



**Technical and Test Institute
for Construction Prague**
Prosecká 811/76a
190 00 Prague
Czech Republic
eota@tzus.cz



Member of



www.eota.eu

European Technical Assessment

**ETA 16/0546
of 12/12/2022**

General Part

Technical Assessment Body issuing the European Technical Assessment:

Technical and Test Institute for Construction Prague

Trade name of the construction products:

117S (plant Slovakia and Macedonia),
117L (plant Slovakia)
119/1 (plant Slovakia)
122L (plant Slovakia and Macedonia),
122 (plant Slovakia and Macedonia),
123 (plant Slovakia and Macedonia),
123/2 (plant Slovakia),
125/1 (plant Slovakia),
210/2 (plant Slovakia)
- 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:

Technical Textiles – d.o.o.e.l.
Techn-Industrial zone 12, MK
2000 SHTIP, North Macedonia

Manufacturing plant(s):

Technical Textiles, s.r.o.
Školská 54
922 41 Drahovce, Slovak Republic

Technical Textiles – d.o.o.e.l.
Techn-Industrial zone 12, MK
2000 SHTIP, North Macedonia

This European Technical Assessment contains:

31 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 European Technical Assessment replaces:

ETA 16/0546 issued on 31/10/2021

Translations of this European Technical Assessment in other languages shall fully correspond to the original issued document and should be identified as such.

Communication of this European Technical Assessment, including transmission by electronic means, shall be in full (excepted the confidential Annex(es) referred to above). However, partial reproduction may be made, with the written consent of the issuing Technical Assessment Body - Technical and Test Institute for Construction Prague. Any partial reproduction has to be identified as such.

Specific part

1. Technical description of the product

1.1 General

117S, 117L, 119/1, 122L, 122, 123, 123/2, 125/1, 210/2 - glass fibre meshes (rectangular) for reinforcement of cement based renderings are leno woven fabrics made of glass fibre strands. According to the manufacturer technical specification the type of the glass of fibre mesh is **E-glass**. 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.

List of the meshes and manufacturing plants:

Technical Textiles, s.r.o., Školská 54, 922 41 Drahovce, Slovak Republic

- **117S,**
- **117L,**
- **119/1**
- **122L,**
- **122,**
- **123,**
- **123/2,**
- **125/1,**
- **210/2**

Technical Textiles – d.o.o.e.l., Techn-Industrial zone 12, MK, 2000 SHTIP, North Macedonia

- **117S,**
- **122L,**
- **122,**
- **123**

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 cementitious base coats (e.g. of ETICS). Nominal thickness of reinforced layer is usually of 2 mm up to 15 mm. The reinforcement shall be embedded into a fresh mortar and sufficiently covered. The maximum particle size of aggregate used in rendering in relation to the mesh opening has to be taken into account to prevent the damage of the mesh during application and its action as a separation layer in renderings (base coats).

The reinforcement prevents the surface of hardened rendering from cracking, caused by shrinkage.

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 works¹.

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 cement based renderings **117S, 117L, 122L, 122, 123, 123/2, 125/1, 210/2** (plants as specified in Cl. 1.1. of this ETA) 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. 13. Historical data according *EAD 040016-00-0404* were taken into account, see notes in Table No. 1, 4, 5, 6, 7 and 8.

Table No. 1: glass fibre mesh **117S** (plant Slovakia)

No.	Essential characteristic and method of verification and assessment	Expression of product performance	
		117S (plant Slovakia)	
Safety in case of fire (BWR 2)			
1	Reaction to fire (EAD 040016-01-0404, Cl. 2.2.1, Commission Delegated Regulation (EU) 2016/364)	No performance assessed	
2	Organic content (EAD 040016-01-0404, Cl. 2.2.2)	Ash content (average value)	Organic content (average value)
		81.1 %	18.9 %
3	Gross heat of combustion (EAD 040016-01-0404, Cl. 2.2.3)	Heat combustion Q_{PCS} [MJ/kg]	
		7.32 MJ/kg	
		Heat combustion Q_{PCS} [MJ/m²]	
		1.08 MJ/m²	
Hygiene, health and the environment (BWR 3)			
4	Content, emission and/or release of dangerous substances (EAD 040016-01-0404, Cl. 2.2.4)	Leachable substances	No performance assessed
		Content of cadmium	
Safety and accessibility in use (BWR 4)			
5	Mesh size* (EAD 040016-01-0404, Cl. 2.2.5) * Historical data according to EAD 040016-00-0404, Cl. 2.2.4	Average mesh size* (warp direction x weft direction)	4.6 x 5.2 mm
		Average mesh opening* (warp direction x weft direction)	3.5 x 4.9 mm
		Coverage ratio [%] (calculated from historical data of average mesh opening and average mesh size)	28.3 %
	Weaving accuracy	An untrimmed edge in any length	No performance assessed

