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European Technical Assessment ETA 18/1026 of 29/11/2021

GENERAL PART

Trade name of the construction product	**"0161-A, 0140-A, 0159R-A, 0155R-A, 0158-A, 0370-A, 0510-A, 0148R-A, 0148A14, 0159RA16, 0159A16, 1217-A"**
Product family to which the construction product belongs	**PAC 04: THERMAL INSULATION PRODUCTS. COMPOSITE INSULATING KITS/SYSTEM. Glass fibre mesh for reinforcement of cement based renderings**
Manufacturer	**Gavazzi Tessuti Tecnici S.p.A. Via Gavazzi, 3 I - 23801 Calolziocorte (LC) – Italy**
Manufacturing plant	**Via Gavazzi, 3 I - 23801 Calolziocorte (LC) - Italy**
This European Technical Assessment contains:	**12 pages**
This European Technical Assessment is issued in accordance with Regulation (EU) n° 305/2011, on the basis of	**EAD 040016-01-0404 – Glass fibre mesh for reinforcement of cement based renderings**
This version is a corrigendum to	**ETA 18/1026 (version 02) of 29/11/2021, issued on 18/05/2022**

SPECIFIC PARTS

1. TECHNICAL DESCRIPTION OF THE PRODUCT

The glass fibre meshes **"0161-A, 0140-A, 0159R-A, 0155R-A, 0158-A, 0370-A, 0510-A, 0148R-A, 0148A14, 0159RA16, 0159A16, 1217-A"** for reinforcement of cement base renderings are leno woven fabrics made of glass fibre strands. According to manufacturer declaration, the type of glass of **0161-A, 0140-A, 0159R-A, 0155R-A, 0158-A, 0370-A, 0510-A, 0148R-A, 0148A14, 0159RA16, 0159A16, 1217-A** 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.

2. SPECIFICATION OF THE INTENDED USE IN ACCORDANCE WITH EUROPEAN ASSESSMENT DOCUMENT N° 040016-01-0404 (hereinafter EAD)

The glass fibre meshes **"0161-A, 0140-A, 0159R-A, 0155R-A, 0158-A, 0370-A, 0510-A, 0148R-A, 0148A14, 0159RA16, 0159A16, 1217-A"** are used as reinforcement of cement based renderings (mortars) with the thickness of 2 – 15 mm. The reinforcement shall be embedded in a fresh mortar and sufficiently covered. The rectangular reinforcement prevents the surface of hardened rendering from cracking, caused by shrinkage.

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

The performances assessed in this European Technical Assessment, according to the applicable EAD, are based on an assumed intended working life of at least 25 years, provided that the conditions for packaging, transport, storage, installation as well as appropriate use, maintenance and repair are met. The indications given on the working life cannot be interpreted as a guarantee given by the manufacturer, 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

The tests for performance assessment of the glass fibre meshes **"0161-A, 0140-A, 0159R-A, 0155R-A, 0158-A, 0370-A, 0510-A, 0148R-A, 0148A14, 0159RA16, 0159A16, 1217-A"** were carried out in compliance with EAD 040016-01-0404 according to the test methods reported herein, as well for what concerns sampling, conditioning and testing provisions.
The numbering (#) in the following tables corresponds to the numbering of Table 1 of EAD 040016-01-0404.

3.1 SAFETY IN CASE OF FIRE (BWR 2)

0161-A		
#	**Essential characteristic**	**Performance**
1	Reaction to fire	No performance assessed
2	Organic content [%]	17.3
	Ash content [%]	82.7
3	Heat combustion: Q_{PCS} [MJ/kg] Q_{PCS} [MJ/m^2]	5.81 0.912

0140-A		
#	**Essential characteristic**	**Performance**
1	Reaction to fire	No performance assessed
2	Organic content [%]	19.2
	Ash content [%]	80.8
3	Heat combustion: Q_{PCS} [MJ/kg] Q_{PCS} [MJ/m^2]	No performance assessed

