

Insulation Resistance Calculator

Calculate a temperature-corrected insulation-resistance worksheet value and compare it with a user-entered screening reference.

Generated October 10, 2026

<https://www.elecatrix.com/testing-protection-grounding/insulation-resistance-calculator/>

Inputs

Input	Value	Unit
Measured resistance	80	Mohm
Temperature correction factor	1.25	x
Test voltage	500	V
Screening reference	1	Mohm
Test duration	60	s
Measured-resistance basis note	N/A	
Temperature-correction basis note	N/A	
Test-voltage basis note	N/A	
Test-duration basis note	N/A	

Results

Result	Value	Unit
Corrected resistance	100	Mohm
Correction factor used	1.25	x
Test voltage recorded	500	V
Test duration used	60	s
Screening reference used	1	Mohm
Screening margin	99	Mohm
Screening ratio	100	x
At or above entered screening reference	1	
Screening reference status	above_entered_screening_reference	

Insulation Resistance Calculator

Calculate a temperature-corrected insulation-resistance worksheet value and compare it with a user-entered screening reference.

Generated October 10, 2026

<https://www.elecatrrix.com/testing-protection-grounding/insulation-resistance-calculator/>

Calculation details

Detail	Value	Unit
Calculation basis	Worksheet arithmetic using the entered measured resistance, user-supplied temperature correction factor, test voltage record, test duration record, and entered screening reference.	
Temperature correction boundary	The temperature correction factor is user supplied; this calculator does not select or verify a correction table, insulation system, equipment class, or governing test method.	
Screening reference boundary	The screening reference is entered by the user for worksheet context; this calculator does not provide an acceptance threshold for every equipment class or condition.	
Test method boundary	No test voltage selection, test duration selection, polarization index, dielectric absorption ratio, step-voltage method, guard connection, or instrument setup is determined by this calculator.	
Safety boundary	No absence-of-voltage verification, lockout/tagout procedure, shock boundary, discharge procedure, or energized-work clearance is made by this calculator.	
Acceptance boundary	No pass/fail acceptance, equipment approval, return-to-service decision, safety clearance, or code-compliance result is made by this calculator.	

Formulas

$R_{\text{corrected}} = R_{\text{measured}} \times K_T$

$R_{\text{reference}} = \text{entered screening reference}$

Insulation Resistance Calculator

Calculate a temperature-corrected insulation-resistance worksheet value and compare it with a user-entered screening reference.

Generated October 10, 2026

<https://www.elecatrrix.com/testing-protection-grounding/insulation-resistance-calculator/>

$M_{\text{screening}} = R_{\text{corrected}} - R_{\text{reference}}$

$\rho_{\text{screening}} = \frac{R_{\text{corrected}}}{R_{\text{reference}}}$

Screening status = $R_{\text{corrected}}$ compared with $R_{\text{reference}}$

corrected resistance = measured resistance x temperature correction factor

screening margin = corrected resistance - entered screening reference

screening ratio = corrected resistance / entered screening reference

acceptance boundary = no pass/fail acceptance, equipment approval, return-to-service decision, safety clearance, or code-compliance result is made by this calculator

Warnings and limitations

This calculator provides insulation-resistance worksheet arithmetic only. It is not a pass/fail acceptance result, not an energized-work clearance, not a return-to-service decision, not a substitute for the adopted test method, not manufacturer approval, and not code-compliance. Qualified personnel must verify isolation, absence of voltage, test voltage, duration, temperature correction, discharge, equipment condition, manufacturer instructions, project criteria, and applicable safety procedures.