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## European Technical Assessment

**ETA 16/0526**  
of 10/01/2018

### I General Part

<b>Technical Assessment Body issuing the ETA:</b>	<b>Technical and Test Institute for Construction Prague</b>
<b>Trade name of the construction products:</b>	<b>GG-145; GG-150; SSA-1363-145 SSA-1363-160; SSA-0606-165 SSA-1111-340-SM</b> - glass fibre meshes for reinforcement of cement based renderings
<b>Product family to which the construction product belongs:</b>	Product area code: 4 Thermal insulation products. Composite insulating kits/systems
<b>Manufacturer:</b>	JSC "Valmieras stikla šķiedra" Cempu 13 Valmiera LV 4201, Latvia
<b>Manufacturing plant(s):</b>	JSC "Valmieras stikla šķiedra" Cempu 13 Valmiera LV 4201, Latvia
<b>This European Technical Assessment contains:</b>	12 pages
<b>This European Technical Assessment is issued in accordance with regulation (EU) No 305/2011, on the basis of:</b>	European Assessment Document EAD 040016-00-0404 Glass fibre mesh for reinforcement of cement based renderings
<b>This European Technical Assessment replaces:</b>	ETA 16/0526 issued on 09/01/2017

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## *II Specific part*

### **1. Technical description of the product**

#### **1.1 General**

**GG-145; GG-150; SSA-1363-145; SSA-1363-160, SSA-0606-165 and SSA-1111-340-SM** - glass fibre meshes for reinforcement of cement based renderings are leno woven fabrics made of glass fibre strands. According 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.

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 (eg. ETICS).

The assessment methods included or referred to in EAD 040016-00-0404 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<sup>1</sup>.

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.

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<sup>1</sup> 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

#### 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
<b>GG-145</b>	No performance assessed
<b>GG-150</b>	
<b>SSA-1363-145</b>	
<b>SSA-1363-160</b>	
<b>SSA-0606-165</b>	
<b>SSA-1111-340-SM</b>	

##### 3.1.2 Organic content

The determination of the ash content and organic content was based on Cl. 2.2.2 of EAD 040016-00-0404.

The results of the test are stated in Table No. 2 and Table No. 3.

Table No. 2 – ash content:

Trade name of the mesh	Ash content		
<b>GG-145</b>	<b>85,5 %</b>	<b>85,1 %</b>	<b>85,0 %</b>
<b>GG-150</b>	<b>84,6 %</b>	<b>84,5 %</b>	<b>85,0 %</b>
<b>SSA-1363-145</b>	<b>82,4 %</b>	<b>82,3 %</b>	<b>82,2 %</b>
<b>SSA-1363-160</b>	<b>81,2 %</b>	<b>81,3 %</b>	<b>81,3 %</b>
<b>SSA-0606-165</b>	<b>84,0 %</b>	<b>83,9 %</b>	<b>83,9 %</b>
<b>SSA-1111-340-SM</b>	<b>83,5 %</b>	<b>83,3 %</b>	<b>83,6 %</b>

Table No. 3 – organic content:

Trade name of the mesh	Organic content		
<b>GG-145</b>	<b>14,5 %</b>	<b>14,9 %</b>	<b>15,0 %</b>
<b>GG-150</b>	<b>15,4 %</b>	<b>15,5 %</b>	<b>15,0 %</b>
<b>SSA-1363-145</b>	<b>17,6 %</b>	<b>17,7 %</b>	<b>17,8 %</b>
<b>SSA-1363-160</b>	<b>18,8 %</b>	<b>18,7 %</b>	<b>18,7 %</b>
<b>SSA-0606-165</b>	<b>16,0 %</b>	<b>16,1 %</b>	<b>16,1 %</b>
<b>SSA-1111-340-SM</b>	<b>16,5 %</b>	<b>16,7 %</b>	<b>16,4 %</b>

### 3.1.3 Heat combustion

The determination of the heat combustion was based on Cl. 2.2.3 of EAD 040016-00-0404.

