LIGHTNING PROTECTION INTERNATIONAL PTY LTD

LPI®

LPI EARTH ENHANCING COMPOUNDS

Due to varying soil conditions from one site to the next, the installation of earth electrodes alone can often fall short of achieving a low resistance earthing system.

The application of LPI's permanent earth enhancing compounds around earthing electrodes has a significant impact on achieving the low resistance required for an effective earthing system. They achieve this goal without the expansion and shrinking characteristics of some cheap alternatives that can effectively render the earthing system useless.



| Characteristic | RESLO | SRIM | Comment |
|-------------------------------------|---|--|--|
| Base materials | Bentonite, gypsum | Calcined petroleum coke (CPC), cement | RESLO – naturally-occurring, mined SRIM – from crude oil refinery |
| Packaging | Laminated, woven polypropylene bag | Laminated, woven polypropylene bag | Environmentally friendly, recyclable packaging (size: 420 x 695 mm) |
| Shelf Life (years) | >1 | >1 | Shelf life is longer than 1 year if kept in a suitable environment |
| Bag Size (kg) | 20 | 20 | |
| Resistivity (Ωm) | ~ 0.53 | ~ 0.15 | SRIM is 3-4 times more conductive than RESLO due to its carbon content |
| Typical Resistance Reduction (%) | > 50% | > 50% | Temporal / seasonal variability is also greatly decreased by both EECs |
| Typical Amount Required (bags) | 5 x 0.3 m trench: 2 0.125 x 1 m hole: 1 | 5 x 0.3 m trench: 2 0.125 x 1 m hole: 1 | |
| Leaching | Negligible (but not for use where water table is present) | Negligible, product sets like concrete (non-structural) | Leaching is well below EN limits or is undetectable |
| Sulphur Content | > 2% (naturally-occurring) | << 2% | All clays have natural sulphur, which is generally benign. |
| Corrosion Performance | Greatly exceeds IEC 62561-7 requirements | Exceeds IEC 62561-7 requirements | SRIM is specially formulated to be non-corrosive despite large carbon content |
| Hardening | Semi-hardens, over about 0.5 - 3 days | Fully hardens, 1-3 days | Hardening / curing of each EEC depends on many factors, e.g., surrounding moisture, temperature, etc. |
| Maintenance Required | Nil, provided installed according to instructions | Nil. Permanent encasement of earth electrodes | No additional material is needed beyond the initial installation |
| Service Life (years) | > 15 | > 20 | Long-lasting enhancement if installed per LPI instructions |
| Standards Compliance | AS 2239 IEC 62561-7 (most) | IEC 62561-7 | RESLO is only "non-compliant" with regard to sulphur content |



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