More Effective Grounding

A Superior conductive material that improves grounding effectiveness, are a solution for special case grounding that is high resistivity soil and hard to improve, limited area, mountain area, arid area. In such case, soil treatment by Kumwell MEG

MEG is an earthing enhancing compound tested, according to IEC 62561-7 certified by DEKRA and the application is in accordance with requirements of IEEE standard 80-2013 with an extreme low resistivity 0.03 ohm-meter. (After Fully Cured)
MEG contains Portland cement, which sets within hours and fully cured within 28 days, to become a highly conductive concrete that performs in all soil conditions irrespective of the presence of water
MEG is also the answer in situations where ground rods can't be driven or where limited land area makes adequate grounding difficult with conventional methods.
MEG is maintains a constant level of superior performance once cured that will not diminish over the life of the grounding system.

Permanent

- Does not dissolve, decompose or leach out with time
- Performs in all soil conditions even during dry season and does not required replacement, periodic charging treatments and continuous presence of water to maintain its conductivity
- Reduce theft since conductors are difficult to remove after coagulation

Conform to IEC 62561-7 (Requirement for Earthing Enhancing Compounds)

- Perform the test for leaching test, sulfur determination, material resistivity and corrosion effect according to IEC 62561-7 and certified by DEKRA

Environmental

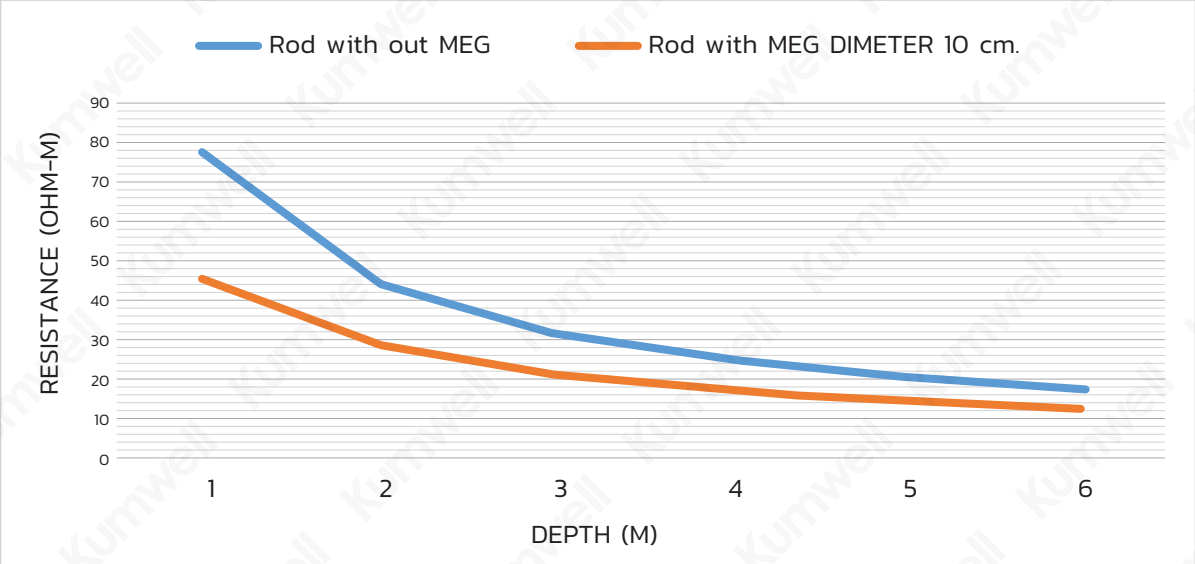
- Meet IEC 62561-7 which does not leaching any toxic, sulfur and other environmental regulation substance
- Neutral and inert with encased electrodes

Effective to Lower Resistance

- Contain of high conductive carbon and cement based to become superior conductive concrete after fully cured with resistivity 0.03 μΩm.
- Maintains constant resistance for the life of the system once in its fully cured
- Reduce grounding resistance in critical area such as rocky soil, mountain top and sandy soil
- Using MEG to coat Ground Rod conductors with a diameter of 10 cm, compared to Ground Rod can ground resistance reduction up to 40%.