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

Table No. 4

Trade name of the mesh	Heat combustion $Q_{PCS}$ [MJ/kg]
<b>GG-145</b>	<b>5,23</b>
<b>GG-150</b>	<b>5,45</b>
<b>SSA-1363-145</b>	<b>6,44</b>
<b>SSA-1363-160</b>	<b>6,41</b>
<b>SSA-0606-165</b>	<b>6,31</b>
<b>SSA-1111-340-SM</b>	<b>7,26</b>

### 3.2 Safety and accessibility in use (BWR 4)

The determination of mesh size, roll width, tensile strength and elongation and mass per unit area was based on Cl. 2.2.4, Cl. 2.2.5, Cl. 2.2.7 and Cl. 2.2.8 of EAD 040016-00-0404.

Weaving accuracy and thickness – no performance assessed

The results of the tests are stated in Table No. 5 - Table No. 10

Table No. 5 – GG-145

<b>GG-145</b>			
Mesh size	Average mesh size (warp direction x weft direction)		<b>6,2 x 4,4 mm</b>
	Mesh opening (warp direction x weft direction)		<b>5,1 x 4,1 mm</b>
Roll width	<b>1007 mm</b>		
Weaving accuracy	An untrimmed edge in any length		<b>No performance assessed</b>
	Deflected (uneven) fronts of rolls over $\pm 5$ 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 yarn		
Tensile strength and elongation (warp and weft direction)	In the as-delivered state	warp direction	weft direction
	- tensile strength	<b>41 N/mm</b>	<b>45 N/mm</b>
	- elongation $\epsilon$	<b>3,7 %</b>	<b>3,6 %</b>
	After alkalis conditioning	warp direction	weft direction
	- tensile strength	<b>21 N/mm</b>	<b>25 N/mm</b>
- elongation $\epsilon$	<b>1,8 %</b>	<b>2,0 %</b>	
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): <b>passed:</b> $\geq 20$ N/mm after alkalis conditioning and residual strength $\geq 50$ % of the strength in the as- delivered			
Mass per unit area	<b>145 g/m<sup>2</sup></b>		
Thickness	<b>No performance assessed</b>		

Table No. 6 – GG-150

GG-150			
Mesh size	Average mesh size (warp direction x weft direction)		<b>5,7 x 4,2 mm</b>
	Mesh opening (warp direction x weft direction)		<b>4,8 x 3,9 mm</b>
Roll width	<b>1005 mm</b>		
Weaving accuracy	An untrimmed edge in any length		<b>No performance assessed</b>
	Deflected (uneven) fronts of rolls over $\pm 5$ 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 yarn		
Tensile strength and elongation (warp and weft direction)	In the as-delivered state	warp direction	weft direction
	- tensile strength	<b>46 N/mm</b>	<b>44 N/mm</b>
	- elongation $\epsilon$	<b>3,7 %</b>	<b>3,5 %</b>
	After alkalis conditioning	warp direction	weft direction
	- tensile strength	<b>24 N/mm</b>	<b>24 N/mm</b>
- elongation $\epsilon$	<b>1,9 %</b>	<b>1,9 %</b>	
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): <b>passed:</b> $\geq 20$ N/mm after alkalis conditioning and residual strength $\geq 50$ % of the strength in the as- delivered			
Mass per unit area	<b>151 g/m<sup>2</sup></b>		
Thickness	<b>No performance assessed</b>		

Table No. 7 – SSA-1363-145

<b>SSA-1363-145</b>			
Mesh size	Average mesh size (warp direction x weft direction)		<b>5,7 x 4,2 mm</b>
	Mesh opening (warp direction x weft direction)		<b>4,5 x 3,8 mm</b>
Roll width	<b>1004 mm</b>		
Weaving accuracy	An untrimmed edge in any length		<b>No performance assessed</b>
	Deflected (uneven) fronts of rolls over $\pm 5$ 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 yarn		
Tensile strength and elongation (warp and weft direction)	In the as-delivered state	warp direction	weft direction
	- tensile strength	<b>49 N/mm</b>	<b>50 N/mm</b>
	- elongation $\varepsilon$	<b>3,8 %</b>	<b>3,7 %</b>
	After alkalis conditioning	warp direction	weft direction
	- tensile strength	<b>25 N/mm</b>	<b>29 N/mm</b>
- elongation $\varepsilon$	<b>2,1 %</b>	<b>2,3 %</b>	
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): <b>passed:</b> $\geq 20$ N/mm after alkalis conditioning and residual strength $\geq 50$ % of the strength in the as- delivered			
Mass per unit area	<b>151 g/m<sup>2</sup></b>		
Thickness	<b>No performance assessed</b>		