No.	Essential characteristic and method of verification and assessment	Expression of product performance 117S (plant Slovakia)		
6	(EAD 040016-01-0404, Cl. 2.2.6)	Deflected (uneven) fronts of rolls over ± 5 mm (measured from the edge of the inner tube)		
		A gap over treble distance of wefts or warps in any length		
		Weft skewing or weft waving over 4 % of width of the fabric (measured by a rectangular rule)		
		A cracked thread		
7	Tensile strength and elongation** (EAD 040016-01-0404, Cl. 2.2.7) <i>** Historical data according to EAD 040016-00-0404, Cl. 2.2.7</i>	Number of threads within the width of 50 mm of the sample used for tensile strength testing	warp direction	weft direction
			10	11
		- tensile strength	35 N/mm	50 N/mm
		- elongation ϵ	3.7 %	4.0 %
		After alkalis conditioning	warp direction	weft direction
- tensile strength	20 N/mm	29 N/mm		
- elongation ϵ	2.2 %	2.4 %		
		<p>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):</p> <p>passed: ≥ 20 N/mm after alkalis conditioning and residual strength ≥ 50 % of the strength in the as-delivered.</p> <p>Residual strength of the tensile strength after alkalis conditioning = 57.3 % (warp direction) and 58.0 % (weft direction) of the strength in the as-delivered.</p>		
8	Mass per unit area (EAD 040016-01-0404, Cl. 2.2.8)	149 g/m²		
9	Thickness (EAD 040016-01-0404, Cl. 2.2.9)	0.51 mm		

Table No. 2: glass fibre mesh 117L (plant Slovakia)

No.	Essential characteristic and method of verification and assessment	Expression of product performance 117L (plant Slovakia)	
Safety in case of fire (BWR 2)			
1	Reaction to fire (EAD 040016-01-0404, Cl. 2.2.1, Commission Delegated Regulation (EU) 2016/364)	No performance assessed	
2	Organic content (EAD 040016-01-0404, Cl. 2.2.2)	Ash content (average value)	Organic content (average value)
		79.6 %	20.4 %
3	Gross heat of combustion (EAD 040016-01-0404, Cl. 2.2.3)	Heat combustion Q_{PCS} [MJ/kg]	
		8.28 MJ/kg	
		Heat combustion Q_{PCS} [MJ/m²]	
		1.08 MJ/m²	
Hygiene, health and the environment (BWR 3)			
4	Content, emission and/or release of dangerous substances (EAD 040016-01-0404, Cl. 2.2.4)	Leachable substances	No performance assessed
		Content of cadmium	
Safety and accessibility in use (BWR 4)			
5	Mesh size (EAD 040016-01-0404, Cl. 2.2.5)	Average mesh size <i>(warp direction x weft direction)</i>	5.13 x 5.81 mm
		Average mesh opening <i>(warp direction x weft direction)</i>	4.65 x 4.60 mm
		Coverage ratio [%] <i>(calculated from historical data of average mesh opening and average mesh size)</i>	28.2 %
6	Weaving accuracy (EAD 040016-01-0404, Cl. 2.2.6)	An untrimmed edge in any length	No performance assessed
		Deflected (uneven) fronts of rolls over ± 5 mm (measured from the edge of the inner tube)	
		A gap over treble distance of wefts or warps in any length	
		Weft skewing or weft waving over 4 % of width of the fabric (measured by a rectangular rule)	
		A cracked thread	

No.	Essential characteristic and method of verification and assessment	Expression of product performance		
		117L (plant Slovakia)		
7	Tensile strength and elongation (EAD 040016-01-0404, Cl. 2.2.7)	Number of threads within the width of 50 mm of the sample used for tensile strength testing	warp direction	weft direction
			10	9
		In the as-delivered state	warp direction	weft direction
		- tensile strength	40 N/mm	43 N/mm
		- elongation ϵ	3.9 %	3.8 %
		After alkalis conditioning	warp direction	weft direction
- tensile strength	22 N/mm	25 N/mm		
- elongation ϵ	2.2 %	2.1 %		
		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. Residual strength of the tensile strength after alkalis conditioning = 57.3 % (warp direction) and 58.0 % (weft direction) of the strength in the as-delivered.		
8	Mass per unit area (EAD 040016-01-0404, Cl. 2.2.8)	131 g/m²		
9	Thickness (EAD 040016-01-0404, Cl. 2.2.9)	No performance assessed		

Table No. 3: glass fibre mesh 119/1 (plant Slovakia)

No.	Essential characteristic and method of verification and assessment	Expression of product performance 119/1 (plant Slovakia)	
Safety in case of fire (BWR 2)			
1	Reaction to fire (EAD 040016-01-0404, Cl. 2.2.1, Commission Delegated Regulation (EU) 2016/364)	No performance assessed	
2	Organic content (EAD 040016-01-0404, Cl. 2.2.2)	Ash content (average value)	Organic content (average value)
		74.1 %	25.9 %
3	Gross heat of combustion (EAD 040016-01-0404, Cl. 2.2.3)	Heat combustion Q_{PCS} [MJ/kg]	
		10.41 MJ/kg	
		Heat combustion Q_{PCS} [MJ/m²]	
		1.71 MJ/m²	
Hygiene, health and the environment (BWR 3)			
4	Content, emission and/or release of dangerous substances (EAD 040016-01-0404, Cl. 2.2.4)	Leachable substances	No performance assessed
		Content of cadmium	
Safety and accessibility in use (BWR 4)			
5	Mesh size (EAD 040016-01-0404, Cl. 2.2.5)	Average mesh size <i>(warp direction x weft direction)</i>	10.16 x 10.29 mm
		Average mesh opening <i>(warp direction x weft direction)</i>	9.46 x 8.03 mm
		Coverage ratio [%] <i>(calculated from historical data of average mesh opening and average mesh size)</i>	27 %
6	Weaving accuracy (EAD 040016-01-0404, Cl. 2.2.6)	An untrimmed edge in any length	No performance assessed
		Deflected (uneven) fronts of rolls over ± 5 mm (measured from the edge of the inner tube)	
		A gap over treble distance of wefts or warps in any length	
		Weft skewing or weft waving over 4 % of width of the fabric (measured by a rectangular rule)	
		A cracked thread	

