

# PANEL SPECIFICATION

## CERAMIC PANEL

The façade cladding has to be made with light-weight panels (type GammaStone AIR or similar) made of an external layer in porcelain gres slabs thick 3, 5 or 6 mm, a structural core inserted between two fiberglass mattings and a stainless steel plate having a thickness of 0.5 mm.

Sizes: panels provided according to the designer's request with a maximum size of 3200x1500mm.

Thickness: 16 or 17 or 18 mm. Weight: 14 or 19 or 21 kg/sqm

**Porcelain gres monolithic corner** composed of porcelain gres with beveled edges, assembled with mastic, put on the back of a blend L-element and glued with structural silicone.

**The panel has to have the minimum performance levels as follows:**

UNI EN ISO 105453:2000 Determination of water absorption 0,9%

UNI EN 12089:2013 Determination of bending behavior 27772 kPa

UNI EN ISO 1054512:2000 Determination of frost resistance No fault

UNI EN 12664:2002 Thermal resistance 0,237 m2.K/W

UNI 8457:2010 Reaction to fire Classe 1

UNI EN 135011:2009 Fire classification B s1, d0

UNI EN 826:2013 Determination of compression behavior 1377 kPa

UNI EN ISO 9142:2004 Accelerated ageing No fault

UNI EN ISO 9227:2012 Resistance in Neutral Salt Spray NSS No fault

UNI EN ISO 105459:2013 Thermal shock resistance No fault

UNI EN 77214:2003 Determination of moisture movement 0.0 mm/m

UNI EN 14019:2004 ETAG 0341:2012 Impact resistance No damage

ETAG 004:2013 HeatRain 80 cycles and HeatCold 5 cycles resistance No fault

UNI EN ISO 105458:2014 Determination of linear thermal expansion 2.1 (<0.1 mm/600 mm)

UNI EN ISO 105454:2012 Determination of the breaking strength 22.9 ± 1.7 N/mm2

UNI EN ISO 105454:2012 Flexure after HeatRain 80 cycles + HeatCold 5 cycles 23.2 ± 3.0 N/mm2

Determination of bond strength by pulloff 1.63 ± 0.20 N/mm2

Bond strength after HeatRain 80 cycles + HeatCold 5 cycles 1.42 ± 0.25 N/mm2

Bond strength after water immersion (21 days) 1.01 ± 0.27 N/mm2

ETAG 0341:2012 Wind depression load resistance 4610 Pa

ASTM E 84 (UL 723) Surface burning characteristics Class A

ASTM E 136 Behavior of materials at 750°C (1382°F) Noncombustible

CAN/ULCS114 Test for NonCombustibility Noncombustible

ASTM C297/C297M-16 Standard Test Method for Flatwise Tensile Strength 1,37 ± 0,05 MPa

NFPA Fire test Passed

BS8414-1 Fire test Passed

## NATURAL STONE PANEL

The façade cladding has to be made with light-weight panels (type GammaStone AIR or similar) made of an external layer in "stone name" slabs thick 5, 10 or 12 mm, a structural core inserted between two fiberglass mattings and a stainless steel plate having a thickness of 0,5 mm.

Sizes: panels provided according to the designer's request with a maximum size of 3200x1500mm.

Thickness: 17 or 22 or 24 mm. Weight: 18 or 30 or 36 kg/sqm

**Natural stone monolithic corner** composed of stone slabs with beveled edges, assembled with mastic, put on the back of a blend L-element and glued with structural silicone.

**The panel has to have the minimum performance levels as follows:**

ETAG 004:2013 HeatRain 80 cycles No fault

ETAG 004:2013 HeatCold 5 cycles No fault

UNI EN ISO 105458:2014 Determination of linear thermal expansion 6.6 (<0.3 mm/600 mm)

UNI EN 77214:2003 Determination of moisture movement 0.4 mm/m

UNI 9177:2008 UNI 8457:2010 Reaction to fire Classe 1

UNI EN 135011:2009 Fire classification B s1, d0

UNI EN ISO 105454:2012 Determination of modulus of rupture and breaking strength 2.8± 0.3 N/mm2

UNI EN ISO 105454:2012 Breaking strength HeatRain 80 cycles + HeatCold 5 cycles 5.0± 0.5 N/mm2