Compare Resistance of Ground Rod using MEG

The Example show the soil resistance for 100 ohm-meter. Graph below show that by using Ground Rod with MEG compare to normal Ground Rod is can reduce resistance by to 40% at the length of 1 meter long. But as the depth got higher the difference is lower. Recommend that the depth should not be more than 6 meter to meet 40% reduction.



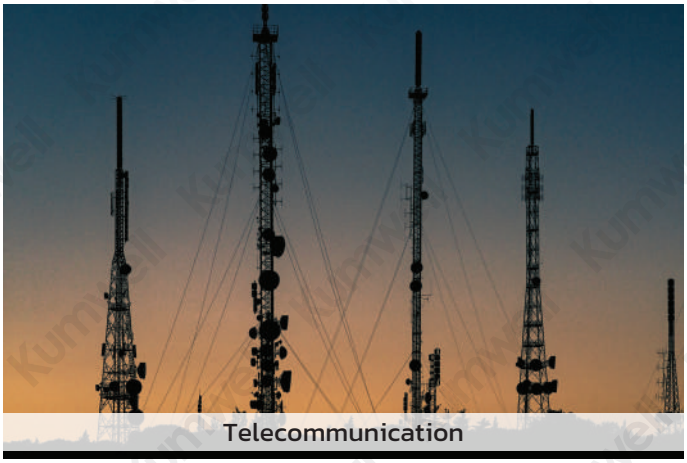
Project Reference of MEG

- Transmission Line on mountain or rocky area.
- Telecommunication Tower
- Radio Tower & TV Broadcasting Tower
- Substation
- Power Plant
- Railway Tunnel


Transmission Line


Substation


Railway Tunnel


Telecommunication

More Effective Grounding (MEG)

Kumwell MEG is a ground enhancement material in accordance with requirements of IEEE Standard 80-2013 with a resistivity of 0.03 ohm-meter (Ω-m). Dose not dissolve, decompose and leach out by water. Dose not leaching any toxic, sulfur and other environmental regulation substance.
MEG manufacturing is environmentally - friendly, high reliability, quality, and long shelf life.

Kumwell MEG is an alternate solution for effectively reducing ground resistance of the soil surrounding the electrode instead of adding more grid conductors or more ground rods. Soil Treatment is an effective solution to decrease ground resistance which is utilized to an advantage in poor conductivearea such as rocky soil.
- GRMEG-XX LBS is suitable for copper and stainless steel conductor.
- GRMEG-XX LBS-G is suitable for galvanized steel conductor.

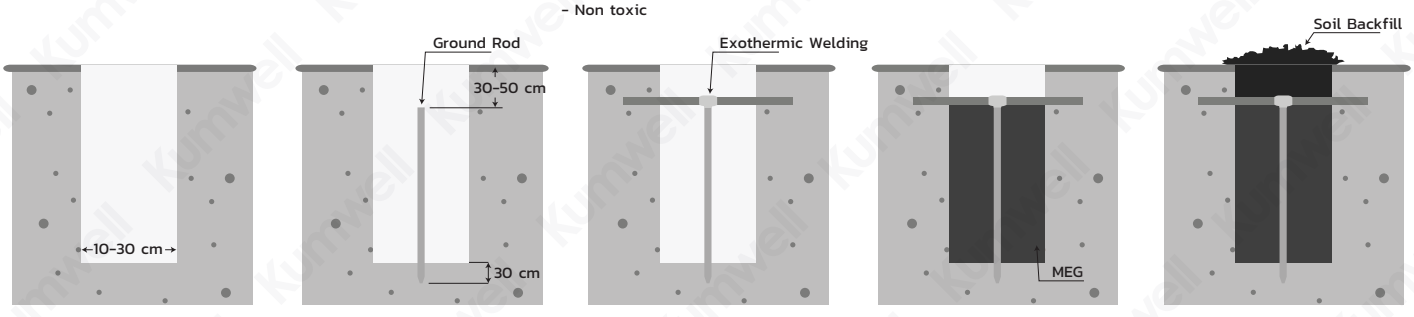
Code No.	Recommended to use with Conductor Material	Weight per bag
GRMEG-25 LBS	Copper/Stainless Steel	25 lbs/11.5 kg.
GRMEG-55 LBS	Copper/Stainless Steel	55 lbs/25 kg.
GRMEG-25 LBS-G	Galvanized Steel	25 lbs/11.5 kg.
GRMEG-55 LBS-G	Galvanized Steel	55 lbs/25 kg.