No.	Essential characteristic and method of verification and assessment	Expression of product performance 119/1 (plant Slovakia)				
7	Tensile strength and elongation (EAD 040016-01-0404, Cl. 2.2.7)	Number of threads per meter, determined on the principle of EN 13496, Cl. 6.3	warp threads per meter 98	weft threads per meter 97		
		Number of threads within the width of the sample used for tensile strength testing	warp direction 5 the width of the sample: 50 mm	weft direction 5 the width of the sample: 50 mm		
		In the as-delivered state - tensile strength - elongation ε	warp direction 42 kN/m 4.0 %	weft direction 58 kN/m 4.1 %		
		After alkalis conditioning - tensile strength - elongation ε - residual value of tensile strength $\Delta T_{max,ag}$	warp direction 23 kN/m 2.0 % 54.8 %	weft direction 33 kN/m 2.1 % 56.9 %		
		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.				
		8	Mass per unit area (EAD 040016-01-0404, Cl. 2.2.8)	164 g/m²		
		9	Thickness (EAD 040016-01-0404, Cl. 2.2.9)	0.73 mm		

Table No. 4: glass fibre mesh 122L, plant Slovakia

No.	Essential characteristic and method of verification and assessment	Expression of product performance 122L (plant Slovakia)	
Safety in case of fire (BWR 2)			
1	Reaction to fire (EAD 040016-01-0404, Cl. 2.2.1, Commission Delegated Regulation (EU) 2016/364)	No performance assessed	
2	Organic content (EAD 040016-01-0404, Cl. 2.2.2)	Ash content (average value)	Organic content (average value)
		81.3 %	18.7 %
3	Gross heat of combustion (EAD 040016-01-0404, Cl. 2.2.3)	Heat combustion Q_{PCS} [MJ/kg]	
		7.62 MJ/kg	
		Heat combustion Q_{PCS} [MJ/m²]	
		1.12 MJ/m²	
Hygiene, health and the environment (BWR 3)			
4	Content, emission and/or release of dangerous substances (EAD 040016-01-0404, Cl. 2.2.4)	Leachable substances	No performance assessed
		Content of cadmium	
Safety and accessibility in use (BWR 4)			
5	Mesh size* (EAD 040016-01-0404, Cl. 2.2.5)	Average mesh size* <i>(warp direction x weft direction)</i>	5.5 x 4.2 mm
	Average mesh opening* <i>(warp direction x weft direction)</i>		4.4 x 3.9 mm
	<i>* Historical data according to EAD 040016-00-0404, Cl. 2.2.4</i>	Coverage ratio [%] <i>(calculated from historical data of average mesh opening and average mesh size)</i>	25.7 %
6	Weaving accuracy (EAD 040016-01-0404, Cl. 2.2.6)	An untrimmed edge in any length	No performance assessed
		Deflected (uneven) fronts of rolls over ± 5 mm (measured from the edge of the inner tube)	
		A gap over treble distance of wefts or warps in any length	
		Weft skewing or weft waving over 4 % of width of the fabric (measured by a rectangular rule)	
		A cracked thread	

No.	Essential characteristic and method of verification and assessment	Expression of product performance		
		122L (plant Slovakia)		
7	Tensile strength and elongation** (EAD 040016-01-0404, Cl. 2.2.7) <i>** Historical data according to EAD 040016-00-0404, Cl. 2.2.7</i>	Number of threads within the width of 50 mm of the sample used for tensile strength testing	warp direction	weft direction
			12	9
		In the as-delivered state	warp direction	weft direction
		- tensile strength	49 N/mm	43 N/mm
		- elongation ϵ	3.9 %	3.7 %
		After alkalis conditioning	warp direction	weft direction
- tensile strength	27 N/mm	24 N/mm		
- elongation ϵ	2.2 %	2.2 %		
		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. Residual strength of the tensile strength after alkalis conditioning = 57.3 % (warp direction) and 58.0 % (weft direction) of the strength in the as-delivered.		
8	Mass per unit area (EAD 040016-01-0404, Cl. 2.2.8)	148 g/m²		
9	Thickness (EAD 040016-01-0404, Cl. 2.2.9)	0.45 mm		