Determination of bond strength by pulloff 1.15 ± 0.26 N/mm2

Bond strength after HeatRain 80 cycles + HeatCold 5 cycles 1.01 ± 0.31 N/mm2

Limit of detachment after water immersion (21 days) 0.27 ± 0.17 N/mm2

UNI EN ISO 105453:2000 Determination of water absorption 6%\*

UNI EN ISO 105459:2013 Determination of resistance to thermal shock No fault

UNI EN ISO 1054512:2000 Determination of frost resistance No fault

ETAG 0341:2012 Wind depression load resistance 4610 Pa

UNI EN 12664:2002 ASTM E1530:2006 Determination of thermal conductivity 0.157 ÷ 0.170 W/mK

ASTM E 84 (UL 723) Surface burning characteristics Class A

ASTM E 136 Behavior of materials at 750°C (1382°F) Non combustible

CAN/ULCS114 Test for NonCombustibility Non combustible

ASTM C297/C297M-16 Standard Test Method for Flatwise Tensile Strength 1,37 ± 0,05 MPa

NFPA Fire test Passed

BS8414-1 Fire test Passed

## GLASS PANEL

The façade cladding has to be made with light-weight panels (type GammaStone AIR or similar) made of an external layer in back lacquered glass slabs Ral xxx thick 4 or 6 mm, a structural core inserted between two fiberglass mattings and a stainless steel plate having a thickness of 0,5 mm.

Glass type: Light or Extra light, tempered or not

Sizes: panels provided according to the designer's request with a maximum size of 4200x1500mm.

Thickness: 16 or 18 mm. Weight: 16 or 21 kg/sqm

**Glass monolithic corner** composed of glass slabs with beveled edges, assembled with mastic, put on the back of a blend L-element and glued with structural silicone.

**The panel has to have the minimum performance levels as follows:**

UNI EN 12089:2013 Determination of bending behavior 84053 kPa

UNI EN 13049:2004 Determination of impact strength No damage

UNI 8457:2010 Reaction to fire Classe 1

UNI EN 135011:2009 Fire classification glass side B s2, d0

UNI EN 135011:2009 Fire classification steel side B s1, d0

UNI EN 826:2013 Determination of compression behavior 2135 kPa

ETAG 004:2013 HeatRain 80 cycles and HeatCold 5 cycles No fault

UNI EN ISO 105458:2014 Determination of linear thermal expansion 4.2 (<0.2 mm/600 mm)

UNI EN 77214:2003 Determination of moisture movement 0.0 mm/m

UNI EN ISO 105454:2012 Determination of modulus of rupture and breaking strength 23.2 ± 0.9 N/mm2

UNI EN ISO 105454:2012 Breaking strength HeatRain 80 cycles + HeatCold 5 cycles 23.2 ± 0.9 N/mm2

Determination of bond strength by pulloff 1.56 ± 0.19 N/mm2

Bond strength by pulloff results – sample "after immersion" (21 days) 1.24 ± 0.28 N/mm2

UNI EN ISO 105453:2000 Determination of water absorption 0.2%

UNI EN ISO 105459:2013 Determination of resistance to thermal shock No fault

UNI EN ISO 1054512:2000 Determination of frost resistance No fault

ETAG 0341:2012 Wind depression load resistance 4610 Pa

UNI EN 12664:2002 Determination of thermal conductivity 0.118 ÷ 0.123 W/mK

ASTM E1530:2006

ASTM E 84 (UL 723) Surface burning characteristics Class A

ASTM E 136 Behavior of materials at 750°C (1382°F) Non combustible

CAN/ULCS114 Test for NonCombustibility Non combustible

ASTM C297/C297M-16 Standard Test Method for Flatwise Tensile Strength 1,37 ± 0,05 MPa

NFPA Fire test Passed

BS8414-1 Fire test Passed

## UHPC PLUS PANEL

The façade cladding has to be made with light-weight panels (type GammaStone AIR or similar) made of an external layer in high-performance concrete reinforced with amorphous metal fibers thick 5 mm, a structural core inserted between two fiberglass mattings and a stainless steel plate having a thickness of 0,5 mm.

Panel color: xxx Finish: xxx

Sizes: panels provided according to the designer's request with a maximum size of 3200x1500mm.

Thickness: 17 mm. Weight: 18 kg/sqm

**Mortar monolithic corner** composed of mortar slabs with beveled edges, assembled with mastic, put on the back of a blend L-element and glued with structural silicone.

