Serbia
This European Technical Assessment contains:	11 pages
This European Technical Assessment is issued in accordance with regulation (EU) No 305/2011, on the basis of:	**EAD 040016-01-0404** Glass fibre mesh for reinforcement of cementitious or cement based renderings
This version replaces:	ETA 16/0068 issued on 07/10/2021

II Specific part

1. Technical description of the product

1.1 General

Glass fibre meshes for reinforcement of cement based renderings **E121L, E118L, E123L, E132L, E137L** are fabrics made of glass fibre strands. According to the manufacturer´s declaration the type of the glass of the fibre meshes is **C-glass** and they are made by **leno woven** technology; To provide resistance to alkali conditions, they are coated by an organic layer. The distance of strands is at least 3 mm so that the reinforced rendering or mortar sufficiently penetrates the meshes.

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

It is assumed that the product will be installed according to the manufacturer's instructions or (in absence of such instructions) according to the usual practice of the building professionals.

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

The products are used as reinforcement of cement based renderings (mortars) with the thickness of 2 - 10 mm. The reinforcement shall be embedded in a fresh mortar and sufficiently covered. The reinforcement prevents the hardened mortar from cracking, caused especially by dilatation.

The glass fibre meshes are used in base coats of external thermal insulation systems with rendering (ETICS).

The assessment methods included or referred to in EAD 040016-01-0404 have been written based on the manufacturer's request to take into account a working life of the glass fibre mesh for reinforcement of cement based renderings for the intended use of 25 years when installed in the works (provided that the glass fibre mesh for reinforcement of cement based renderings is subject to appropriate installation). These provisions are based upon the current state of the art and the available knowledge and experience.

The real working life may be, in normal use conditions, considerably longer without major degradation affecting the basic requirements for works[1].

The indications given as to the working life of the construction product cannot be interpreted as a guarantee but are regarded only as a means for expressing the expected economically reasonable working life of the product.

1 The real working life of a product incorporated in a specific works depends on the environmental conditions to which that works is subject, as well as on the particular conditions of the design, execution, use and maintenance of that works. Therefore, it cannot be excluded that in certain cases the real working life of the product may also be shorter than the working life referred to above.

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

The essential characteristics of glass fibre meshes for reinforcement of cementitious or cement based renderings E121L, E118L, E123L, E132L, E137L and methods of verification were carried out in compliance with the EAD 040016-01-0404: Glass fibre meshes for reinforcement of cementitious or cement based renderings. Expression of product performance is stated in Table No. 1 - Table No. 8. Historical data according EAD 040016-00-0404 were taken into account, see notes in Table No. 4 – Table No. 8.

3.1 Safety in case of fire (BWR 2)

3.1.1 Reaction to fire

Table No.1 – reaction to fire:

Trade name of the mesh	Reaction to fire class according to Commission Delegated Regulation (EU) 2016/364
E121L	**No performance assessed**
E118L	
E123L	
E132L	
E137L	

3.1.2 Organic content and ash content

The determination of the ash content and organic content was based on Cl. 2.2.2 of EAD 040016-01-0404. The results of the test are stated in Table No. 2.

Table No. 2 – ash content and organic content:

Trade name of the mesh	Ash content			Organic content		
E121L	**83,2 %**	**83,0 %**	**83,1 %**	**16,8 %**	**17,0 %**	**16,9 %**
E118L	**82,1 %**	**82,0 %**	**82,1 %**	**17,9 %**	**18,0 %**	**17,9 %**
E123L	**79,2 %**	**79,8 %**	**79,1 %**	**20,8 %**	**20,2 %**	**20,9 %**
E132L	**81,9 %**	**81,8 %**	**81,9%**	**18,1 %**	**18,2%**	**18,1 %**
E137L	**80,2 %**	**80,8 %**	**80,1 %**	**19,8 %**	**19,2 %**	**19,9 %**

3.1.3 Gross heat combustion

The determination of the gross heat combustion was based on Cl. 2.2.3 of EAD 040016-01-0404. The results of the test are stated in Table No. 3.