Table No. 5: glass fibre mesh 122, plant Slovakia

No.	Essential characteristic and method of verification and assessment	Expression of product performance 122 (plant Slovakia)	
Safety in case of fire (BWR 2)			
1	Reaction to fire (EAD 040016-01-0404, Cl. 2.2.1, Commission Delegated Regulation (EU) 2016/364)	No performance assessed	
2	Organic content (EAD 040016-01-0404, Cl. 2.2.2)	Ash content (average value)	Organic content (average value)
		79.1 %	20.9 %
3	Gross heat of combustion (EAD 040016-01-0404, Cl. 2.2.3)	Heat combustion Q_{PCS} [MJ/kg]	
		8.19 MJ/kg	
		Heat combustion Q_{PCS} [MJ/m²]	
		1.35 MJ/m²	
Hygiene, health and the environment (BWR 3)			
4	Content, emission and/or release of dangerous substances (EAD 040016-01-0404, Cl. 2.2.4)	Leachable substances	No performance assessed
		Content of cadmium	
Safety and accessibility in use (BWR 4)			
5	Mesh size* (EAD 040016-01-0404, Cl. 2.2.5)	Average mesh size* <i>(warp direction x weft direction)</i>	4.6 x 4.2 mm
	Average mesh opening* <i>(warp direction x weft direction)</i>		3.5 x 3.9 mm
	<i>* Historical data according to EAD 040016-00-0404, Cl. 2.2.4</i>	Coverage ratio [%] <i>(calculated from historical data of average mesh opening and average mesh size)</i>	29.3 %
6	Weaving accuracy (EAD 040016-01-0404, Cl. 2.2.6)	An untrimmed edge in any length	No performance assessed
		Deflected (uneven) fronts of rolls over ± 5 mm (measured from the edge of the inner tube)	
		A gap over treble distance of wefts or warps in any length	
		Weft skewing or weft waving over 4 % of width of the fabric (measured by a rectangular rule)	
		A cracked thread	

No.	Essential characteristic and method of verification and assessment	Expression of product performance		
		122 (plant Slovakia)		
7	<p>Tensile strength and elongation** (EAD 040016-01-0404, Cl. 2.2.7)</p> <p><i>** Historical data according to EAD 040016-00-0404, Cl. 2.2.7</i></p>	Number of threads within the width of 50 mm of the sample used for tensile strength testing	warp direction	weft direction
			12	11
		In the as-delivered state	warp direction	weft direction
		- tensile strength	44 N/mm	46 N/mm
		- elongation ϵ	3.9 %	3.5 %
		After alkalis conditioning	warp direction	weft direction
- tensile strength	23 N/mm	29 N/mm		
- elongation ϵ	2.1 %	2.1 %		
		<p>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):</p> <p>passed: ≥ 20 N/mm after alkalis conditioning and residual strength ≥ 50 % of the strength in the as-delivered.</p> <p>Residual strength of the tensile strength after alkalis conditioning = 57.3 % (warp direction) and 58.0 % (weft direction) of the strength in the as-delivered.</p>		
8	<p>Mass per unit area (EAD 040016-01-0404, Cl. 2.2.8)</p>	165 g/m²		
9	<p>Thickness (EAD 040016-01-0404, Cl. 2.2.9)</p>	0.47 mm		

Table No. 6: glass fibre mesh **117S**, plant North Macedonia

No.	Essential characteristic and method of verification and assessment	Expression of product performance 117S (plant North Macedonia)	
Safety in case of fire (BWR 2)			
1	Reaction to fire (EAD 040016-01-0404, Cl. 2.2.1, Commission Delegated Regulation (EU) 2016/364)	No performance assessed	
2	Organic content (EAD 040016-01-0404, Cl. 2.2.2)	Ash content (average value)	Organic content (average value)
		81.0 %	19.0 %
3	Gross heat of combustion (EAD 040016-01-0404, Cl. 2.2.3)	Heat combustion Q_{PCS} [MJ/kg]	
		7.50 MJ/kg	
		Heat combustion Q_{PCS} [MJ/m²]	
		1.11 MJ/m²	
Hygiene, health and the environment (BWR 3)			
4	Content, emission and/or release of dangerous substances (EAD 040016-01-0404, Cl. 2.2.4)	Leachable substances	No performance assessed
		Content of cadmium	
Safety and accessibility in use (BWR 4)			
5	Mesh size* (EAD 040016-01-0404, Cl. 2.2.5) <i>* Historical data according to EAD 040016-00-0404, Cl. 2.2.4</i>	Average mesh size* <i>(warp direction x weft direction)</i>	4.6 x 5.1 mm
		Average mesh opening* <i>(warp direction x weft direction)</i>	3.5 x 4.8 mm
		Coverage ratio [%] <i>(calculated from historical data of average mesh opening and average mesh size)</i>	28.4 %
6	Weaving accuracy (EAD 040016-01-0404, Cl. 2.2.6)	An untrimmed edge in any length	No performance assessed
		Deflected (uneven) fronts of rolls over ± 5 mm (measured from the edge of the inner tube)	
		A gap over treble distance of wefts or warps in any length	
		Weft skewing or weft waving over 4 % of width of the fabric (measured by a rectangular rule)	
		A cracked thread	

No.	Essential characteristic and method of verification and assessment	Expression of product performance		
		117S (plant North Macedonia)		
7	Tensile strength and elongation** (EAD 040016-01-0404, Cl. 2.2.7) <i>** Historical data according to EAD 040016-00-0404, Cl. 2.2.7</i>	Number of threads within the width of 50 mm of the sample used for tensile strength testing	warp direction	weft direction
			11	12
		In the as-delivered state	warp direction	weft direction
		- tensile strength	38 N/mm	48 N/mm
		- elongation ϵ	3.7 %	3.6 %
		After alkalis conditioning	warp direction	weft direction
- tensile strength	22 N/mm	35 N/mm		
- elongation ϵ	2.1 %	2.6 %		
		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. Residual strength of the tensile strength after alkalis conditioning = 57.3 % (warp direction) and 58.0 % (weft direction) of the strength in the as-delivered.		
8	Mass per unit area (EAD 040016-01-0404, Cl. 2.2.8)	149 g/m²		
9	Thickness (EAD 040016-01-0404, Cl. 2.2.9)	0.50 mm		