**The panel has to have the minimum performance levels as follows:**

UNI EN ISO 10545-3:2000 Determination of water absorption 7,2%

UNI EN ISO 10545-8:2014 Determination of linear thermal expansion 1.6

UNI EN 772-14:2003 Determination of moisture movement 0.04 ÷ 0.13 mm/m

UNI EN ISO 10545-4:2012 UNI EN 12467:2016 Determination of the breaking strength 4.3 ÷ 6.2 N/mm2 2.9 ÷ 3.9 N/mm2

UNI EN 12089:2013 Determination of bending behavior 4160 ÷ 5867 kPa

UNI EN 12467:2016 Determination of frost/defrost resistance No fault

UNI EN 12467:2016 Determination of water absorption absence of water

UNI EN ISO 10545-9:2013 Determination of resistance to thermal shock No fault

UNI 9177:2008UNI 8457:2010 UNI 9174:2010 Reaction to fire Classe 1

UNI EN 13501-1:2009 UNI EN 13823:2010 UNI EN ISO 11925-2:2005 Fire classification B - s1, d0

ETAG 034-1:2012 Wind depression load resistance 4610 Pa

ASTM E 84 (UL 723) Surface burning characteristics Class A

ASTM E 136 Behavior of materials at 750°C (1382°F) Non-combustible

CAN/ULC-S114 Test for Non-Combustibility Non-combustible

ASTM C297/C297M-16 Standard Test Method for Flatwise Tensile Strength 1,37 ± 0,05 MPa

NFPA Fire test Passed

BS8414-1 Fire test Passed

# PANEL SPECIFICATION

## MOSAIC PANEL

The façade cladding has to be made with lightweight panels (type GammaStone AIR or similar) made of an external layer in mosaic slabs color xxxx thick 4 mm, a structural core inserted between two fiberglass mattings and a stainless steel plate having a thickness of 0,5 mm.

The panel is supplied with epoxy resins color xxx within the joints.

Sizes: panels provided according to the designer's request with a maximum size of 3000x1000mm.

Thickness: 16 mm. Weight: 16 kg/sqm

**Mosaic monolithic corner** composed of mosaics with beveled edges, assembled with mastic, put on the back of a blend L-element and glued with structural silicone.

**The panel has to have the minimum performance levels as follows:**

UNI EN 12089:2013 Determination of bending behavior 84053 kPa

UNI EN 13049:2004 Determination of impact strength No damage

UNI 8457:2010 Reaction to fire Classe 1

UNI EN 135011:2009 Fire classification glass side B s2, d0

UNI EN 135011:2009 Fire classification steel side B s1, d0

UNI EN 826:2013 Determination of compression behavior 2135 kPa

ETAG 004:2013 HeatRain 80 cycles and HeatCold 5 cycles No fault

UNI EN ISO 105458:2014 Determination of linear thermal expansion 4.2 (<0.2 mm/600 mm)

UNI EN 77214:2003 Determination of moisture movement 0.0 mm/m

UNI EN ISO 105454:2012 Determination of modulus of rupture and breaking strength 23.2 ± 0.9 N/mm2

UNI EN ISO 105454:2012 Breaking strength HeatRain 80 cycles + HeatCold 5 cycles 23.2 ± 0.9 N/mm2

Determination of bond strength by pulloff 1.56 ± 0.19 N/mm2

Bond strength by pulloff results – sample “after immersion” (21 days) 1.24 ± 0.28 N/mm2

UNI EN ISO 105453:2000 Determination of water absorption 0.2%

UNI EN ISO 105459:2013 Determination of resistance to thermal shock No fault

UNI EN ISO 1054512:2000 Determination of frost resistance No fault

ETAG 0341:2012 Wind depression load resistance 4610 Pa

UNI EN 12664:2002 Determination of thermal conductivity 0.118 ÷ 0.123 W/mK

ASTM E1530:2006

ASTM E 84 (UL 723) Surface burning characteristics Class A

ASTM E 136 Behavior of materials at 750°C (1382°F) Noncombustible

CAN/ULCS114 Test for NonCombustibility Noncombustible

ASTM C297/C297M-16 Standard Test Method for Flatwise Tensile Strength 1,37 ± 0,05 MPa

NFPA Fire test Passed

BS8414-1 Fire test Passed

## BRICK PANEL

The façade cladding has to be made with light-weight panels (type GammaStone AIR or similar) made of an external layer in slabs with porcelain or klinker bricks slabs thick 7 or 10 mm, a structural core inserted between two fiberglass mattings and a stainless steel plate having a thickness of 0,5 mm.

The panel is supplied with mortar color xxx within the joints.

Sizes: panels provided according to the designer's request with a maximum size of 3000x1000mm.

