## **Declaration of Performance**

## DoP Number:

- 1 Unique identification code of the product-type:
- $2 \ \ \text{Identification of the construction product as required under Article 11(4) of the regulation n^{\circ} \ 305/2011/\text{EU}:}$
- 3 Intended use/es:
- 4 Manufacturer:
- 5 Systems/s of AVCP:
- 6 Harmonised standard:
- Notified bodies:

Notified Certification bodies FIW (Forschunginstitut für Wärmeschutz e.v München) N° 0751 and MPA (Materialprüfanstalt fün das Bauwesen Hannover) N° 0764 performed, carried out the determination of the product type, the initial inspection of the manufacturing plant and of factory production control and the continuous surveillance, assessment and evaluation of factory production control and issued the certificate of constancy of performance for reaction to fire.

## 7 Declared performance:

| Acoustic absorption index         Sound absorption         AW         -         NPD           Dynamic stiffness         SD         MN/m <sup>3</sup> NPD           Dynamic stiffness         GL         mm         NPD           Impact noise transmission index         Grompressibility         CP         mm         NPD           Direct airborne sound insulation index         Air flow resistivity         AFr         kPa.s/m <sup>2</sup> NPD           Continous glowing combustion         Continous glowing combustion         Continous glowing combustion         NPD           Thermal resistance         Ro         m <sup>2</sup> K/W         see table below         NPD           Thermal resistance         Ro         m <sup>2</sup> K/W         see table below         NPD           Water permeability         Short term water absorption         WS         kg/m <sup>2</sup> <1           Water vapour permeability         Water vapour transmission         MU         -         NPD           Compressive strength         Compressive stress         CS(10)         kPa         NPD           Durability of reaction to fire against heat, weathering, ageing/degradation         Reaction to fire         Reaction to fire         Sho         Sho         Sho           Durability of termal resistance against heat, weathering, ageing/d   | Essential characteristics   | Performance                             | Abbreviation             | Unit              | Declared performance |
|---|---|---|--------------------------|-------------------|----------------------|
| Acoustic absorption indexSound absorptionAW-NPDDynamic stiffnessSDMN/m³NPDDynamic stiffnessGDMN/m³NPDImpact noise transmission indexGropressibilityGPmmNPDAir flow resistivityAFrkPa.s/m²NPDDirect airborne sound insulation indexAir flow resistivityAFrkPa.s/m²NPDContinous glowing combustionContinous glowing combustionNPDNPDContinous glowing combustionContinous glowing combustionNPDThermal resistanceRom² K/Wsee table belowThermal resistanceRom² K/Wsee table belowThermal resistanceGong resistorityAfrClassT4Water permeabilityShort term water absorptionWL(P)kg/m²<3  | Reaction to fire  | Reaction to fire                        | RtF                      | Euroclass         | F                    |
| Dynamic stiffnessSDMI/m³NPDImpact noise transmission indexThicknessd,mmNPDThicknessd,mmNPDDirect airborne sound insulation indexAir flow resistivityAFrkPa.s/m³NPDDirect airborne sound insulation indexAir flow resistivityAFrkPa.s/m³NPDContinous glowing combustionContinous glowing combustionNPDNPDThermal resistanceRom*K/Wsee table belowThermal resistanceRoMWmK0.033Thicknessd,mm30-300Thickness classTClassT4Water permeabilityWater vapour transmissionWU(P)kg/m²<1  | Realease of dangerous substances  | Realease of dangerous substances        |                          |                   | NPD                  |
| Impact noise transmission indexThicknessdimmNPDImpact noise transmission indexAir flow resistivityCPmmNPDAir flow resistivityAFr $kPa.s/m^2$ NPDDirect airborne sound insulation indexAir flow resistivityAFr $kPa.s/m^2$ NPDContinous glowing combustionContinous glowing combustionImmain resistanceRpom <sup>2</sup> K/Wsee table belowThermal resistanceRpom <sup>2</sup> K/Wsee table belowNPDThermal resistanceRpom <sup>2</sup> K/Wsee table below0.033T4Thermal resistanceContinous glowing combustionWWm K0.033T4Thermal resistanceCompressive strengthShort term water absorptionWSkg/m <sup>2</sup> <1   | Acoustic absorption index   |   | AW                       | -                 | NPD                  |
| Impact noise transmission index         Compressibility         CP         mm         NPD           Air flow resistivity         AFr         kPa_s/m <sup>2</sup> NPD           Direct airborne sound insulation index         Air flow resistivity         AFr         kPa_s/m <sup>2</sup> NPD           Continous glowing combustion         Continous glowing combustion         NPD         NPD           Thermal resistance         Ro         m <sup>2</sup> K/W         see table below           Thermal resistance         Thermal resistance         M/M         0.033           Thickness         d <sub>N</sub> mm         30-300           Thickness class         T         Class         T4           Water permeability         Water vapour transmission         WU         -         NPD           Compressive strength         Water vapour transmission         MU         -         NPD           Durability of reaction to fire against heat, weathering, ageing/degradation         Reaction to fire         Ref         Euroclass         F           Durability of treaction to fire against heat, weathering, ageing/degradation         Thermal resistance         Ro         see table below           Durability of treaction to fire against heat, weathering, ageing/degradation         Reaction to fire         RtF         Euroclass   |   | Dynamic stiffness                       | -                        | MN/m <sup>3</sup> | NPD                  |
