

TECHNICAL DATA SHEET

LPI® Soil Resistance Improvement Material (SRIM)



Features

- Fully compliant with international standard IEC 62561-7 and USA EPA TCLP Test Method 1311.
- No maintenance required.
- Independently tested by Australian University and NATA-certified labs to standards EN 12457-2, EN 12506, ISO 14869-1 and ASTM standards G57-06, G59-97 & G102-89.
- Easy to handle and install.
- Significantly reduces earth resistance.
- Long shelf life due to unique packaging.

PRODUCT DESCRIPTION

Ordering Code	SRIM-20
Product description:	Carbon-based Resistance Lowering Material - 20 kg bag
Application:	To lower earth electrode system resistance and impedance
Electrical resistivity:	0.108 Ωm (tested to ASTM G57-06)
Weight:	20 kg
Packaging:	Laminated woven poly bag, 420 mm wide x 695 mm high
Pallet quantity:	42 bags per pallet

*MSDS and Test Reports available on request. Contact LPI for more information.

The requirement for a low resistance or impedance is extremely important with the installation of any earthing system. LPI’s SRIM-20 enables the installer of an earthing system to achieve significantly lower resistances than would be the case in native soil, especially in location where earthing is difficult due to high soil resistivity.

SRIM-20 is comprised of a specially tested and formulated selection of earthing compounds and tailored additives, resulting in excellent electrical conductivity and corrosion performance. When SRIM is mixed with water and poured around the earthing system and surrounding soil, the mixture of compounds and water react to form a hardened and permanent encasement of the earthing system. SRIM will not wash away in wet seasonal conditions and therefore provides a permanent presence in working to improve and maintain the integrity of an earthing system.

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Product Application Guide

For a trench installation, one 20 kg bag of SRIM will typically achieve the desired earth resistance levels in combination with appropriate conductors for a trench covering 5 m in length x 300 mm in width and a depth of 500 mm to 1000 mm.

In order to further assist in improving the earth resistance of the system, it is recommended that excavated soil of poor quality (e.g. rocky) be replaced with soil of a good quality (e.g. garden loam) prior to backfilling the trench.

RECOMMENDED BAGS OF SRIM-20 REQUIRED FOR BACKFILLING TYPICAL TRENCH INSTALLATIONS

Width of Trench (mm)	Length of Trench 5 m	Length of Trench 10 m
300	1	2

*For trench dimensions outside of the given specifications, please contact LPI or an authorised distributor for further advice.

RECOMMENDED BAGS OF SRIM-20 REQUIRED FOR BACKFILLING GROUND ROD INSTALLATIONS

Diameter of Hole (mm)	Depth of Hole 1800 mm	Depth of Hole 2400 mm	Depth of Hole 3000 mm
75	0.5	0.5	0.5
125	1	1	1.5
175	1.5	2	2.5

*For augured hole dimensions outside of the given specifications please contact LPI or an authorised distributor for further advice

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Earthing Calculator

LPI offers a comprehensive, user-friendly, online Earthing Calculator which allows the user to estimate earth system resistance based on IEEE and other international earthing/grounding standards.

The screenshot shows the LPI Earthing Calculator interface with the following sections:

- Configuration:** Five diagrams showing different earthing configurations: a single rod, two rods, a grid, a star pattern, and a compound rod.
- Parameters for Single Rod:**
 - Soil:** Sample Values dropdown (from AS 1768), $\rho = 1000 \Omega m$.
 - Products:** Rods toggle (ON), $d_r = \varnothing 12.75 \text{ mm}$, $\ell_r = 10 \text{ m}$.
 - Layout:** Rod Hole for Compound toggle (ON), $\ell_h = \ell_r = 10 \text{ m}$, $d_h = \varnothing 200 \text{ mm}$.
- Results:**
 - Re Calculate button.
 - System Only: $R \text{ range} = 123 \text{ to } 3697 \Omega$, **Typical = 986 Ω** . Calculation based on AS 1768.
 - With RESLO: $R \text{ range} = 123 \text{ to } 1479 \Omega$, **Typical = 197 Ω** . Bags = 11 @ 20 kg for this rod.
 - With SRIM: $R \text{ range} = 123 \text{ to } 986 \Omega$, **Typical = 148 Ω** . Bags = 11 @ 20 kg for this rod.
 - With GRIP: $R \text{ range} = 123 \text{ to } 986 \Omega$, **Typical = 148 Ω** . Kits (2 x 10 kg) = 6 for this rod.

Working left to right, select the configuration of the earthing system, then edit the dimensions and other parameters. Results are given for the theoretical best-case scenario (as per the standard) as well as likely real-world values as typically seen in the field