Table No. 7: glass fibre mesh 122L, plant North Macedonia

No.	Essential characteristic and method of verification and assessment	Expression of product performance 122L (plant North Macedonia)	
Safety in case of fire (BWR 2)			
1	Reaction to fire (EAD 040016-01-0404, Cl. 2.2.1, Commission Delegated Regulation (EU) 2016/364)	No performance assessed	
2	Organic content (EAD 040016-01-0404, Cl. 2.2.2)	Ash content (average value)	Organic content (average value)
		84.2 %	15.8 %
3	Gross heat of combustion (EAD 040016-01-0404, Cl. 2.2.3)	Heat combustion Q_{PCS} [MJ/kg]	
		6.60 MJ/kg	
		Heat combustion Q_{PCS} [MJ/m²]	
		0.98 MJ/m²	
Hygiene, health and the environment (BWR 3)			
4	Content, emission and/or release of dangerous substances (EAD 040016-01-0404, Cl. 2.2.4)	Leachable substances	No performance assessed
		Content of cadmium	
Safety and accessibility in use (BWR 4)			
5	Mesh size* (EAD 040016-01-0404, Cl. 2.2.5)	Average mesh size* <i>(warp direction x weft direction)</i>	5.3 x 4.2 mm
	Average mesh opening* <i>(warp direction x weft direction)</i>		4.1 x 3.8 mm
	<i>* Historical data according to EAD 040016-00-0404, Cl. 2.2.4</i>	Coverage ratio [%] <i>(calculated from historical data of average mesh opening and average mesh size)</i>	30.0 %
6	Weaving accuracy (EAD 040016-01-0404, Cl. 2.2.6)	An untrimmed edge in any length	No performance assessed
		Deflected (uneven) fronts of rolls over ± 5 mm (measured from the edge of the inner tube)	
		A gap over treble distance of wefts or warps in any length	
		Weft skewing or weft waving over 4 % of width of the fabric (measured by a rectangular rule)	
		A cracked thread	

No.	Essential characteristic and method of verification and assessment	Expression of product performance		
		122L (plant North Macedonia)		
7	<p>Tensile strength and elongation** (EAD 040016-01-0404, Cl. 2.2.7)</p> <p><i>** Historical data according to EAD 040016-00-0404, Cl. 2.2.7</i></p>	Number of threads within the width of 50 mm of the sample used for tensile strength testing	warp direction	weft direction
			12	10
		In the as-delivered state	warp direction	weft direction
		- tensile strength	50 N/mm	49 N/mm
		- elongation ϵ	4.2 %	4.2 %
		After alkalis conditioning	warp direction	weft direction
- tensile strength	27 N/mm	31 N/mm		
- elongation ϵ	2.3 %	2.5 %		
		<p>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):</p> <p>passed: ≥ 20 N/mm after alkalis conditioning and residual strength ≥ 50 % of the strength in the as-delivered.</p> <p>Residual strength of the tensile strength after alkalis conditioning = 57.3 % (warp direction) and 58.0 % (weft direction) of the strength in the as-delivered.</p>		
8	<p>Mass per unit area (EAD 040016-01-0404, Cl. 2.2.8)</p>	149 g/m²		
9	<p>Thickness (EAD 040016-01-0404, Cl. 2.2.9)</p>	0.47 mm		

Table No. 8: glass fibre mesh 122, plant North Macedonia

No.	Essential characteristic and method of verification and assessment	Expression of product performance 122 (plant North Macedonia)	
Safety in case of fire (BWR 2)			
1	Reaction to fire (EAD 040016-01-0404, Cl. 2.2.1, Commission Delegated Regulation (EU) 2016/364)	No performance assessed	
2	Organic content (EAD 040016-01-0404, Cl. 2.2.2)	Ash content (average value)	Organic content (average value)
		81.5 %	18.5 %
3	Gross heat of combustion (EAD 040016-01-0404, Cl. 2.2.3)	Heat combustion Q_{PCS} [MJ/kg]	
		7.07 MJ/kg	
		Heat combustion Q_{PCS} [MJ/m²]	
		1.13 MJ/m²	
Hygiene, health and the environment (BWR 3)			
4	Content, emission and/or release of dangerous substances (EAD 040016-01-0404, Cl. 2.2.4)	Leachable substances	No performance assessed
		Content of cadmium	
Safety and accessibility in use (BWR 4)			
5	Mesh size* (EAD 040016-01-0404, Cl. 2.2.5) <i>* Historical data according to EAD 040016-00-0404, Cl. 2.2.4</i>	Average mesh size* <i>(warp direction x weft direction)</i>	4.6 x 4.2 mm
		Average mesh opening* <i>(warp direction x weft direction)</i>	3.5 x 3.9 mm
		Coverage ratio [%] <i>(calculated from historical data of average mesh opening and average mesh size)</i>	29.3 %
6	Weaving accuracy (EAD 040016-01-0404, Cl. 2.2.6)	An untrimmed edge in any length	No performance assessed
		Deflected (uneven) fronts of rolls over ± 5 mm (measured from the edge of the inner tube)	
		A gap over treble distance of wefts or warps in any length	
		Weft skewing or weft waving over 4 % of width of the fabric (measured by a rectangular rule)	
		A cracked thread	