0159R-A		
#	**Essential characteristic**	**Performance**
1	Reaction to fire	No performance assessed
2	Organic content [%]	21.5
	Ash content [%]	78.5
3	Heat combustion: Q_{PCS} [MJ/kg] Q_{PCS} [MJ/m^2]	No performance assessed

0155R-A		
#	**Essential characteristic**	**Performance**
1	Reaction to fire	No performance assessed
2	Organic content [%]	17.8
	Ash content [%]	82.2
3	Heat combustion: Q_{PCS} [MJ/kg] Q_{PCS} [MJ/m^2]	No performance assessed

0158-A		
#	**Essential characteristic**	**Performance**
1	Reaction to fire	No performance assessed
2	Organic content [%]	19.1
	Ash content [%]	80.9
3	Heat combustion: Q_{PCS} [MJ/kg] Q_{PCS} [MJ/m^2]	No performance assessed

0370-A		
#	**Essential characteristic**	**Performance**
1	Reaction to fire	No performance assessed
2	Organic content [%]	13.3
	Ash content [%]	86.7
3	Heat combustion: Q_{PCS} [MJ/kg] Q_{PCS} [MJ/m^2]	No performance assessed

0510-A		
#	**Essential characteristic**	**Performance**
1	Reaction to fire	No performance assessed
2	Organic content [%]	14.8
	Ash content [%]	85.2
3	Heat combustion: Q_{PCS} [MJ/kg] Q_{PCS} [MJ/m^2]	No performance assessed

0148R-A		
#	**Essential characteristic**	**Performance**
1	Reaction to fire	No performance assessed
2	Organic content [%]	19.8
	Ash content [%]	80.2
3	Heat combustion: Q_{PCS} [MJ/kg] Q_{PCS} [MJ/m^2]	No performance assessed

0148A14		
#	**Essential characteristic**	**Performance**
1	Reaction to fire	No performance assessed
2	Organic content [%]	19.8
	Ash content [%]	80.2
3	Heat combustion: Q_{PCS} [MJ/kg] Q_{PCS} [MJ/m^2]	No performance assessed

0159RA16		
#	**Essential characteristic**	**Performance**
1	Reaction to fire	No performance assessed
2	Organic content [%]	21.5
	Ash content [%]	78.5
3	Heat combustion: Q_{PCS} [MJ/kg] Q_{PCS} [MJ/m^2]	No performance assessed

0159A16		
#	**Essential characteristic**	**Performance**
1	Reaction to fire	No performance assessed
2	Organic content [%]	21.5
	Ash content [%]	78.5
3	Heat combustion: Q_{PCS} [MJ/kg] Q_{PCS} [MJ/m^2]	No performance assessed

1217-A		
#	**Essential characteristic**	**Performance**
1	Reaction to fire	No performance assessed
2	Organic content [%]	16.1
	Ash content [%]	83.9
3	Heat combustion: Q_{PCS} [MJ/kg] Q_{PCS} [MJ/m^2]	No performance assessed

3.2 HYGIENE, HEALTH AND THE ENVIRONMENT (BWR 3)

ALL MESHES		
#	**Essential characteristic**	**Performance**
4	Leachable substances	No performance assessed
	Content of Cadmium	No performance assessed