Thickness: 19 mm. Weight: 17 kg/sqm

**Brick monolithic corner** composed of slabs with bricks with beveled edges, assembled with mastic, put on the back of a blend L-element and glued with structural silicone.

**The panel must have the minimum performance levels as follows:**

UNI EN ISO 105453:2000 Determination of water absorption 0,9%

UNI EN 12089:2013 Determination of bending behavior 27772 kPa

UNI EN ISO 1054512:2000 Determination of frost resistance No fault

UNI EN 12664:2002 Thermal resistance 0,237 m2.K/W

UNI 8457:2010 Reaction to fire Classe 1

UNI EN 135011:2009 Fire classification B s1, d0

UNI EN 826:2013 Determination of compression behavior 1377 kPa

UNI EN ISO 9142:2004 Accelerated ageing No fault

UNI EN ISO 9227:2012 Resistance in Neutral Salt Spray NSS No fault

UNI EN ISO 105459:2013 Thermal shock resistance No fault

UNI EN 77214:2003 Determination of moisture movement 0.0 mm/m

UNI EN 14019:2004 ETAG 0341:2012 Impact resistance No damage

ETAG 004:2013 HeatRain 80 cycles and HeatCold 5 cycles resistance No fault

UNI EN ISO 105458:2014 Determination of linear thermal expansion 2.1 (<0.1 mm/600 mm)

UNI EN ISO 105454:2012 Determination of the breaking strength 22.9 ± 1.7 N/mm2

UNI EN ISO 105454:2012 Flexure after HeatRain 80 cycles + HeatCold 5 cycles 23.2 ± 3.0 N/mm2

Determination of bond strength by pulloff 1.63 ± 0.20 N/mm2

Bond strength after HeatRain 80 cycles + HeatCold 5 cycles 1.42 ± 0.25 N/mm2

Bond strength after water immersion (21 days) 1.01 ± 0.27 N/mm2

ETAG 0341:2012 Wind depression load resistance 4610 Pa

ASTM E 84 (UL 723) Surface burning characteristics Class A

ASTM E 136 Behavior of materials at 750°C (1382°F) Noncombustible

CAN/ULCS114 Test for NonCombustibility Noncombustible

ASTM C297/C297M-16 Standard Test Method for Flatwise Tensile Strength 1,37 ± 0,05 MPa

NFPA Fire test Passed

BS8414-1 Fire test Passed

# APPLICATIONS SPECIFICATIONS

## VENTILATED FACADE / INVISIBLE SOLUTION

The GammaStoneAIR ventilated façade with concealed fastening is based on the integrated system between large panels (up to 3x1 m in single panel), insulation board and aluminum structure. The structure consists of profiles and brackets both made from extruded aluminum alloy 6060 in the 6000 series according to UNI EN 573-3, physical condition T6 according to EN 515.

When fixing the mullions to the brackets, pay attention to the profile to be fixed in one point only, leaving freedom of movement in the longitudinal direction in the additional hardware to ensure the appropriate spaces needed for the effect of thermal expansion of the aluminum. Take care that the free space of the joint is at least 1.2 x Ømax (in mm). The safety of the whole system must be guaranteed by appropriate checks in accordance with the applicable regulations (Technical Standards for Construction DM 01/14/08) UNI 11018 and January 2003 on “Coatings and anchoring systems for ventilated facades in mechanical assembly. Instructions the design, execution and maintenance.”

In particular, the system GammaStoneAIR concealed fastening is characterized by:

1) Glass panel: the panel consists of a glass slab with a thickness of 4 or 6 mm a structural core interposed between two glass fiber mats and a stainless steel sheet with a thickness of 0.5 mm.

2) Natural stone panel: the panel consists of a natural stone slab with a thickness of 10 mm, a structural core interposed between two glass fiber mats and a stainless steel sheet with a thickness of 0.5 mm.

3) Porcelain panel: panel consists of a porcelain plate with a thickness of 3 or 6mm, a structural core interposed between two glass fiber mats and a stainless steel sheet with a thickness of 0.5 mm.

a) Format: panels are provided in the format required by the designer with a maximum size of 4200x1500 mm (glass) 3200x1500 (natural stone)

3200x1200mm (porcelain)

4) Substructure: substructure composed by mullions, transoms and brackets all made of extruded aluminum alloy 6063 T6 series, available either in the raw state and with various surface finishes, consisting of:

- Raw Brackets, “L” shaped, fixed by anchors suitably dimensioned and chosen according to the existing masonry;

- Isolator placed between aluminum bracket and masonry;

- Raw “T” Profile (called vertical mullion), fastened on the brackets with rivets (large head, steel / aluminum) in respect of “fixed point” and “sliding point”, as shown by the annexed tables.

