DECLARATION OF PERFORMANCE No. 0434

1. Unique identification code of the product-type: **GeoSteel SRP**

   (GeoSteel G600 and Geolite Gel)

2. Intended use/es: **The SRP kit is suitable for strengthening and seismic upgrade of clay and natural stone masonry, reinforced and prestressed concrete elements and structures**

3. Manufacturer: **Kerakoll S.p.A Via dell'Artigianato, 9 - 41049 Sassuolo (MO) Italia**

4. System/s of AVCP:

   System 2+

   System 3 for reaction to fire

5. European Assessment Document: **EAD 340210-00-0104, November 2017**

   European Technical Assessment **: ETA-18/0314 of 16/05/2018**

   Technical Assessment Body: **ITC CNR**

   Notified body/ies: **ITC n°0970**

6. Declared performance/s:

   - Characteristic value for tensile streght and tensile strain
   - Average value for modulus of elasticity

Essential characteristics	**Performance**
Reaction to fire	Class D-s2,d0
GeoSteelG600-Geolite gel	See Annex A

The performance of the product identified above is in conformity with the set of declared performance/s. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by: **Romano Sghedoni (legal representative)**

At Sassuolo, on 12/04/2019

Annex A – GeoSteel G600-Geolite gel

Essential characteristics		Performance
Tensile strength (σ_u)	1 layer	≥ 3070 MPa
	3 layers	≥ 3010 MPa
Strain (ε_u)	1 layer	≥ 0,015 mm/mm
	3 layers	≥ 0,015 mm/mm
Modulus of elasticity (E)	1 layer	≥ 210000 MPa
	3 layers	≥ 204000 MPa
Interlaminar shear strength (τ)	No interlaminar shear failure	≥ 8 MPa
Lap tensile strength (σ_{lap})	Tested Overlap length l_{lap} =200 mm	≥ 2800 MPa
Bond strength on substrate Concrete MC (0.40) : pull-off test	ambient	≥ 2 MPa
	Water,saltwater and alkali conditioning	NPA
Bond strength on substrate Concrete MC (0.40) : single-lap shear test	ambient	P_{max} ≥ 13000 N P_{deb} - (1)
	Water,saltwater and alkali conditioning	NPA
Pull out from substrate Concrete MC (0.40)	ambient	Pull out strength $\sigma_{pull-out}$ ≥ 2700 MPa Pull out displacement $\delta_{pull-out}$ ≥ 9 mm
	Water,saltwater and alkali conditioning	NPA
Freezing and Thawing	Direct tension	Tensile strength $\sigma_{u,FT}$ ≥ 3060 MPa Strain $\varepsilon_{u,FT}$ ≥ 0,018 mm/mm Modulus of elasticity E_{FT} ≥ 210 GPa
	Retained properties	Tensile strength $\sigma_{u,FT,ret}$ 101 % Modulus of elasticity $E_{FT,ret}$ 101 %
	Interlaminar shear	NPA
Water resistance	Direct tension (1000 h)	Tensile strength $\sigma_{u,w}$ ≥ 3100 MPa Strain $\varepsilon_{u,w}$ ≥ 0,019 mm/mm Modulus of elasticity E_w ≥ 202 GPa
	Direct tension (3000 h)	Tensile strength $\sigma_{u,w}$ ≥ 3170 MPa Strain $\varepsilon_{u,w}$ ≥ 0,018 mm/mm Modulus of elasticity E_w ≥ 208 GPa
	Retained properties (1000 h)	Tensile strength $\sigma_{u,FT,ret}$ 102 % Modulus of elasticity $E_{FT,ret}$ 99 %
	Retained properties (3000 h)	Tensile strength $\sigma_{u,FT,ret}$ 102 % Modulus of elasticity $E_{FT,ret}$ 102 %
	Interlaminar shear	NPA
	Lap Tensile	NPA

Essential characteristics		Performance
Saltwater resistance	Direct tension (1000 h)	Tensile strength $\sigma_{u,sw}$ ≥ 3050 MPa Strain $\varepsilon_{u,sw}$ ≥ 0,016 mm/mm Modulus of elasticity E_{sw} ≥ 217 GPa
	Direct tension (3000 h)	Tensile strength $\sigma_{u,sw}$ ≥ 3010 MPa Strain $\varepsilon_{u,sw}$ ≥ 0,015 mm/mm Modulus of elasticity E_{sw} ≥ 215 GPa
	Retained properties (1000 h)	Tensile strength $\sigma_{u,FT,ret}$ 99 % Modulus of elasticity $E_{FT,ret}$ 107 %
	Retained properties (3000 h)	Tensile strength $\sigma_{u,FT,ret}$ 98 % Modulus of elasticity $E_{FT,ret}$ 106 %
	Interlaminar shear	NPA
	Lap Tensile	NPA
Alkali resistance	Direct tension (1000 h)	Tensile strength $\sigma_{u,alk}$ ≥ 3070 MPa Strain $\varepsilon_{u,alk}$ ≥ 0,017 mm/mm Modulus of elasticity E_{alk} ≥ 209 GPa
	Direct tension (3000 h)	Tensile strength $\sigma_{u,alk}$ ≥ 3100 MPa Strain $\varepsilon_{u,alk}$ ≥ 0,018 mm/mm Modulus of elasticity E_{alk} ≥ 214 GPa
	Retained properties (1000 h)	Tensile strength $\sigma_{u,FT,ret}$ 100 % Modulus of elasticity $E_{FT,ret}$ 103 %
	Retained properties (3000 h)	Tensile strength $\sigma_{u,FT,ret}$ 100 % Modulus of elasticity $E_{FT,ret}$ 105 %
	Interlaminar shear	NPA
	Lap Tensile	NPA
Alkali soil resistance		NPA
Dry heat resistance		NPA
Fuel resistance		NPA
Creep behaviour related to the adhesion on substrate		NPA
Tensile strength after low number of cycles (seismic behaviour)		NPA
Tensile strength after high number of cycles (fatigue actions)		NPA
Tensile strength on bent fabric	Straight fabric	$\sigma_{u,f,straight}$ ≥ 2900 MPa $\sigma_{u,f,straight,sw1000}$ ≥ 2700 MPa $\sigma_{u,f,straight,sw3000}$ ≥ 2400 MPa
	Bent fabric	$\sigma_{u,f,bent}$ ≥ 2400 MPa $\sigma_{u,f,bent,sw1000}$ ≥ 2190 MPa $\sigma_{u,f,bent,sw3000}$ ≥ 2000 MPa
Creep rupture		NPA
Void content		NPA
Glass Transition Temperature of resin		Tg ≥ 60°C

(1) Rupture of fibres was observed outside the bonded length, therefore no value for the bond capacity is indicated