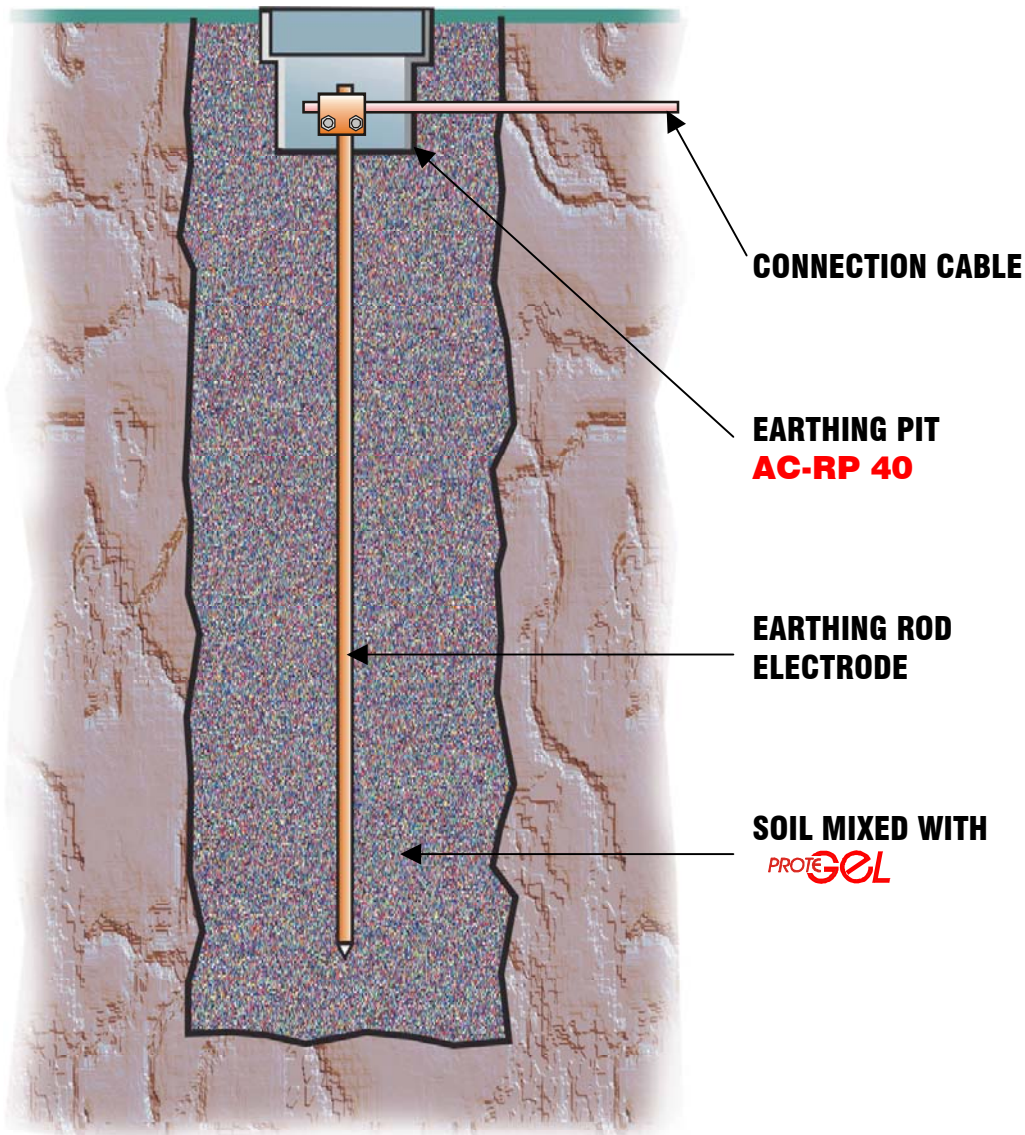


# WATER-ABSORBING & ELECTROLYTIC SALTS

## PROTEGOL



# PROTEGEL

## TO ACHIEVE A LOWER EARTH ELECTRODE RESISTANCE

**PROTEGEL** is a chemical compound designed to achieve at low cost a remarkable reduction of the earth rod electrode resistance when the soil resistivity makes difficult to obtain a suitable and reliable earth resistance.

Following the directions provided **PROTEGEL** is converted into a gelatinous and highly water-absorbing material (GEL) that seeps radicle-like through the soil which allow it to retain a lot of moisture.

This way, the electrode surface is in contact with a highly conductive soil thus lowering the rod earth resistance and getting a much more effective way to carry fault currents to soil.

### MAIN FEATURES

**PROTEGEL** main features are the following:

- Chemical stability.
- Water insoluble.
- Not corrosive.
- Not affected by the soil chemical components.

### EFFICIENCY PER 6 Kg DOSE

It is recommendable to use one **PROTEGEL** dose per cubic meter of soil when installing a 2 or 3 m length rod.

When used to improve the back fill in an earth rod grid it is recommendable to use one to three **PROTEGEL** dose per cubic meter of soil for both the rods and the interconnection trenches.

## PERFORMANCE

Earthing by using **PROTEGEL** is an efficient way to get a lower earth resistance:

- At lower cost.
- With higher reliability.
- For a considerable period of time
- Every time **PROTEGEL** is used the improved soil resistivity lasts for about 4 years time.

