

BP GROUND



Ground PLUS

Bentonite-based Grounding Enhancement Material
Proizvod na bazi bentonita za poboljšanje uzemljenja



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Ground PLUS-G - Grounding enhancement material

Ground Plus-G is electrically conductive, alkali-activated, high-quality granulated bentonite, which serves for reduction of electrical resistivity of soil in various grounding systems of electrical and telecommunication installations. It is a noncorrosive granulated material that swells when mixed with water, while it has a great capacity to absorb and retain moisture, so that the content of moisture in bentonite fill is sufficient for it to have small electrical resistivity even within dry periods of the year. Ground Plus-G has great capacity of quick absorption of moisture from the surrounding soil.

Within grounding systems, Ground Plus-G is used as a hydrated fill for coating of grounding conductors (strips or grids). The fills are made by adding water to bentonite granules in the prescribed proportion until they obtain consistency of a dense paste. The fill makes a complete coating for the conductors while having full contact with the surrounding soil, thus facilitating maximum reduction of grounding system resistivity. Ground Plus-G is highly efficient in all soil types, including those with very high resistivity. Upon the customer's request this product may be produced in the form of fine powder.

PRODUCT CHARACTERISTICS

- High capacity of absorption and retention of moisture
- It does not contain toxic elements or compounds, while it does not leach
- It compacts easily with all soil types
- It has a low specific (electrical) resistance
- It does not require maintenance after insertion

CHEMICAL COMPOSITION		PARAMETERS	
SiO ₂	48,8 %	Electrical resistance	≤ 2 Ωm
Al ₂ O ₃	25,0 %	Granulation	0-3 mm
Fe ₂ O ₃	4,86 %	Bulk density	1,1 t/m ³
CaO	4,55 %	Hydraulic permeability	≤ 1 x 10 ⁻¹¹ m/s
MgO	2,0 %	Water absorption (24h)	≥ 450 %
Na ₂ O	1,2 %	Swelling property (2g/100ml)	≥ 28 ml
TiO ₂	0,8 %	pH value	≤ 10
K ₂ O	0,3 %		
Loss on ignition	11%		

APPLICATION INSTRUCTION

The product's designation is in making fills for all horizontal groundings. The optimal values of the fills' electrical resistivity are obtained by soaking bentonite with water with different ratios of water-granules (from 0,5:1; 1:1; 2:1; to 3:1), which depends on soil characteristics and technical conditions of insertion. Bentonite self-regulates the quantity of moisture, so it dismisses moisture into surrounding soil in winter, while it takes moisture from the surrounding soil in summer. One bag (25 kg) of Ground Plus-G makes for 22.7 l of dry fill in form of granules.

Ground Plus-G is to be used in grounding systems with horizontal conductors (plates, strips or grids), with the method of backfill with "in-situ" hydration.

It is recommendable to insert the fill in at least two layers whose total thickness should be 15-25 cm. The excavation is first soaked well, and then the granules are filled into the excavation. Water is poured onto the granules and the fill is thus compacted. The grounding unit is to be set when the fill reaches the half of its planned thickness, after which the second half of the fill planned is filled in and then the hydration procedure is repeated. Once bentonite fill is completed, it is covered and compacted with previously dug-out material.

It is not recommendable to insert the fill in locations where bentonite can desiccate or freeze. Recommendably, insert the fill deeper than 80 cm.

PACKAGING

- 25 kg (multi-layer paper bags on a foil-covered pallet of 1,000 kg)
- Big bag , 1 t

STORAGE AND SHELF LIFE

Store in closed original packing at ambient temperature and protect from humidity. Shelf life: 1 year.

QUALITY GUARANTEES

BENTOPRODUCT Ltd. operates according to Integrated Management System consisting of ISO 9001:2015, ISO 14001:2015, and ISO 45001:2018. Certified by TÜV.