No.	Essential characteristic and method of verification and assessment	Expression of product performance		
		122 (plant North Macedonia)		
7	Tensile strength and elongation** (EAD 040016-01-0404, Cl. 2.2.7) <i>** Historical data according to EAD 040016-00-0404, Cl. 2.2.7</i>	Number of threads within the width of 50 mm of the sample used for tensile strength testing	warp direction	weft direction
			13	12
		In the as-delivered state	warp direction	weft direction
		- tensile strength	47 N/mm	49 N/mm
		- elongation ϵ	3.9 %	3.4 %
		After alkalis conditioning	warp direction	weft direction
- tensile strength	27 N/mm	36 N/mm		
- elongation ϵ	2.3 %	2.5 %		
		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. Residual strength of the tensile strength after alkalis conditioning = 57.3 % (warp direction) and 58.0 % (weft direction) of the strength in the as-delivered.		
8	Mass per unit area (EAD 040016-01-0404, Cl. 2.2.8)	160 g/m²		
9	Thickness (EAD 040016-01-0404, Cl. 2.2.9)	0.45 mm		

Table No. 9: glass fibre mesh 123, plant Slovakia

No.	Essential characteristic and method of verification and assessment	Expression of product performance 123 (plant Slovakia)	
Safety in case of fire (BWR 2)			
1	Reaction to fire (EAD 040016-01-0404, Cl. 2.2.1, Commission Delegated Regulation (EU) 2016/364)	No performance assessed	
2	Organic content (EAD 040016-01-0404, Cl. 2.2.2)	Ash content (average value)	Organic content (average value)
		80.1 %	19.9 %
3	Gross heat of combustion (EAD 040016-01-0404, Cl. 2.2.3)	Heat combustion Q_{PCS} [MJ/kg]	
		6.77 MJ/kg	
		Heat combustion Q_{PCS} [MJ/m²]	
		1.38 MJ/m²	
Hygiene, health and the environment (BWR 3)			
4	Content, emission and/or release of dangerous substances (EAD 040016-01-0404, Cl. 2.2.4)	Leachable substances	No performance assessed
		Content of cadmium	
Safety and accessibility in use (BWR 4)			
5	Mesh size (EAD 040016-01-0404, Cl. 2.2.5)	Average mesh size* <i>(warp direction x weft direction)</i>	6.8 x 6.7 mm
		Average mesh opening* <i>(warp direction x weft direction)</i>	5.3 x 6.2 mm
		Coverage ratio [%] <i>(calculated from historical data of average mesh opening and average mesh size)</i>	27.9 %
6	Weaving accuracy (EAD 040016-01-0404, Cl. 2.2.6)	An untrimmed edge in any length	No performance assessed
		Deflected (uneven) fronts of rolls over ± 5 mm (measured from the edge of the inner tube)	
		A gap over treble distance of wefts or warps in any length	
		Weft skewing or weft waving over 4 % of width of the fabric (measured by a rectangular rule)	
		A cracked thread	

No.	Essential characteristic and method of verification and assessment	Expression of product performance		
		123 (plant Slovakia)		
7	Tensile strength and elongation (EAD 040016-01-0404, Cl. 2.2.7)	Number of threads within the width of 50 mm of the sample used for tensile strength testing	warp direction	weft direction
			8	7
		In the as-delivered state	warp direction	weft direction
		- tensile strength	50 N/mm	63 N/mm
		- elongation ϵ	4.1 %	3.5 %
		After alkalis conditioning	warp direction	weft direction
- tensile strength	41 N/mm	47 N/mm		
- elongation ϵ	3.1 %	2.8 %		
		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. Residual strength of the tensile strength after alkalis conditioning = 57.3 % (warp direction) and 58.0 % (weft direction) of the strength in the as-delivered.		
8	Mass per unit area (EAD 040016-01-0404, Cl. 2.2.8)	204 g/m²		
9	Thickness (EAD 040016-01-0404, Cl. 2.2.9)	0.74 mm		

Table No. 10: glass fibre mesh 123, plant North Macedonia

No.	Essential characteristic and method of verification and assessment	Expression of product performance 123 (plant North Macedonia)	
Safety in case of fire (BWR 2)			
1	Reaction to fire (EAD 040016-01-0404, Cl. 2.2.1, Commission Delegated Regulation (EU) 2016/364)	No performance assessed	
2	Organic content (EAD 040016-01-0404, Cl. 2.2.2)	Ash content (average value)	Organic content (average value)
		81.6 %	18.4 %
3	Gross heat of combustion (EAD 040016-01-0404, Cl. 2.2.3)	Heat combustion Q_{PCS} [MJ/kg]	
		5.92 MJ/kg	
		Heat combustion Q_{PCS} [MJ/m²]	
		1.22 MJ/m²	
Hygiene, health and the environment (BWR 3)			
4	Content, emission and/or release of dangerous substances (EAD 040016-01-0404, Cl. 2.2.4)	Leachable substances	No performance assessed
		Content of cadmium	
Safety and accessibility in use (BWR 4)			
5	Mesh size (EAD 040016-01-0404, Cl. 2.2.5)	Average mesh size <i>(warp direction x weft direction)</i>	6.7 x 6.7 mm
		Average mesh opening <i>(warp direction x weft direction)</i>	5.1 x 6.2 mm
		Coverage ratio [%] <i>(calculated from historical data of average mesh opening and average mesh size)</i>	29.6 %
6	Weaving accuracy (EAD 040016-01-0404, Cl. 2.2.6)	An untrimmed edge in any length	No performance assessed
		Deflected (uneven) fronts of rolls over ± 5 mm (measured from the edge of the inner tube)	
		A gap over treble distance of wefts or warps in any length	
		Weft skewing or weft waving over 4 % of width of the fabric (measured by a rectangular rule)	
		A cracked thread	