| Air flow resistivityAirMeAir flow resistivityAFrkPa.s/m²NPDDirect airborne sound insulation indexAir flow resistivityAFrkPa.s/m²NPDContinous glowing combustionContinous glowing combustionNPDContinous glowing combustionContinous glowing combustionNPDThermal resistanceRom² K/Wsee table belowThermal conductivity $\lambda_0$ W/M K0.033Thicknessdkmm30:300Thicknessdkmm30:300Thickness classTClassT4Short term water absorptionWSkg/m²<1  |   | Thickness                               | dL                       | mm                | NPD                  |
| Direct airborne sound insulation indexAir flow resistivityAFr $kPa.s/m^2$ NPDContinous glowing combustionContinous glowing combustionNPDContinous glowing combustionThermal resistance $R_0$ $m^2 K/W$ see table belowThermal resistance $R_0$ $m^2 K/W$ see table belowThermal resistance $R_0$ $m'/m K$ 0.033Thickness $d_k$ mm30-300Thickness classTClassT4Water permeabilityShort term water absorptionWSkg/m²<1  | Impact noise transmission index   | Compressibility                         | CP                       | mm                | NPD                  |
| Continuus glowing combustionContinuus glowing combustionNPDThermal resistanceR0m° K/Wsee table belowThermal resistanceR0M° K/W0,033Thicknessd,Nmm30-300Thicknessd,Nmm30-300Thickness classTClassT4Water permeabilityShort term water absorptionWSkg/m²<1  |   | Air flow resistivity                    | AFr                      | kPa.s/m²          | NPD                  |
| Thermal resistanceR0m² K/Wsee table belowThermal resistanceR0m² K/Wsee table belowThermal conductivity $\lambda_D$ W/m K0.033Thicknessd <sub>N</sub> mm30-300Thickness classTClassT4Water permeabilityShort term water absorptionWSkg/m²<1  | Direct airborne sound insulation index  | Air flow resistivity                    | AFr                      | kPa.s/m²          | NPD                  |
| Thermal resistanceThermal conductivity $\lambda_0$ W/m K0.033Thickness $d_{kl}$ mm30-300Thickness classTClassT4Water permeabilityShort term water absorptionWSkg/m²<1   | Continous glowing combustion  | Continous glowing combustion            |                          |                   | NPD                  |
| $\frac{\text{Thermal resistance}}{\text{Thickness} class} & \frac{d_N}{T} & \frac{mm}{Class} & \frac{30-300}{T4}$ $\frac{\text{Thickness class}}{\text{Thickness class}} & T & Class & T4$ $\frac{\text{Short term water absorption}}{\text{Long term water absorption}} & WS & kg/m^2 & <1$ $\frac{\text{Long term water absorption}}{W4 \text{ter vapour permeability}} & Water vapour transmission} & WL(P) & kg/m^2 & <3$ $\frac{MU}{Z} & \frac{-MU}{Z} & \frac{-MDP}{2}$ $\frac{\text{Compressive strength}}{Point Load} & PL(5) & N & NPD$ $\frac{\text{Durability of reaction to fire against heat, weathering, ageing/degradation}}{Ptermal resistance against heat, weathering, ageing/degradation} & \frac{Thermal resistance}{Ptermal resistance} & R_D & see table below \\ \frac{Thermal resistance}{Durability characteristics} & DS (70,90) & \% & NPD$ $\frac{\text{Durability of compressive strength against heat, weathering, ageing/degradation} & Thermal resistance means and the strength perpendicular to faces & TR & kPa & NPD$   |   | Thermal resistance                      | R <sub>D</sub>           | m² K/W            | see table below      |
| $\frac{\text{Thickness}}{\text{Thickness class}} & \frac{d_{N}}{\text{mm}} & \frac{30\cdot300}{\text{Thickness class}} \\ \frac{\text{Thickness class}}{\text{T}} & Class & T4 \\ Class & T6 \\ Cl$ | <b>r</b> i i · .  | Thermal conductivity                    | λ <sub>D</sub>           | W/m K             | 0,033                |
| Short term water absorptionWSkg/m²<1Water vapour permeabilityLong term water absorptionWL(P)kg/m²<3   | i nermai resistance   | Thickness                               |                          | mm                | 30-300               |
| Water permeability       Long term water absorption       WL(P)       kg/m <sup>2</sup> <3         Water vapour permeability       Water vapour transmission       MU       -       NPD         Z       m2hPa/mg       >0,5       S         Compressive strength       Compressive stress       CS(10)       kPa       NPD         Durability of reaction to fire against heat, weathering, ageing/degradation       Reaction to fire       RtF       Euroclass       F         Durability of thermal resistance against heat, weathering, ageing/degradation       Thermal resistance       Rp       see table below         Durability of thermal resistance against heat, weathering, ageing/degradation       Thermal censitance       Rp       W/m K       0,033         Durability of thermal strength       Tensile strength perpendicular to faces       TR       kPa       NPD         Durability of compressive strength against heat, weathering, Durability characteristics       DS (70,90)       %       NPD         Durability of compressive strength against heat, weathering, Durability characteristics       TR       kPa       NPD         Durability of compressive strength against heat, weathering, Durability characteristics       TR       kPa       NPD  |   | Thickness class                         | Т                        | Class             | T4                   |
| Long term water absorptionWL(P)kg/m²<3Water vapour permeabilityWater vapour transmissionMU-NPDZm2hPa/mg>0,5Compressive strengthCompressive stressCS(10)kPaNPDDurability of reaction to fire against heat, weathering,<br>ageing/degradationReaction to fireRtFEuroclassFDurability of thermal resistance against heat, weathering,<br>ageing/degradationThermal resistanceRosee table belowDurability of thermal resistance against heat, weathering,<br>ageing/degradationThermal resistanceRtFW/m K0,033Durability characteristicsDS (70,90)%NPDNPDDurability of compressive strengthTensile strength perpendicular to facesTRkPaNPDDurability of compressive strength against heat, weathering,<br>Durability of compressive strength against heat, weathering,<br>Compressive strength against heat, weathering,<br>Durability characteristicsCC((i,i,k)) rsmmNPD   |   | Short term water absorption             | WS                       | kg/m²             | <1                   |