Table No. 3 – heat combustion:

Trade name of the mesh	Heat combustion Q_{PCS} [MJ/kg]	Heat combustion Q_{PCS} [MJ/m^2]
E121L	**6,16**	**0,86**
E118L	**6,53**	**0,95**
E123L	**8,38**	**1,26**
E132L	**6,61**	**1,05**
E137L	**7,76**	**1,31**

3.2 Safety and accessibility in use (BWR 4)

The determination of mesh size, weaving accuracy, tensile strength and elongation, mass per unit area and thickness was based on Cl. 2.2.5 - Cl. 2.2.9 of EAD 040016-01-0404.

The results of the test are stated in Table No. 4 – Table No. 8.

Table No. 4 – E121L

E121L			
Mesh size*	Average mesh size (warp direction x weft direction)		**4,8 x 5,0 mm**
	Mesh opening (warp direction x weft direction)		**3,8 x 4,6 mm**
Weaving accuracy	An untrimmed edge in any length		**No**
	Deflected (uneven) fronts of rolls over ± 5 mm (measured from the edge of the inner tube)		**No**
	A gap over treble distance of wefts or warps in any length		**No**
	Weft skewing or weft waving over 4 % of width of the fabric (measured by a rectangular rule)		**No**
	A cracked yarn		**No**
Tensile strength and elongation (warp and weft direction)**	In the as-delivered state	warp direction	weft direction
	- tensile strength - elongation ε	**32 N/mm** **3,58 %**	**36 N/mm** **3,25 %**
	After alkalis conditioning	warp direction	weft direction
	- tensile strength - elongation ε	**22 N/mm** **2,64 %**	**36 N/mm** **3,34 %**
	The average value of the tensile strength after alkalis conditioning shall be at least 20 N/mm and at least 50 % of the strength in the as-delivered state (residual strength): **passed:** ≥ 20 N/mm after alkalis conditioning and residual strength ≥ 50 % of the strength in the as-delivered		
Mass per unit area	**135 g/m²**		
Thickness	**0,46 mm**		

Notes:

* *Historical data according to EAD 040016-00-0404, Cl. 2.2.4*

** *Historical data according to ETAG 004, Cl. 5.6.7.1*

Table No. 5 – E118L

E118L			
Mesh size*	Average mesh size (warp direction x weft direction)		**5,9 x 4,4 mm**
	Mesh opening (warp direction x weft direction)		**4,7 x 4,0 mm**
Weaving accuracy	An untrimmed edge in any length		**No**
	Deflected (uneven) fronts of rolls over ± 5 mm (measured from the edge of the inner tube)		**No**
	A gap over treble distance of wefts or warps in any length		**No**
	Weft skewing or weft waving over 4 % of width of the fabric (measured by a rectangular rule)		**No**
	A cracked yarn		**No**
Tensile strength and elongation (warp and weft direction)**	In the as-delivered state	warp direction	weft direction
	- tensile strength - elongation ε	**43 N/mm** **3,34 %**	**41 N/mm** **3,34 %**
	After alkalis conditioning	warp direction	weft direction
	- tensile strength - elongation ε	**23 N/mm** **1,87 %**	**29 N/mm** **2,36 %**
	The average value of the tensile strength after alkalis conditioning shall be at least 20 N/mm and at least 50 % of the strength in the as-delivered state (residual strength): **passed:** ≥ 20 N/mm after alkalis conditioning and residual strength ≥ 50 % of the strength in the as-delivered		
Mass per unit area	**145 g/m²**		
Thickness	**0,48 mm**		

Notes:

* *Historical data according to EAD 040016-00-0404, Cl. 2.2.4*

** *Historical data according to ETAG 004, Cl. 5.6.7.1*

Table No. 6 – E123L

E123L			
Mesh size*	Average mesh size (warp direction x weft direction)		**5,1 x 5,0 mm**
	Mesh opening (warp direction x weft direction)		**3,9 x 4,7 mm**
Weaving accuracy	An untrimmed edge in any length		**No**
	Deflected (uneven) fronts of rolls over ± 5 mm (measured from the edge of the inner tube)		**No**
	A gap over treble distance of wefts or warps in any length		**No**
	Weft skewing or weft waving over 4 % of width of the fabric (measured by a rectangular rule)		**No**
	A cracked yarn		**No**
Tensile strength and elongation (warp and weft direction)**	In the as-delivered state	warp direction	weft direction
	- tensile strength - elongation ε	**38 N/mm** **3,59 %**	**50 N/mm** **3,58 %**
	After alkalis conditioning	warp direction	weft direction
	- tensile strength - elongation ε	**21 N/mm** **1,85 %**	**39 N/mm** **2,74 %**
	The average value of the tensile strength after alkalis conditioning shall be at least 20 N/mm and at least 50 % of the strength in the as-delivered state (residual strength): **passed:** ≥ 20 N/mm after alkalis conditioning and residual strength ≥ 50 % of the strength in the as-delivered		
Mass per unit area	**150 g/m²**		
Thickness	**0,46 mm**		

