



▶▶▶ **Earthing Enhancement Material**



Manufacturer Head Office:



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Certificate of Registration

QUALITY MANAGEMENT SYSTEM - ISO 9001:2015

This is to certify that:

Lytech Technologies Pte Ltd
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Singapore 408933

Holds Certificate No:

FM 665172

and operates a Quality Management System which complies with the requirements of ISO 9001:2015 for the following scope:

The design, manufacture & sales of lightning and earthing materials

For and on behalf of BSI:

Michael Lam - Managing Director Assurance, APAC

Original Registration Date: 2017-01-14

Latest Revision Date: 2022-12-15

Effective Date: 2023-01-14

Expiry Date: 2026-01-13

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Further clarifications regarding the scope of this certificate and the applicability of ISO 9001:2015 requirements may be obtained by consulting the organization.

This certificate is valid only if provided original copies are in complete set.

▶▶▶ Earthing Enhancement Material



Features



IEC 62561-7:2011

- Effective in all soil conditions.
- No maintenance required.
- Cost Effective in reduction of earth resistance.

Product Description

Ordering Code

EEM - 10

Description:

Resistance Lowering Compound

Application:

To lower the DC ground resistance and impedance

Weight:

10kg

Ordering Code

EEM - 25

Description:

Resistance Lowering Compound

Application:

To lower the DC ground resistance and impedance

Weight:

25kg

The requirement for a low resistance is extremely important with the installation of any earthing system. **LYTECH EEM** provides the ability to dramatically reduce soil resistivity even in soils with average electrical conductivity.

LYTECH EEM comprises specifically selected compounds, which possess excellent electrical conductivity. When EEM is mixed with water and poured around the earthing system and surrounding soil the powder and water react to form a hardened mass within an earthing system. EEM will not washaway under seasonal conditions and therefore provides a permanent presence in working to improve and maintain the integrity of an earthing system. Given that does not wash away the requirement to re-treat the soil as is the case with other enhancing compounds is eliminated.

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Product Application

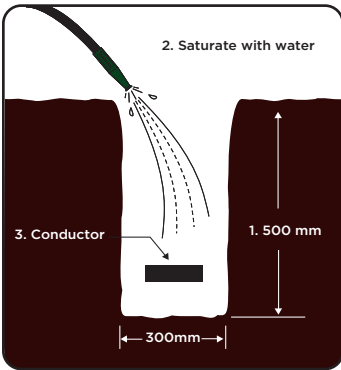
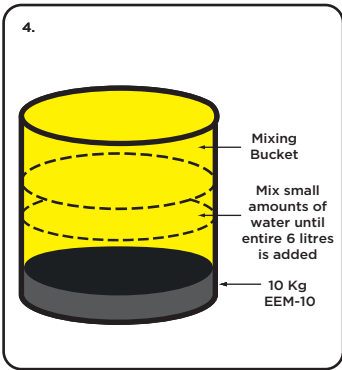
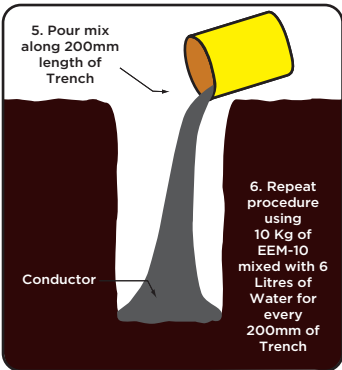
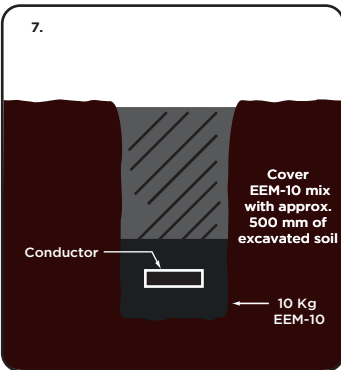
Given that all earthing systems are installed in varying soil types and conditions, it will be appreciated that the application results of EEM will also be dependant on these site-specific conditions. For a typical trench installation, one 10Kg kit of EEM will achieve the desired earth resistance levels in combination with appropriate conductors for a trench covering 200mm in length x 300mm in width and a depth of 300mm.