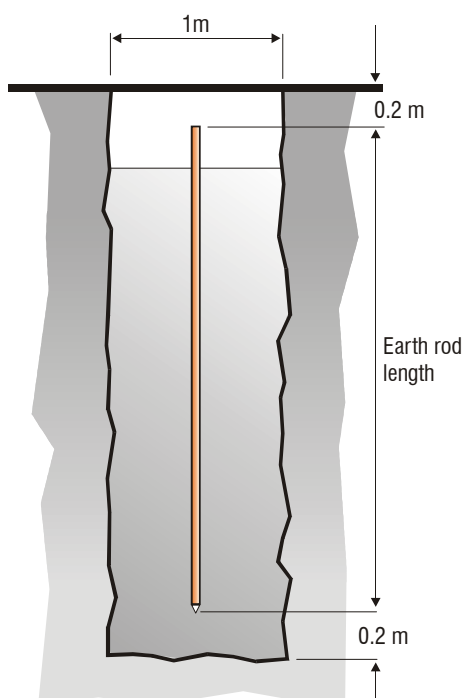
## PACKING

One **PROTEGEL** dose is packed in a plastic barrel of 10.8 litre in capacity that may be used to mix the Bags 2 & 3 with water as described in the following instructions.

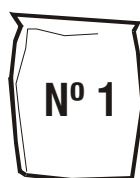
Each barrel contains one dose of 6 Kg which is distributed in three separate plastic bags tight sealed and clearly marked as: Bolsa(Bag) 1, Bolsa (Bag) 2 y Bolsa (Bag) 3.

One **PROTEGEL** dose that is kept packed in its original package in dry and ventilated place has no life caducity.

## HOW TO USE **PROTEGEL**



For each electrode a hole of 1 m x 1 m and about 0.4 m deeper than the earth rod electrode length to be installed must be excavated.

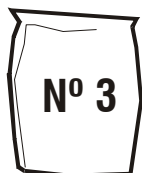


The contents of **PROTEGEL** Bag No 1, without adding any water, must be well mixed with the earth got from the excavation of the hole. To guarantee a correct scattering it is advisable to screen the content of the bag through a 6 mm hole sieve.



The contents of **PROTEGEL** Bag No 2 must be mixed with 20 litres of water. For this purpose and making the mixing in two steps, it may be used the barrel itself containing the product.

(Use always a non metallic container).

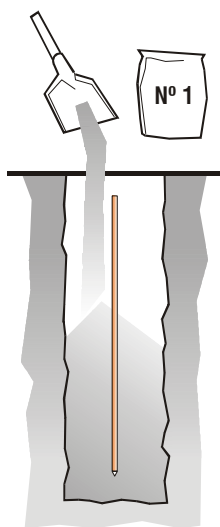


The contents of **PROTEGEL** Bag No 3 must be also mixed with 20 litres of water. For this purpose and making the mixing in two steps, it may be used the barrel itself containing the product once it has been carefully rinsed out of any remains from the previous mixture.

(Use a non metallic container different than the previous one or the same but once it has been carefully rinsed out of any remains from the previous mixture).

### STEP BY STEP DIRECTIONS FOR USE **PROTEGEL**

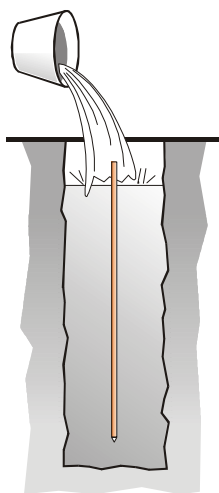
1



Mix the contents of **PROTEGEL** Bag No 1 with the earth got from the excavation<sup>1</sup> and use it as backfill up to the top of the electrode.

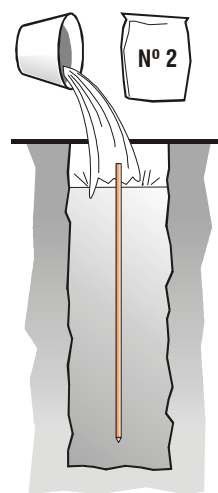
<sup>1</sup> See "SOIL ASSESSMENT" in the following page.

2



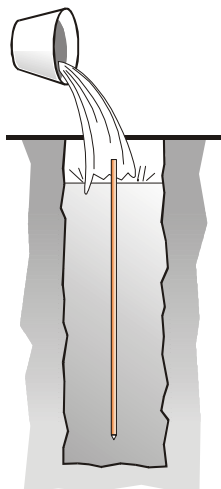
Add water enough to the hole until the surrounding electrode ground is completely wet.

3



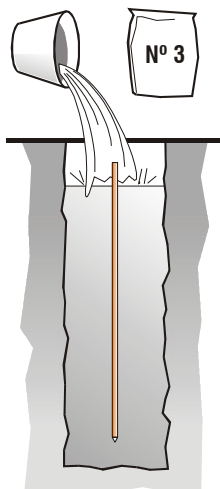
Add to the hole the solution got solving the contents of **PROTEGEL** Bag No. 2 with 20 litres of water.

**4**



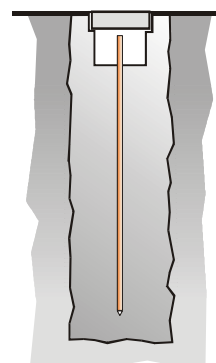
Add again water enough to the hole until the surrounding electrode ground is completely wet.

**5**



Add to the hole the solution got solving the contents of **PROTEGOL** Bag No. 3 with 20 litres of water and wait until the ground absorbs the mixture.

**6**



Place on top the Inspection Pit **AC-RP 40** and refill the hole with ground to finish the installation.

## MAINTENANCE OF THE INSTALLATION

It is advisable a periodical control of the installation and when a substantial increase of the earth rod resistance arose, it is time to repeat the treatment with **PROTEGOL** from the sep No. 2

## SOIL ASSESSMENT

When soil composition is: Rubble, Sandy or Stony, it is advisable to screen it through a 6 mm hole sieve and use only the resulting ground that must be finished using leaf mould also screened to get the best possible return from using **PROTEGOL**.

In any case, it is advisable to keep wet the earthing hole.



**Electro Materiales, s.a.**

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