3.3 SAFETY AND ACCESSIBILITY IN USE (BWR 4)

0161-A		
#	**Essential characteristic**	**Performance**
5	Mesh size (warp x weft) [mm] Mesh opening (warp x weft) [mm] Coverage ratio [%]	5.3 x 4.0 4.0 x 3.5 34
6	Weaving accuracy	no singularities or defects
7	Number of threads per meter: - Longitudinal threads (warp) - Trasversal threads (weft)	 250 190
	Tensile strength as-delivered state: - $T_{max,m}$ Warp [kN/m] - $T_{max,m}$ Weft [kN/m]	 43 53
	Tensile strength after alkali: - $T_{max,m,alk}$ Warp [kN/m] - $T_{max,m,alk}$ Weft [kN/m] - $\Delta T_{max,m,alk}$ Warp [%] - $\Delta T_{max,m,alk}$ Weft [%]	 35 44 82 83
	Elongation as-delivered state: - $\varepsilon_{m,in}$ Warp [%] - $\varepsilon_{m,in}$ Weft [%]	 3.7 4.4
	Elongation after alkali: - $\varepsilon_{m,alk}$ Warp [%] - $\varepsilon_{m,alk}$ Weft [%]	 3.1 3.5
8	Mass per unit area [g/m^2]	157
9	Thickness [mm]	0.3
10	Improvement to limitation of crack development	Not relevant

0140-A		
#	**Essential characteristic**	**Performance**
5	Mesh size (warp x weft) [mm] Mesh opening (warp x weft) [mm] Coverage ratio [%]	5.0 x 6.0 4.5 x 4.6 31
6	Weaving accuracy	no singularities or defects
7	Number of threads per meter: - Longitudinal threads (warp) - Transversal threads (weft)	 201 172
	Tensile strength as-delivered state: - $T_{max,m}$ Warp [kN/m] - $T_{max,m}$ Weft [kN/m]	 40 43
	Tensile strength after alkali: - $T_{max,m,alk}$ Warp [kN/m] - $T_{max,m,alk}$ Weft [kN/m] - $\Delta T_{max,m,alk}$ Warp [%] - $\Delta T_{max,m,alk}$ Weft [%]	 32 42 81 98
	Elongation as-delivered state: - $\varepsilon_{m,in}$ Warp [%] - $\varepsilon_{m,in}$ Weft [%]	 4.0 4.0
	Elongation after alkali: - $\varepsilon_{m,alk}$ Warp [%] - $\varepsilon_{m,alk}$ Weft [%]	 3.7 3.9
8	Mass per unit area [g/m^2]	135
9	Thickness [mm]	0.3
10	Improvement to limitation of crack development	Not relevant

0159R-A		
#	**Essential characteristic**	**Performance**
5	Mesh size (warp x weft) [mm] Mesh opening (warp x weft) [mm] Coverage ratio [%]	7.5 x 7.1 5.7 x 6.5 30
6	Weaving accuracy	no singularities or defects
7	Number of threads per meter: - Longitudinal threads (warp) - Transversal threads (weft)	 142 136
	Tensile strength as-delivered state: - $T_{max,m}$ Warp [kN/m] - $T_{max,m}$ Weft [kN/m]	 37 58
	Tensile strength after alkali: - $T_{max,m,alk}$ Warp [kN/m] - $T_{max,m,alk}$ Weft [kN/m] - $\Delta T_{max,m,alk}$ Warp [%] - $\Delta T_{max,m,alk}$ Weft [%]	 30 53 80 91
	Elongation as-delivered state: - $\varepsilon_{m,in}$ Warp [%] - $\varepsilon_{m,in}$ Weft [%]	 3.8 4.3
	Elongation after alkali: - $\varepsilon_{m,alk}$ Warp [%] - $\varepsilon_{m,alk}$ Weft [%]	 3.0 3.9
8	Mass per unit area [g/m^2]	158
9	Thickness [mm]	0.4
10	Improvement to limitation of crack development	Not relevant

0155R-A		
#	**Essential characteristic**	**Performance**
5	Mesh size (warp x weft) [mm] Mesh opening (warp x weft) [mm] Coverage ratio [%]	8.1 x 7.2 6.4 x 6.5 29
6	Weaving accuracy	no singularities or defects
7	Number of threads per meter: - Longitudinal threads (warp) - Transversal threads (weft)	 141 125
	Tensile strength as-delivered state: - $T_{max,m}$ Warp [kN/m] - $T_{max,m}$ Weft [kN/m]	 36 46
	Tensile strength after alkali: - $T_{max,m,alk}$ Warp [kN/m] - $T_{max,m,alk}$ Weft [kN/m] - $\Delta T_{max,m,alk}$ Warp [%] - $\Delta T_{max,m,alk}$ Weft [%]	 27 36 74 79
	Elongation as-delivered state: - $\varepsilon_{m,in}$ Warp [%] - $\varepsilon_{m,in}$ Weft [%]	 3.8 4.1
	Elongation after alkali: - $\varepsilon_{m,alk}$ Warp [%] - $\varepsilon_{m,alk}$ Weft [%]	 3.0 3.1
8	Mass per unit area [g/m^2]	147
9	Thickness [mm]	0.4
10	Improvement to limitation of crack development	Not relevant