All earthing systems are typically required to achieve a Ground DC Resistance of < 10 Ohms and impedance of < 30 Ohms as outlined in most standards.

If installing either a radial earthing system or grid type earthing system, it is recommended that all earthing conductors be installed at a depth of between 500mm and 750mm (**recommended**) with a maximum depth of 1000mm. In order to further assist in improving the earth resistance of the system, it is recommended that excavated soil of poor quality (**Rocky**) be replaced with soil of a good quality (**Garden Loam**) prior to backfilling the trench.

We are pleased to offer our services to our clients. Just email to us your enquiries at sales@lytech.uk

Recommended Bags of EEM-10 Required For Refilling Typical Trench Installations

Width of Trench (mm)	Length of Trench (200mm)	Length of Trench (1m)	
300 mm	10kg 1 Bag	50kg 5 Bags	
			
<i>Figure 1.</i>	<i>Figure 2.</i>	<i>Figure 3.</i>	<i>Figure 4.</i>

For trench dimensions outside of the given specifications please contact LYTECH Technologies or an authorised supplier for further advice.

Trench Installation

The application of EEM-10 (10kg) to a typical earthing system installed in a trench, which consists of rods, tapes or cables, involves the subsequent steps.

1. Dig a trench to the suggested dimensions as detailed in the attached drawings.
2. Soak the whole area by dousing with water.

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Recommended Bags of EEM-10 Required For Refilling Typical Trench Installations

- Place all rods, tapes or cables into position as required.
- Mix 10kg of EEM-10 with 6 litres of water adding only a little at a time at the start to ensure a paste like consistency then gradually making the mix thinner with the addition of small amounts of water until the entire 6 litres is added (***NOTE: Avoid large lumps in the mix that become hard to dissolve by only adding a minium of water until a smooth paste is created after which water can be added in larger portions**) The mixing of EEM-10 and water is best done in a cement mixer or in a wheelbarrow or large bin with the aid of a mixing rod or mechanical agitator to correctly mix the water and the EEM-10.
- Immediately pour mix directly onto 200mm of earthing system.
- Repeat steps 4 & 5 for every additional 200mm length of earthing until entire trench has been applied with EEM.
- Backfill the remainder of the trench with the excavated soil.

***Note: If the unearthed soil is of poor quality eg. clay rock or shale, it should not be used and garden loam or sand should be used as a replacement**

Suggested Bags Of EEM-10 Necessary For Backfilling Earth Rod Installation

Dia. of Hole	Depth of Hole 1800mm	Depth of Hole 2400mm	Depth of Hole 3600mm
200mm	30kg 3 Bags	40kg 4 Bags	60kg 6 Bags
<p>Figure 1.</p>	<p>Figure 2.</p>	<p>Figure 3.</p>	<p>Figure 4.</p>

For augured hole dimensions outside of the given specifications, please contact LYTECH Technologies or an approved distributor for further advice.

Earth Rod Installation

The application of EEM-10 (10 Kg) for a driven earth rod involves the following steps:

1. Drill or auger a 75mm (**approx.**) diameter hole to a depth of 150mm less than the length of the rod to be installed.
2. Soak the hole by dousing with water.
3. Place the earth rod into a central position in the hole and drive the rod 300mm if possible into the soil at the bottom of the hole. The top section of the earth rod should now be approximately 150mm below the lip of the hole. If required make all LYTECH Exothermic Welding connections to the earth rod at this time.
4. Mix 10kg of EEM-10 with 6 litres of water adding only a little at a time at the start to ensure a paste like evenness then slowly making the mix thinner with the addition of small amounts of water until the entire 6 litres is added (***NOTE: Avoid large lumps in the mix that become hard to dissolve by only adding a minium of water until a smooth paste is created after which water can be added in larger portions**) The mixing of EEM-10 and water is best done in a cement mixer or in a wheelbarrow or large bin with the aid of a mixing rod or mechanical agitator to properly mix the water and the EEM-10.
5. Instantly pour mix directly into augured hole.
6. Repeat steps 4 and 5 in accordance with suggested number of applications of EEM-10 as per the attached table.
7. Backfill the remainder of the hole with the excavated soil.

Authorised Distributor:



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