No.	Essential characteristic and method of verification and assessment	Expression of product performance		
		123 (plant North Macedonia)		
7	Tensile strength and elongation (EAD 040016-01-0404, Cl. 2.2.7)	Number of threads within the width of 50 mm of the sample used for tensile strength testing	warp direction	weft direction
			8	7
		In the as-delivered state	warp direction	weft direction
		- tensile strength	50 N/mm	64 N/mm
		- elongation ϵ	3.8 %	3.8 %
	After alkalis conditioning	warp direction	weft direction	
	- tensile strength	35 N/mm	53 N/mm	
	- elongation ϵ	2.7 %	3.3 %	
	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. Residual strength of the tensile strength after alkalis conditioning = 57.3 % (warp direction) and 58.0 % (weft direction) of the strength in the as-delivered.			
8	Mass per unit area (EAD 040016-01-0404, Cl. 2.2.8)	207 g/m²		
9	Thickness (EAD 040016-01-0404, Cl. 2.2.9)	0.67 mm		

Table No. 11: glass fibre mesh 123/2, plant Slovakia

No.	Essential characteristic and method of verification and assessment	Expression of product performance 123/2 (plant Slovakia)	
Safety in case of fire (BWR 2)			
1	Reaction to fire (EAD 040016-01-0404, Cl. 2.2.1, Commission Delegated Regulation (EU) 2016/364)	No performance assessed	
2	Organic content (EAD 040016-01-0404, Cl. 2.2.2)	Ash content (average value)	Organic content (average value)
		78.6 %	21.4 %
3	Gross heat of combustion (EAD 040016-01-0404, Cl. 2.2.3)	Heat combustion Q_{PCS} [MJ/kg]	
		7.95 MJ/kg	
		Heat combustion Q_{PCS} [MJ/m²]	
		1.34 MJ/m²	
Hygiene, health and the environment (BWR 3)			
4	Content, emission and/or release of dangerous substances (EAD 040016-01-0404, Cl. 2.2.4)	Leachable substances	No performance assessed
		Content of cadmium	
Safety and accessibility in use (BWR 4)			
5	Mesh size (EAD 040016-01-0404, Cl. 2.2.5)	Average mesh size <i>(warp direction x weft direction)</i>	7.9 x 6.7 mm
		Average mesh opening <i>(warp direction x weft direction)</i>	6.5 x 6.2 mm
		Coverage ratio [%] <i>(calculated from historical data of average mesh opening and average mesh size)</i>	23.9 %
6	Weaving accuracy (EAD 040016-01-0404, Cl. 2.2.6)	An untrimmed edge in any length	No performance assessed
		Deflected (uneven) fronts of rolls over ± 5 mm (measured from the edge of the inner tube)	
		A gap over treble distance of wefts or warps in any length	
		Weft skewing or weft waving over 4 % of width of the fabric (measured by a rectangular rule)	
		A cracked thread	

No.	Essential characteristic and method of verification and assessment	Expression of product performance		
		123/2 (plant Slovakia)		
7	Tensile strength and elongation (EAD 040016-01-0404, Cl. 2.2.7)	Number of threads within the width of 50 mm of the sample used for tensile strength testing	warp direction	weft direction
			8	6
		In the as-delivered state	warp direction	weft direction
		- tensile strength	54 N/mm	45 N/mm
		- elongation ϵ	4.0 %	4.3 %
		After alkalis conditioning	warp direction	weft direction
- tensile strength	43 N/mm	31 N/mm		
- elongation ϵ	3.1 %	2.8 %		
		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. Residual strength of the tensile strength after alkalis conditioning = 57.3 % (warp direction) and 58.0 % (weft direction) of the strength in the as-delivered.		
8	Mass per unit area (EAD 040016-01-0404, Cl. 2.2.8)	169 g/m²		
9	Thickness (EAD 040016-01-0404, Cl. 2.2.9)	0.64 mm		