Table No. 8 – SSA-1363-160

SSA-1363-160			
Mesh size	Average mesh size (warp direction x weft direction)		<b>5,1 x 4,2 mm</b>
	Mesh opening (warp direction x weft direction)		<b>4,0 x 3,9 mm</b>
Roll width	<b>1106 mm</b>		
Weaving accuracy	An untrimmed edge in any length		<b>No performance assessed</b>
	Deflected (uneven) fronts of rolls over $\pm 5$ 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 yarn		
Tensile strength and elongation (warp and weft direction)	In the as-delivered state	warp direction	weft direction
	- tensile strength	<b>43 N/mm</b>	<b>45 N/mm</b>
	- elongation $\epsilon$	<b>3,6 %</b>	<b>3,9 %</b>
	After alkalis conditioning	warp direction	weft direction
	- tensile strength	<b>26 N/mm</b>	<b>29 N/mm</b>
- elongation $\epsilon$	<b>2,3 %</b>	<b>2,3 %</b>	
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): <b>passed:</b> $\geq 20$ N/mm after alkalis conditioning and residual strength $\geq 50$ % of the strength in the as- delivered			
Mass per unit area	<b>165 g/m<sup>2</sup></b>		
Thickness	<b>No performance assessed</b>		

Table No. 9 – SSA-0606-165

<b>SSA-0606-165</b>			
Mesh size	Average mesh size (warp direction x weft direction)		<b>7,8 x 6,2 mm</b>
	Mesh opening (warp direction x weft direction)		<b>6,6 x 6,0 mm</b>
Roll width	<b>1104 mm</b>		
Weaving accuracy	An untrimmed edge in any length		<b>No performance assessed</b>
	Deflected (uneven) fronts of rolls over $\pm 5$ 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 yarn		
Tensile strength and elongation (warp and weft direction)	In the as-delivered state	warp direction	weft direction
	- tensile strength	<b>40 N/mm</b>	<b>61 N/mm</b>
	- elongation $\epsilon$	<b>3,42 %</b>	<b>3,77 %</b>
	After alkalis conditioning	warp direction	weft direction
	- tensile strength	<b>33 N/mm</b>	<b>52 N/mm</b>
- elongation $\epsilon$	<b>2,76 %</b>	<b>3,21 %</b>	
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): <b>passed:</b> $\geq 20$ N/mm after alkalis conditioning and residual strength $\geq 50$ % of the strength in the as- delivered			
Mass per unit area	<b>164 g/m<sup>2</sup></b>		
Thickness	<b>No performance assessed</b>		

Table No. 10 – SSA-1111-340-SM

<b>SSA-1111-340-SM</b>			
Mesh size	Average mesh size (warp direction x weft direction)		<b>11,8 x 13,0 mm</b>
	Mesh opening (warp direction x weft direction)		<b>9,1 x 10,6 mm</b>
Roll width	<b>1001 mm</b>		
Weaving accuracy	An untrimmed edge in any length		<b>No performance assessed</b>
	Deflected (uneven) fronts of rolls over $\pm 5$ 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 yarn		
Tensile strength and elongation (warp and weft direction)	In the as-delivered state	warp direction	weft direction
	- tensile strength	<b>144 N/mm</b>	<b>100 N/mm</b>
	- elongation $\epsilon$	<b>4,31 %</b>	<b>5,17 %</b>
	After alkalis conditioning	warp direction	weft direction
	- tensile strength	<b>73 N/mm</b>	<b>56 N/mm</b>
- elongation $\epsilon$	<b>2,18 %</b>	<b>2,9 %</b>	
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): <b>passed: <math>\geq 20</math> N/mm after alkalis conditioning and residual strength <math>\geq 50</math> % of the strength in the as- delivered</b>			
Mass per unit area	<b>356 g/m<sup>2</sup></b>		
Thickness	<b>No performance assessed</b>		

#### **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 040016-00-0404 *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.

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**Ing. Mária Schaan**

Head of the Technical Assessment Body