

TECHNICAL DATA SHEET

LPI® Resistance Lowering Compound (RESLO)



Features

- Significantly reduces earth resistance
- Easy to handle and install
- No maintenance required
- Standards compliance: AS 2239, IEC 62561-7 (Clauses 5.4 & 5.5), and EPA 1311
- Independently assessed by an Australian University

Product Description

Ordering Code	RESLO-20
Product description:	Resistance Lowering Compound - 20 kg Bag
Application:	Ground resistance and impedance
Electrical resistivity:	≤ 0.53 Ωm
Weight:	20 kg
Packaging:	Laminated woven poly bag, 420 mm wide x 695 mm height
Pallet quantity:	48 bags to a 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 RESLO-20 provides the ability to dramatically reduce this resistance, especially in soils that have moderate to high electrical resistivity.

RESLO-20 is comprised of specially-selected compounds that possess excellent electrical conductivity and anti-corrosion performance. When RESLO is mixed with water and poured around the earthing system and surrounding soil, the powder and water react to form a hardened mass around the earthing system. RESLO will not wash away under wet seasonal conditions and therefore provides a permanent presence in working to improve and maintain the integrity of an earthing system.

RESLO-20 is not a cement-based product that sets solid under many variable conditions, but rather a bentonite- and gypsum-based product. As such, the mechanical state of the installed product will depend upon many variables, such as soil moisture content, soil porosity and the amount of water added at mixing time.

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At one extreme, with highly porous and dry soil, the product will set into a plaster form within a few hours, retaining sufficient moisture to ensure long term electrical conductivity.

At the other extreme, in very wet soil conditions, the product will absorb the required amount of moisture from the surrounding soil and remain as a “plastic clay”, a design feature of the product to hold and retain moisture to ensure long term electrical conductivity.

Product Application Guide

For a trench installation, a 20 kg bag of RESLO 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., gravel, sand) is replaced with good-quality soil (e.g., garden loam or clay) prior to backfilling the trench.

RECOMMENDED BAGS OF RESLO-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 RESLO-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.

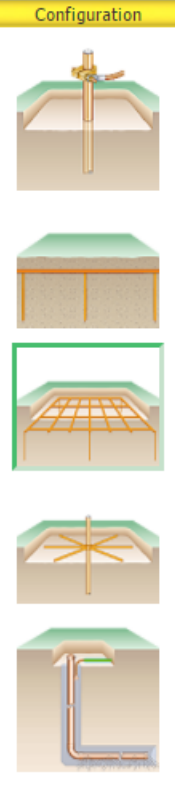
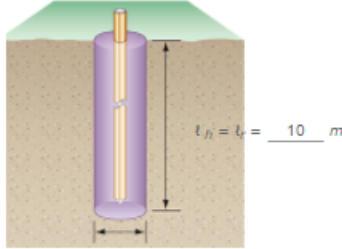
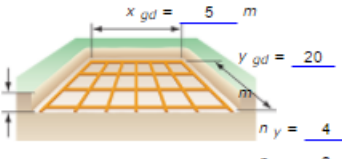
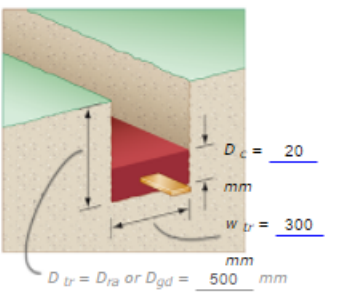
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Earthing Calculator

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 and grounding standards. Go to <http://www.lpi.com.au/Products-Services/Earthing-Calculator>.

For example:

LPI Earthing Calculator

Configuration	Parameters for Grid	Results
	<p>Soil</p> <p>Sample Values: 100 - Concrete (from AS 1768)</p> <p>$\rho = 100 \Omega m$</p> <p>Products</p> <p>$\hat{\rho}$-Rods <input checked="" type="checkbox"/></p> <p>$\hat{\rho}$-Tape <input checked="" type="checkbox"/></p> <p>$\hat{\rho}$-Wire <input type="checkbox"/></p> <p>Layout</p> <p>$\hat{\rho}$ Rod Hole for Compound <input checked="" type="checkbox"/></p>  <p>$l_h = l_r = 10 \text{ m}$</p> <p>$d_h = \varnothing 200 \text{ mm}$</p> <p>Grid <input checked="" type="checkbox"/></p>  <p>$x_{gd} = 5 \text{ m}$</p> <p>$y_{gd} = 20 \text{ m}$</p> <p>$n_y = 4$</p> <p>$n_x = 2$</p> <p>$D_{gd} = 500 \text{ mm}$ (buried depth)</p> <p>$r_{gd} = 4$</p> <p>(n = number of conductors) (r = number of rods)</p> <p>Trench for Compound <input checked="" type="checkbox"/></p>  <p>$D_c = 20 \text{ mm}$</p> <p>$w_{tr} = 300 \text{ mm}$</p> <p>$D_{tr} = D_{rb} \text{ or } D_{gd} = 500 \text{ mm}$</p>	<p>Re Calculate</p> <p>System Only</p> <p>R range = 5.7 to 115 Ω. Typical R = 46 Ω.</p> <p><small>Calculation based on IEEE Std. 80 Equation (52) on page 65. Rods added to a grid do not change the R value in this calculator.</small></p> <p>With RESLO</p> <p>R range = 5.7 to 69 Ω. Typical R = 9.2 Ω.</p> <p>Bags = 43.5 @ 20 kg for 4 rods. Bags = 12 @ 20 kg for trench system.</p> <p><small>Rods added to a grid do not change the R value in this calculator.</small></p> <p>Technical Documents</p> <p>With SRIM</p> <p>R range = 5.7 to 46 Ω. Typical R = 6.9 Ω.</p> <p>Bags = 43.5 @ 20 kg for 4 rods. Bags = 12 @ 20 kg for trench system.</p> <p><small>Rods added to a grid do not change the R value in this calculator.</small></p> <p>Technical Documents</p> <p>With GRIP</p> <p>R range = 5.7 to 46 Ω. Typical R = 6.9 Ω.</p> <p>Kits (2 x 10 kg) = 23 for 4 rods. Kits (2 x 10 kg) = 7 for trench system.</p> <p><small>Rods added to a grid do not change the R value in this calculator.</small></p> <p>Technical Documents</p> <p><small>Request a custom engineered earthing design Intention & Limitations</small></p>

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Working left to right, select the **configuration** of the earthing system, then edit the earthing **parameters**, such as the soil resistivity and grid dimensions. 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.