0158-A		
#	**Essential characteristic**	**Performance**
5	Mesh size (warp x weft) [mm] Mesh opening (warp x weft) [mm] Coverage ratio [%]	10.0 x 10.0 8.2 x 9.3 24
6	Weaving accuracy	no singularities or defects
7	Number of threads per meter: - Longitudinal threads (warp) - Transversal threads (weft)	 101 102
	Tensile strength as-delivered state: - $T_{max,m}$ Warp [kN/m] - $T_{max,m}$ Weft [kN/m]	 39 43
	Tensile strength after alkali: - $T_{max,m,alk}$ Warp [kN/m] - $T_{max,m,alk}$ Weft [kN/m] - $\Delta T_{max,m,alk}$ Warp [%] - $\Delta T_{max,m,alk}$ Weft [%]	 33 41 86 96
	Elongation as-delivered state: - $\varepsilon_{m,in}$ Warp [%] - $\varepsilon_{m,in}$ Weft [%]	 3.9 3.6
	Elongation after alkali: - $\varepsilon_{m,alk}$ Warp [%] - $\varepsilon_{m,alk}$ Weft [%]	 1.0 1.5
8	Mass per unit area [g/m^2]	142
9	Thickness [mm]	0.5
10	Improvement to limitation of crack development	Not relevant

0370-A		
#	**Essential characteristic**	**Performance**
5	Mesh size (warp x weft) [mm] Mesh opening (warp x weft) [mm] Coverage ratio [%]	5.8 x 5.0 3.8 x 4.1 46
6	Weaving accuracy	no singularities or defects
7	Number of threads per meter: - Longitudinal threads (warp) - Transversal threads (weft)	 202 173
	Tensile strength as-delivered state: - $T_{max,m}$ Warp [kN/m] - $T_{max,m}$ Weft [kN/m]	 75 117
	Tensile strength after alkali: - $T_{max,m,alk}$ Warp [kN/m] - $T_{max,m,alk}$ Weft [kN/m] - $\Delta T_{max,m,alk}$ Warp [%] - $\Delta T_{max,m,alk}$ Weft [%]	 45 73 60 62
	Elongation as-delivered state: - $\varepsilon_{m,in}$ Warp [%] - $\varepsilon_{m,in}$ Weft [%]	 4.4 4.7
	Elongation after alkali: - $\varepsilon_{m,alk}$ Warp [%] - $\varepsilon_{m,alk}$ Weft [%]	 3.1 3.3
8	Mass per unit area [g/m^2]	378
9	Thickness [mm]	0.6
10	Improvement to limitation of crack development	Not relevant

0510-A		
#	**Essential characteristic**	**Performance**
5	Mesh size (warp x weft) [mm] Mesh opening (warp x weft) [mm] Coverage ratio [%]	8.2 x 8.1 5.0 x 5.8 56
6	Weaving accuracy	no singularities or defects
7	Number of threads per meter: - Longitudinal threads (warp) - Transversal threads (weft)	 126 124
	Tensile strength as-delivered state: - $T_{max,m}$ Warp [kN/m] - $T_{max,m}$ Weft [kN/m]	 121 148
	Tensile strength after alkali: - $T_{max,m,alk}$ Warp [kN/m] - $T_{max,m,alk}$ Weft [kN/m] - $\Delta T_{max,m,alk}$ Warp [%] - $\Delta T_{max,m,alk}$ Weft [%]	 67 117 55 79
	Elongation as-delivered state: - $\varepsilon_{m,in}$ Warp [%] - $\varepsilon_{m,in}$ Weft [%]	 4.1 4.5
	Elongation after alkali: - $\varepsilon_{m,alk}$ Warp [%] - $\varepsilon_{m,alk}$ Weft [%]	 2.3 3.4
8	Mass per unit area [g/m^2]	505
9	Thickness [mm]	1.3
10	Improvement to limitation of crack development	Not relevant