- Insulating panel, both rigid or soft, thickness according to the project requirement;

- Slotted horizontal current, fixed to the uprights by means of rivets (large head, steel / aluminum), and

shaped so that the stresses due to wind action result axial to the hangers;

- Aluminum hangers fixed on the GammaStone AIR panel stainless steel sheet with rivets large head, steel / aluminum), and placed according to the geometry shown in the annexed tables.

The panels thus assembled, are hanged on the slotted horizontal guide. The system, by means of millimetric adjusting screws, provides the

possibility to obtain variables joints. The panels will be blocked by the sidescrolling removable locking system.

hangers, fixed to the back face of the panel;

- Regulation hangers, with screws for precision adjustment;

- Simple hangers.

## PART LIST:

- Aluminum mullions, T shaped;

- “L shaped aluminum brackets;

- Isolator for the interruption of the thermal bridge;

- Anchors suitable for the existing masonry;

- Insulating panel, both rigid or soft, according to the thermal calculations;

- Normalized rivets or self-drilling screws for fixing of mullions, brackets and transoms;

- \_Horizontal aluminum slotted transoms, with particular section , able to receive interlocking special nonoverturning

hangers, fixed to the back face of the panel;

- Regulation hangers, with screws for precision adjustment;

- Simple hangers.



## SECTION 074320 – GAMMASTONE AIR (CHOOSE ONE) [STONE], [CERAMIC], [GLASS], [UHPC], [BRICK], [MOSAIC] EXTERIOR COMPOSITE PANELS

### PART 1 – GENERAL

#### 1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this section.

#### 1.2 SUMMARY

A. Provide all materials and work for this section as indicated on the complete set of drawings and as required for a complete installation. Note that any component listing is primarily for the convenience of the Contractor and that all items shall be provided whether included in this listing or indicated on the plans.

#### 1.3 QUALITY STANDARDS

- A. Provide experienced, well-trained workers competent to complete the work as specified. Fabricator/installer shall be experienced in performing work of similar type and scope.
- B. Provide all components, including related products and accessories, from a single manufacturer. Accessories other than those provided by panel manufacturer shall be approved by panel manufacturer.
- C. Panels shall be installed adhering to [\[ventilated rain screen method per manufacturer's instructions and shall provide unobstructed cavity for continuous air flow\]](#), [\[curtain wall system requirements\]](#).

#### 1.4 SUBMITTALS

- A. Make all submittals as directed in Section \_\_\_\_\_ - SUBMITTALS.
- B. Submit list of materials to be provided for this work; manufacturer's data required to prove compliance with these specifications, manufacturer's installation instructions, shop drawings as required, with complete details and assembly instructions.
- C. Submit samples as required for approval by the Architect
- D. Shop drawings shall be complete with specific instructions for the installation of panels, sub-frame assemblies and other component parts.

#### 1.5 PRECONSTRUCTION AND PREPARATION

- A. Examine and verify that job conditions are satisfactory for speedy and acceptable work.
- B. Field Measurements: Secure field measurements before preparation of shop drawings and fabrication where possible, for proper fabrication and installation of the work.
- C. Pre-Installation Meeting: Conduct pre-installation meeting to verify project requirements, substrate conditions, manufacturer's installation instructions and manufacturer's warranty requirements.

#### 1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver material in manufacturer's original, unopened, undamaged containers with identification labels intact. Materials must be transported flat and kept dry and protected from the elements and handled with care.
- B. Storage and Protection: Materials must be stored flat and kept dry in a warehouse/storage facility or in an area protected from exposure to harmful weather conditions, at temperatures and humidity conditions recommended by the manufacturer.

#### 1.7 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

#### 1.8 WARRANTY

A. Manufacturer's warranty: Submit, for owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under Contract Documents.

### PART 2 – PRODUCTS

**2.1 BASIS OF DESIGN PRODUCT:** GAMMASTONE AIR (choose one) [STONE], [CERAMIC], [GLASS], [J = E 8], [BRICK], [MOSAIC].

A. GAMMASTONE - Exterior grade (CHOOSE ONE) [STONE], [CERAMIC], [GLASS], [UHPC], [BRICK], [MOSAIC] composite panels.

1. Manufactured by: GammaStone Via Flaminia 148 00068 Rignano Flaminio (Roma) Italy +39 0761 5051 info@gammastone.com

2. Local Contact: xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

#### 2.2 MATERIALS

A. EXTERIOR GRADE (choose one) [STONE], [CERAMIC], [GLASS], [J = E 8], [BRICK], [MOSAIC] COMPOSITE PANELS:

[NATURAL AIR - The panel is composed of a (select one) [ .2 inches, (5mm)], [ .39 inches, (10mm)], [ .47inches, (12mm)] natural stone slab, a structural core inserted between two fiberglass layers and a stainless steel plate having a thickness of 0.5 mm. The available sizes depend on the block size with a maximum size of 126" x 59" (3200x1500 mm).]