Notes:

* *Historical data according to EAD 040016-00-0404, Cl. 2.2.4*

** *Historical data according to ETAG 004, Cl. 5.6.7.1*

Table No. 7 – E132L

E132L			
Mesh size*	Average mesh size (warp direction x weft direction)		**5,1 x 4,2 mm**
	Mesh opening (warp direction x weft direction)		**3,9 x 3,8 mm**
Weaving accuracy	An untrimmed edge in any length		**No**
	Deflected (uneven) fronts of rolls over ± 5 mm (measured from the edge of the inner tube)		**No**
	A gap over treble distance of wefts or warps in any length		**No**
	Weft skewing or weft waving over 4 % of width of the fabric (measured by a rectangular rule)		**No**
	A cracked yarn		**No**
Tensile strength and elongation (warp and weft direction)**	In the as-delivered state	warp direction	weft direction
	- tensile strength - elongation ε	**43 N/mm** **3,56 %**	**48 N/mm** **3,60 %**
	After alkalis conditioning	warp direction	weft direction
	- tensile strength - elongation ε	**26 N/mm** **2,15 %**	**29 N/mm** **2,17 %**
	The average value of the tensile strength after alkalis conditioning shall be at least 20 N/mm and at least 50 % of the strength in the as-delivered state (residual strength): **passed:** ≥ 20 N/mm after alkalis conditioning and residual strength ≥ 50 % of the strength in the as-delivered		
Mass per unit area	**163 g/m²**		
Thickness	**0,43 mm**		

Notes:

* *Historical data according to EAD 040016-00-0404, Cl. 2.2.4*

** *Historical data according to ETAG 004, Cl. 5.6.7.1*

Table No. 8 – E137L

E137L			
Mesh size*	Average mesh size (warp direction x weft direction)		**5,0 x 4,2 mm**
	Mesh opening (warp direction x weft direction)		**3,8 x 3,9 mm**
Weaving accuracy	An untrimmed edge in any length		**No**
	Deflected (uneven) fronts of rolls over ± 5 mm (measured from the edge of the inner tube)		**No**
	A gap over treble distance of wefts or warps in any length		**No**
	Weft skewing or weft waving over 4 % of width of the fabric (measured by a rectangular rule)		**No**
	A cracked yarn		**No**
Tensile strength and elongation (warp and weft direction)**	In the as-delivered state	warp direction	weft direction
	- tensile strength - elongation ε	**47 N/mm** **3,88 %**	**51 N/mm** **3,90 %**
	After alkalis conditioning	warp direction	weft direction
	- tensile strength - elongation ε	**26 N/mm** **2,09 %**	**49 N/mm** **3,71 %**
	The average value of the tensile strength after alkalis conditioning shall be at least 20 N/mm and at least 50 % of the strength in the as-delivered state (residual strength): **passed:** ≥ 20 N/mm after alkalis conditioning and residual strength ≥ 50 % of the strength in the as-delivered		
Mass per unit area	**168 g/m²**		
Thickness	**0,54 mm**		

Notes:

* *Historical data according to EAD 040016-00-0404, Cl. 2.2.4*

** *Historical data according to ETAG 004, Cl. 5.6.7.1*

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

According to the European Commission decision 97/556/EC, the **AVCP system 2+** (further described in Annex V to Regulation (EU) No 305/2011 as amended) applies.

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

The manufacturer shall perform a permanent internal factory production control based on the control plan. The Control Plan specifies the type, test method, criteria and frequency of tests conducted on the final product.
The control plan for the manufacturer/corner stones (factory production control) is specified in Cl. 3.2 of EAD 040016-01-0404 *Glass fibre mesh for reinforcement of cementitious or cement based renderings*. Manufacturer and Technical and Test Institute for Construction Prague have agreed a control plan which is deposited with the Technical and Test Institute for Construction Prague in documentation which accompanies the ETA.

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