| Water vapour permeability         Water vapour transmission         Z         m2hPa/mg         >0,5           Compressive strength         Compressive stress         CS(10)         kPa         NPD           Point Load         PL(5)         N         NPD           Durability of reaction to fire against heat, weathering, ageing/degradation         Reaction to fire         RtF         Euroclass         F           Durability of thermal resistance against heat, weathering, ageing/degradation         Thermal resistance         Ro         see table below           Durability of thermal resistance against heat, weathering, ageing/degradation         Thermal conductivity $\lambda_D$ W/m K         0,033           Durability of thermal strength         Tensile strength perpendicular to faces         TR         kPa         NPD           Durability of compressive strength against heat, weathering, Durability of compressive strength against heat, weathering, Compressive creap         CC(i, i, i/u) rs         mm         NPD   | Water permeability  | Long term water absorption              | WL(P)                    | kg/m²             | <3                   |
| Compressive strength     Compressive stress     CS(10)     kPa     NPD       Durability of reaction to fire against heat, weathering, ageing/degradation     Reaction to fire     RtF     Euroclass     F       Durability of thermal resistance against heat, weathering, ageing/degradation     Thermal resistance     Ro     see table below       Durability of thermal resistance against heat, weathering, ageing/degradation     Thermal resistance     Ro     see table below       Durability of thermal resistance against heat, weathering, ageing/degradation     Thermal resistance     Ro     see table below       Durability of thermal strength     Tensile strength perpendicular to faces     DS (70,90)     %     NPD       Durability of compressive strength against heat, weathering, Durability of compressive strength against heat, weathering, Compressive creap     CC((i,i,k)) r     mm     NPD  | Mater vanour normaahility   | Water uppeur transmission               | MU                       | -                 | NPD                  |
| Compressive strength       Image: Compressive strength       Image: Compressive strength       PL(5)       N       NPD         Durability of reaction to fire against heat, weathering, ageing/degradation       Reaction to fire       RtF       Euroclass       F         Durability of thermal resistance against heat, weathering, ageing/degradation       Thermal resistance       Ro       see table below         Durability of thermal resistance against heat, weathering, ageing/degradation       Thermal conductivity $\lambda_D$ W/m K       0.033         Durability characteristics       DS (70,90)       %       NPD         Tensile /Flexural strength       Tensile strength perpendicular to faces       TR       kPa       NPD         Durability of compressive strength against heat, weathering, compressive creap       CC(Li,L/u) rs       mm       NPD  |   |   | Z                        | m2hPa/mg          | >0,5                 |
| Point Load     PL(5)     N     NPD       Durability of reaction to fire against heat, weathering, ageing/degradation     Reaction to fire     RtF     Euroclass     F       Durability of thermal resistance against heat, weathering, ageing/degradation     Thermal resistance     Ro     see table below       Durability of thermal resistance against heat, weathering, ageing/degradation     Thermal conductivity $\lambda_0$ W/m K     0,033       Durability characteristics     DIS (70,90)     %     NPD       Tensile/Flexural strength     Tensile strength perpendicular to faces     TR     kPa     NPD       Durability of compressive strength against heat, weathering, compressive creep     CC(Li,L/u) rs     mm     NPD  | Comprossive strength  | Compressive stress                      | CS(10)                   | kPa               | NPD                  |
| ageing/degradation     Reaction to fire     Rtr     Euroclass     F       Durability of thermal resistance against heat, weathering, ageing/degradation     Thermal resistance     Rp     See table below       Durability characteristics     Ds (70,90)     W/m K     0,033       Durability characteristics     DS (70,90)     %     NPD       Tensile/Flexural strength     Tensile strength perpendicular to faces     TR     kPa     NPD  |   | Point Load                              | PL(5)                    | PL(5) N           |                      |
| Durability of thermal resistance against heat, weathering, ageing/degradation     Thermal conductivity $\lambda_p$ W/m K     0,033       Durability characteristics     DS (70,90)     %     NPD       Tensile/Flexural strength     Tensile strength perpendicular to faces     TR     kPa     NPD       Durability of compressive strength against heat, weathering,     Compressive creap     CC(i, ii, iu) m     mm     NPD   |   | Reaction to fire                        | RtF                      | Euroclass         | F                    |
| Ageing/degradation     Internal conductivity     Ap     W/M K     0,053       Durability characteristics     DS (70,90)     %     NPD       Tensile/Flexual strength     Tensile strength perpendicular to faces     TR     kPa     NPD       Durability of compressive strength against heat, weathering,     Compressive creep     CC(i, i, i, i)) or     mm     NPD  |   | Thermal resistance                      | R <sub>D</sub>           |                   | see table below      |
| Durability of compressive strength against heat, weathering,     Compressive creep     C(i, i, i, i)) or     mm     NPD   |   | Thermal conductivity                    |                          | W/m K             | 0,033                |
| Durability of compressive strength against heat, weathering,  |   | Durability characteristics              | DS (70,90)               | %                 | NPD                  |
|   | Fensile/Flexural strength   | Tensile strength perpendicular to faces | TR                       | kPa               | NPD                  |
|   | urability of compressive strength against heat, weathering, geing/degradation |   | $CC(i_1/i_2/y) \sigma_c$ | mm                | NPD                  |