0148R-A		
#	**Essential characteristic**	**Performance**
5	Mesh size (warp x weft) [mm] Mesh opening (warp x weft) [mm] Coverage ratio [%]	6.0 x 4.0 4.5 x 3.5 34
6	Weaving accuracy	no singularities or defects
7	Number of threads per meter: - Longitudinal threads (warp) - Transversal threads (weft)	 250 170
	Tensile strength as-delivered state: - $T_{max,m}$ Warp [kN/m] - $T_{max,m}$ Weft [kN/m]	 46 45
	Tensile strength after alkali: - $T_{max,m,alk}$ Warp [kN/m] - $T_{max,m,alk}$ Weft [kN/m] - $\Delta T_{max,m,alk}$ Warp [%] - $\Delta T_{max,m,alk}$ Weft [%]	 35 29 74 64
	Elongation as-delivered state: - $\varepsilon_{m,in}$ Warp [%] - $\varepsilon_{m,in}$ Weft [%]	 3.8 4.3
	Elongation after alkali: - $\varepsilon_{m,alk}$ Warp [%] - $\varepsilon_{m,alk}$ Weft [%]	 2.8 2.7
8	Mass per unit area [g/m^2]	152
9	Thickness [mm]	0.5
10	Improvement to limitation of crack development	Not relevant

0148A14		
#	**Essential characteristic**	**Performance**
5	Mesh size (warp x weft) [mm] Mesh opening (warp x weft) [mm] Coverage ratio [%]	6.0 x 4.0 4.5 x 3.5 34
6	Weaving accuracy	no singularities or defects
7	Number of threads per meter: - Longitudinal threads (warp) - Transversal threads (weft)	 250 170
	Tensile strength as-delivered state: - $T_{max,m}$ Warp [kN/m] - $T_{max,m}$ Weft [kN/m]	 46 45
	Tensile strength after alkali: - $T_{max,m,alk}$ Warp [kN/m] - $T_{max,m,alk}$ Weft [kN/m] - $\Delta T_{max,m,alk}$ Warp [%] - $\Delta T_{max,m,alk}$ Weft [%]	 35 29 74 64
	Elongation as-delivered state: - $\varepsilon_{m,in}$ Warp [%] - $\varepsilon_{m,in}$ Weft [%]	 3.8 4.3
	Elongation after alkali: - $\varepsilon_{m,alk}$ Warp [%] - $\varepsilon_{m,alk}$ Weft [%]	 2.8 2.7
8	Mass per unit area [g/m^2]	152
9	Thickness [mm]	0.5
10	Improvement to limitation of crack development	Not relevant

0159RA16		
#	**Essential characteristic**	**Performance**
5	Mesh size (warp x weft) [mm] Mesh opening (warp x weft) [mm] Coverage ratio [%]	7.5 x 7.1 5.7 x 6.5 30
6	Weaving accuracy	no singularities or defects
7	Number of threads per meter: - Longitudinal threads (warp) - Transversal threads (weft)	 142 136
	Tensile strength as-delivered state: - $T_{max,m}$ Warp [kN/m] - $T_{max,m}$ Weft [kN/m]	 37 58
	Tensile strength after alkali: - $T_{max,m,alk}$ Warp [kN/m] - $T_{max,m,alk}$ Weft [kN/m] - $\Delta T_{max,m,alk}$ Warp [%] - $\Delta T_{max,m,alk}$ Weft [%]	 30 53 80 91
	Elongation as-delivered state: - $\varepsilon_{m,in}$ Warp [%] - $\varepsilon_{m,in}$ Weft [%]	 3.8 4.3
	Elongation after alkali: - $\varepsilon_{m,alk}$ Warp [%] - $\varepsilon_{m,alk}$ Weft [%]	 3.0 3.9
8	Mass per unit area [g/m^2]	158
9	Thickness [mm]	0.4
10	Improvement to limitation of crack development	Not relevant