[GRES AIR - GammaStone high quality porcelain gres is a compact ceramic paste, obtained from the process of sintering at temperatures of 1200-1400°C, until reaching a non-porous and waterproof vitrification. The panel is composed of a (select one) [ .12 inches, (3mm)], [ .20 inches,( 5mm)], [ .24inches, (6mm)] porcelain gres slab, a structural core inserted between two fiberglass layers and a stainless steel plate having a thickness of 0,5 mm. Available sizes up to 126" x 63" (3200 mm x 1500 mm) depending on ceramic sheet size.]

[GLASS AIR - The panel is composed of a (select one) [ .16 inches, (4mm)], [ .24inches,( 6mm)] glass slab, a structural core inserted between two fiberglass matting and a stainless steel plate of 0,5 mm thickness. The float or tempered glass is applied depending on the sizes and required applications. Available sizes up to 165" x 59" (4200x1500 mm)]

[UHPC PLUS AIR - The GammaStone J =E 8 Plus AIR solution is composed of (select one), [ .2 inches, (5mm)], [ .67inches, 17mm)] high-performance concrete reinforced with amorphous metal fibers, a structural core inserted between two fiberglass matting and a stainless steel plate of 0.5 mm thickness. The panel offers self-cleaning and photo catalytic characteristics.]

B. TECHNICAL REQUIREMENTS: (choose one) [STONE], [CERAMIC], [GLASS], [J = E 8], [BRICK], [MOSAIC]

&#x2190;SURFACE: Per Architect's selection (choose one: [STONE], [CERAMIC], [GLASS], [J = E 8], [BRICK], [MOSAIC]

' #PANEL DIMENSIONS: As indicated on drawings.

( #DIMENSIONAL TOLERANCES: See Data Sheet

) #WEIGHT: (dependent on panel configuration)

\*#SURFACE BURNING CHARACTERISTICS: Report on surface burning characteristics determined by ASTM E84 (twenty-five-foot tunnel furnace test method) All panels meets class A, flame spread index 0 - 25 and a smoke developed index of 0 – 450. 6. All GammaStone AIR panels have passed the NFPA 285 in accordance with the International Building Code. 7. All GammaStone AIR panels have been rated as Non-combustible according to the ASTM E 136 test in accordance with the International Building Code. 8. ASTM E 136 tensile strength test 1.37 +- 0.05 M Pa 9. Wind Resistance ETAG – 4610 Pa

#### 2.3 ACCESSORIES

A. Provide trim, gaskets, fasteners and other related accessories recommended by the manufacturer to provide a complete system.

#### 2.4 FABRICATION

A. Fabrication by Panel Manufacturer

### PART 3 – EXECUTION

#### 3.1 INSPECTION

A. Examine alignment of backup structure prior to installing subframe. Do not proceed until all defects are corrected.

#### 3.2 INSTALLATION

- A. Comply with Manufacturer's guidelines for panel installation
- B. Attachment system: GAMMASTONE Hidden fastening [\[Ventilated\]](#), [\[Micro-ventilated\]](#), [\[Curtain wall\]](#), [\[Ceiling\]](#), [\[Sunblades\]](#)
- C. Install panels plumb and level and accurately spaced in accordance with manufacturer's recommendations and approved submittals.
- D. Fasten solid exterior wall panels to supporting substrate with fasteners approved for use with adjoining construction.
- E. Accessory Items: Install corner profiles, gaskets and trim with fasteners and adhesive appropriate for use with adjoining constructions as indicated on drawings and as recommended by manufacturer.

#### 3.3 DAMAGED MATERIAL

A. Repair or replace damaged materials

#### 3.4 CLEANING

- A. Do not use abrasive cleaners or cleaning tools. Dry and wipe down panel sections as work progresses.
- B. Provide final cleaning of the panel system.

#### 3.5 PROTECTION

A. Protect installed product and finished surfaces from damage during construction.

END OF SECTION 074320