Table No. 12: glass fibre mesh 125/1, plant Slovakia

No.	Essential characteristic and method of verification and assessment	Expression of product performance 125/1 (plant Slovakia)	
Safety in case of fire (BWR 2)			
1	Reaction to fire (EAD 040016-01-0404, Cl. 2.2.1, Commission Delegated Regulation (EU) 2016/364)	No performance assessed	
2	Organic content (EAD 040016-01-0404, Cl. 2.2.2)	Ash content (average value)	Organic content (average value)
		74.0 %	26.0 %
3	Gross heat of combustion (EAD 040016-01-0404, Cl. 2.2.3)	Heat combustion Q_{PCS} [MJ/kg]	
		9.70 MJ/kg	
		Heat combustion Q_{PCS} [MJ/m²]	
		3.26 MJ/m²	
Hygiene, health and the environment (BWR 3)			
4	Content, emission and/or release of dangerous substances (EAD 040016-01-0404, Cl. 2.2.4)	Leachable substances	No performance assessed
		Content of cadmium	
Safety and accessibility in use (BWR 4)			
5	Mesh size (EAD 040016-01-0404, Cl. 2.2.5)	Average mesh size <i>(warp direction x weft direction)</i>	8.1 x 14.8 mm
		Average mesh opening <i>(warp direction x weft direction)</i>	5.5 x 10.5 mm
		Coverage ratio [%] <i>(calculated from historical data of average mesh opening and average mesh size)</i>	51.8 %
6	Weaving accuracy (EAD 040016-01-0404, Cl. 2.2.6)	An untrimmed edge in any length	No performance assessed
		Deflected (uneven) fronts of rolls over ± 5 mm (measured from the edge of the inner tube)	
		A gap over treble distance of wefts or warps in any length	
		Weft skewing or weft waving over 4 % of width of the fabric (measured by a rectangular rule)	
		A cracked thread	

No.	Essential characteristic and method of verification and assessment	Expression of product performance		
		125/1 (plant Slovakia)		
7	Tensile strength and elongation (EAD 040016-01-0404, Cl. 2.2.7)	Number of threads within the width of 50 mm of the sample used for tensile strength testing	warp direction	weft direction
			2 testing of two threads	6 width of the sample of 50 mm
		In the as-delivered state - tensile strength - elongation ϵ	warp direction	weft direction
			87 N/mm 4.3 %	87 N/mm 4.2 %
		After alkalis conditioning - tensile strength - elongation ϵ	warp direction	weft direction
			62 N/mm 3.0 %	67 N/mm 2.6 %
		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.		
Residual strength of the tensile strength after alkalis conditioning = 57.3 % (warp direction) and 58.0 % (weft direction) of the strength in the as-delivered.				
8	Mass per unit area (EAD 040016-01-0404, Cl. 2.2.8)	336 g/m²		
9	Thickness (EAD 040016-01-0404, Cl. 2.2.9)	1.40 mm		

Table No. 13: glass fibre mesh **210/2** (plant Slovakia)

No.	Essential characteristic and method of verification and assessment	Expression of product performance 210/2 (plant Slovakia)	
Safety in case of fire (BWR 2)			
1	Reaction to fire (EAD 040016-01-0404, Cl. 2.2.1, Commission Delegated Regulation (EU) 2016/364)	No performance assessed	
2	Organic content (EAD 040016-01-0404, Cl. 2.2.2)	Ash content (average value)	Organic content (average value)
		76.0 %	24.0 %
3	Gross heat of combustion (EAD 040016-01-0404, Cl. 2.2.3)	Heat combustion Q_{PCS} [MJ/kg]	
		10.72 MJ/kg	
		Heat combustion Q_{PCS} [MJ/m²]	
		2.20 MJ/m²	
Hygiene, health and the environment (BWR 3)			
4	Content, emission and/or release of dangerous substances (EAD 040016-01-0404, Cl. 2.2.4)	Leachable substances	No performance assessed
		Content of cadmium	
Safety and accessibility in use (BWR 4)			
5	Mesh size (EAD 040016-01-0404, Cl. 2.2.5)	Average mesh size <i>(warp direction x weft direction)</i>	8.73 x 8.34 mm
		Average mesh opening <i>(warp direction x weft direction)</i>	7.61 x 8.00 mm
		Coverage ratio [%] <i>(calculated from historical data of average mesh opening and average mesh size)</i>	16.4 %
6	Weaving accuracy (EAD 040016-01-0404, Cl. 2.2.6)	An untrimmed edge in any length	No performance assessed
		Deflected (uneven) fronts of rolls over ± 5 mm (measured from the edge of the inner tube)	
		A gap over treble distance of wefts or warps in any length	
		Weft skewing or weft waving over 4 % of width of the fabric (measured by a rectangular rule)	
		A cracked thread	

No.	Essential characteristic and method of verification and assessment	Expression of product performance		
		210/2 (plant Slovakia)		
7	Tensile strength and elongation (EAD 040016-01-0404, Cl. 2.2.7)	Number of threads within the width of 50 mm of the sample used for tensile strength testing	warp direction	weft direction
			6	6
		In the as-delivered state	warp direction	weft direction
		- tensile strength	44 N/mm	67 N/mm
		- elongation ϵ	3.8 %	4.2 %
		After alkalis conditioning	warp direction	weft direction
- tensile strength	23 N/mm	34 N/mm		
- elongation ϵ	1.8 %	1.7 %		
		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. Residual strength of the tensile strength after alkalis conditioning = 57.3 % (warp direction) and 58.0 % (weft direction) of the strength in the as-delivered.		
8	Mass per unit area (EAD 040016-01-0404, Cl. 2.2.8)	205 g/m²		
9	Thickness (EAD 040016-01-0404, Cl. 2.2.9)	No performance assessed		

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 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.

Issued in Prague on 12.12.2022

By
Ing. Jiří Studnička, Ph.D.
Head of the Technical Assessment Body