Material
Body - conductive powder

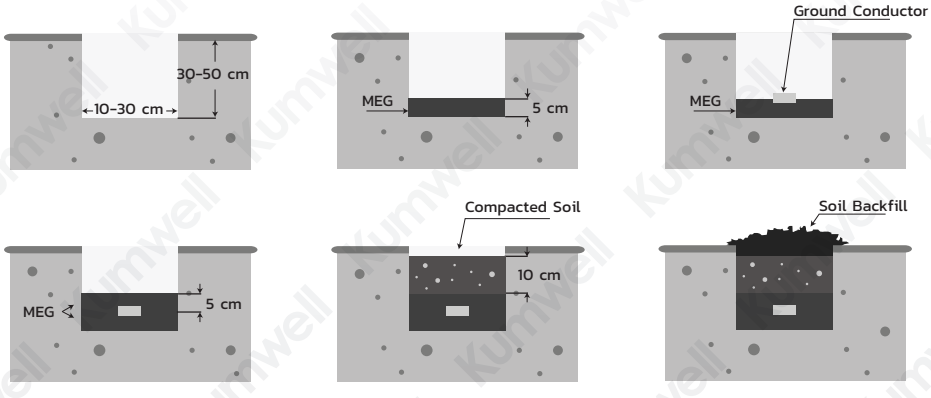
Tested Standard
IEC 62561 Part 7
TIS 3024 Part 7

Application
- Reduce grounding resistance in critical area such as rocky soil, sandy soil with a resistivity of 0.03 Ω-m
- Meet IEEE Standard 80-2013
- Require simple instruction manual and tools for installation.
- Non toxic

Packing
25 LBS and 55 LBS MEG in the heavy duty bag Special packing can be requested.



Vertical Installation

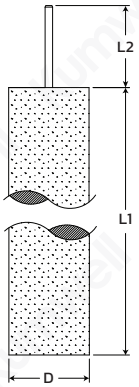


Horizontal Installation

Vertical MEG Electrode

Prefabricated MEG with Ground Rod for Ready to Install

NEW



Code No.	Diameter (mm)			Rod (Ø) (in)	Weight (kg)
	L1	L2	D		
GRMEG-V5830	3000	150	150	5/8	91.18

Material
MEG - Prefabricated MEG
Rod - Copper bonded Ground Rod GRCBU 5810

Tested Standard
MEG - IEC 62561 Part 7,
TIS 3024 Part 7
Rod - IEC 62561 Part 2,
TIS 3024 Part 2

Application
- Reduce grounding resistance in critical area such as rocky soil, sandy soil with a resistivity of 0.03 Ω-m
- Meet IEEE Standard 80-2013
- Require simple instruction manual and tools for installation.
- Non toxic

Note : Special Shape, Size, Diameter, Length can be requested.

Horizontal MEG Electrode

Prefabricated MEG

NEW

Code No.	Diameter (mm)			Cable Size (mm^2)	Weight (kg)
	L	W	H		
GRMEG-H301004	1000	300	40	35-70	19.58

MEG Sealing Compound Use for sealingthe conductors after installed MEG groove.

Code No.	Material
GRMEG-C500	MEG Compound

Material
MEG - Prefabricated MEG
MEG Compound - 1 ea for 2 of GRMEG-H301004

Tested Standard
IEC 62561 Part 7
TIS 3024 Part 7

Application
- Reduce grounding resistance in critical area such as rocky soil, sandy soil with a resistivity of 0.03 Ω-m
- Meet IEEE Standard 80-2013
- Require simple instruction manual and tools for installation.
- Non toxic