

PENTAGEO 97 and 97G

Tri-component geopolimerico filler

Technical Data Sheet June 2018

- PRESENTATION** **PentaGeo 97** is a groundbreaking tri-component product for the mineral filling of the ornamental stones. It is composed by a powder mixture of reactive minerals, by a liquid activator, and by a siliceous charge in powder form.
- FEATURES** **PentaGeo 97, a unique product**, has been developed to fill, weld, and regenerate ornamental stones, both superficially and structurally. **PentaGeo 97** allows simulating the original features of the stones with resistances, which cannot be produced by common binders and synthetic resins. After only 4 days, the product reaches strength resistances of 120-150 MPa, with a very strong adhesion to all mineral and metal supports. The base component is a mixture of semi-amorphous minerals with low strength resistance. However these minerals, when mixed in appropriate proportions and correctively activated, react among themselves becoming a powerful mineral binder. The liquid component activates them by opening the crystalline covalent bonds, thus creating an orderly crystalline structure that looks exactly as the structure of the original stone. The hardened **PentaGeo 97** is resistant to the most severe environmental conditions and to the majority of the chemical agents of medium concentration. The third component is but a charge compatible with the geopolimeric binder.
- PREPARATION** To prepare the geopolimerico binder, carefully mix 75 parts of powder component (**PentaGeo 97**) with 50 parts of the liquid activator (**PentaGeo 97 A**) with a quick mixer and a whip for hard pastes. It is necessary to follow the proportions of **PentaGeo 97** and **97 A**, since they are calibrated to obtain the perfect "polymerization" of the binder. Mixing time is about 5 minutes. At the beginning you obtain a half-dry slurry, which get increasingly plastic and, at the end of the reaction, half-fluid. At this point, add 50 parts of siliceous charge (**PentaGeo 97 C**) and possibly a maximum of 5 parts of water to adjust the desired consistency according to the tool used for its application. The quality and the quantity of the charge may vary depending on its nature and on its granulometry. At the end of the mixing, the application time is 120 minutes at a temperature of 25°C. **When the mortar changes its consistency becoming more viscous, it is suggested not to add water and not to mix it again in order to avoid interfering with the formation of the polymeric gels and reducing the final strengths.**

	PentaGeo 97 and 97G	PentaGeo 97 A	PentaGeo 97 C
State:	Powder	Liquid	Powder
TECHNICAL DATA			
Colour:	Beige or grey	Colourless, faint yellow	White
Density:	0.800 – 1.0 kg/dm ³	1.48 ± 0.05 kg/dm ³	1.0 – 1.1 kg/dm ³
Granulometry:	95.0% < 0.2 mm	-	0/0.4 mm
Humidity:	Max. 5.0%	-	0.2%
Water sol.:	Insoluble	Soluble	Insoluble
Storage	Indoor at -10/+50°C Fears humidity	Indoor at 0/+50°C	Indoor in a dry place
Mixing ratio:	75	50	50

YIELD

If it has been prepared according to the standard formulation, the yield of **PentaGeo 97** and **97 G** is about 1.5 kg/m²/mm.

Yield varies depending on the granulometry of the aggregate.

STORAGE AND VALIDITY

PentaGeo 97, **97 G**, and **PentaGeo 97 C** must be stocked indoor and in a dry place at temperatures ranging from -10°C to +50°C.

PentaGeo 97 A must be stored indoor at temperatures **between 0°C and +50°C**.

The products in their original packaging have a 12 months validity from the delivery date.

PRECAUTIONS

PentaGeo 97, **PentaGeo 97 G**, and **PentaGeo 97 C** are products in powder form, so when using them it is recommended to use the normal protections for powder such as glasses and dust masks.

PentaGeo 97 A is a liquid product with a high basicity, so by contact it can provoke skin rash and severe eye damages. It is therefore suggested to use protective glasses.

If it comes into contact with the eyes, wash immediately with lots of running water, first with eyes closed and then open. If the irritation persists, consult a doctor. If it comes into contact with the skin wash with lots of water and soap.

PACKAGING

PentaGeo 97, **PentaGeo 97 G**, **PentaGeo 97 C** in 25 kg paper bags.

PentaGeo 97 A in 25 kg plastic cans.

The specifications stated in this report have been got either through standardized tests and rules or their modifications following NCT systems. The methods applied can be requested to our technical service.

All the data stated in this technical sheet are based on our knowledge and experience. However, before using the item differently from indicated, it is advisable to carry out preventive tests. In any case, NCT does not assume any responsibility for any damage or defect caused by the use of our products, as the employment conditions are not under our control. We also inform that our technical service is at our customers' disposal for any information concerning the correct employment of our products