0159A16		
#	**Essential characteristic**	**Performance**
5	Mesh size (warp x weft) [mm] Mesh opening (warp x weft) [mm] Coverage ratio [%]	7.5 x 7.1 5.7 x 6.5 30
6	Weaving accuracy	no singularities or defects
7	Number of threads per meter: - Longitudinal threads (warp) - Transversal threads (weft)	 142 136
	Tensile strength as-delivered state: - $T_{max,m}$ Warp [kN/m] - $T_{max,m}$ Weft [kN/m]	 37 58
	Tensile strength after alkali: - $T_{max,m,alk}$ Warp [kN/m] - $T_{max,m,alk}$ Weft [kN/m] - $\Delta T_{max,m,alk}$ Warp [%] - $\Delta T_{max,m,alk}$ Weft [%]	 30 53 80 91
	Elongation as-delivered state: - $\varepsilon_{m,in}$ Warp [%] - $\varepsilon_{m,in}$ Weft [%]	 3.8 4.3
	Elongation after alkali: - $\varepsilon_{m,alk}$ Warp [%] - $\varepsilon_{m,alk}$ Weft [%]	 3.0 3.9
8	Mass per unit area [g/m^2]	158
9	Thickness [mm]	0.4
10	Improvement to limitation of crack development	Not relevant

1217-A		
#	**Essential characteristic**	**Performance**
5	Mesh size (warp x weft) [mm] Mesh opening (warp x weft) [mm] Coverage ratio [%]	40.3 x 33.3 34.8 x 30.3 21
6	Weaving accuracy	no singularities or defects
7	Number of threads per meter: - Longitudinal threads (warp) - Transversal threads (weft)	 30 25
	Tensile strength as-delivered state: - $T_{max,m}$ Warp [kN/m] - $T_{max,m}$ Weft [kN/m]	 38 48
	Tensile strength after alkali: - $T_{max,m,alk}$ Warp [kN/m] - $T_{max,m,alk}$ Weft [kN/m] - $\Delta T_{max,m,alk}$ Warp [%] - $\Delta T_{max,m,alk}$ Weft [%]	 25 32 65 67
	Elongation as-delivered state: - $\varepsilon_{m,in}$ Warp [%] - $\varepsilon_{m,in}$ Weft [%]	 4.2 4.5
	Elongation after alkali: - $\varepsilon_{m,alk}$ Warp [%] - $\varepsilon_{m,alk}$ Weft [%]	 2.7 3.0
8	Mass per unit area [g/m^2]	132
9	Thickness [mm]	1.4
10	Improvement to limitation of crack development	Not relevant

4. ASSESSMENT AND VERIFICATION OF CONSTANCY OF PERFORMANCE (AVCP) SYSTEM APPLIED, WITH REFERENCE TO ITS LEGAL BASE

In accordance with the European Assessment Document EAD No. **040016-01-0404** the applicable European legal act is: **Decision 1997/556/EC**.
The system of assessment and verification of constancy of performance (AVCP) is **2+**.

5. TECHNICAL DETAILS NECESSARY FOR THE IMPLEMENTATION OF THE AVCP SYSTEM, AS PROVIDED FOR IN EAD 040016-01-0404

Technical details necessary for the implementation of the AVCP system are laid down in the Control Plan deposited at ITC-CNR.

Issued in San Giuliano Milanese, Italy on 18/05/2022
by ITC – CNR

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