| Thermel resistance $R_{\rm cm}^2 K(M) = 0.00 + 1.00 + 1.00 + 2.10 + 2.40 + 2.70 + 2.00 + 2.00 + 2.00 + 4.00 $ |           |           | 150 1   | 140  | 130  | 120  | 110  | 100  | 90   | 80   | 70   | 60   | 50   | 40   | 30   | d <sub>N</sub> (mm) | Thickness          |
|--|-----------|-----------|---------|------|------|------|------|------|------|------|------|------|------|------|------|---------------------|--------------------|
| Inermal resistance R <sub>D</sub> (iii k/w) 0,90 1,20 1,30 1,80 2,10 2,40 2,70 3,00 3,30 3,60 3,90 4,20 4,50 4,80  | 5,45 6,05 | 4,80 5,45 | 4,50 4, | 4,20 | 3,90 | 3,60 | 3,30 | 3,00 | 2,70 | 2,40 | 2,10 | 1,80 | 1,50 | 1,20 | 0,90 | $R_D (m^2 K/W)$     | Thermal resistance |

8 Suitable technical justification and/or specific technical justification:

The performance of the product identified above is in conformity with the declared values. The declaration of these values is issued, according to EU Regulation 305/2011, under the sole responsibility of the manufacturer.

| Name:      | Dr. Chadiarakou Stella    |
|------------|---------------------------|
| Function:  | Quality Assurance Manager |
| Place:     | Thessaloniki              |
| Date:      | 18/4/2022                 |
| Signature: | Johum                     |



GR-2026-005

FIBRANgeo B-570-XA MW-EN 13162-T4-WS-WL(P)

Thermal Insulation of Building

AVCP - System 1 - System 3

EN 13162:2012+A1:2015

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