

Grounding Bond Test Calculator

Estimate loop and corrected bond resistance from a grounding or bonding voltage-drop test and compare the result with an entered reference.

Generated October 10, 2026

<https://www.elecatrix.com/testing-protection-grounding/grounding-bond-test-calculator/>

Inputs

Input	Value	Unit
Test current	10	A
Measured voltage drop	1.6	V
Lead resistance	0.05	ohm
Reference resistance	0.2	ohm

Results

Result	Value	Unit
Loop resistance	0.16	ohm
Corrected bond resistance	0.11	ohm
Reference margin	0.09	ohm
Reference comparison	Within entered reference	

Calculation details

Detail	Value	Unit
Calculation basis	Loop resistance equals measured voltage drop divided by test current; corrected bond resistance subtracts entered lead resistance.	
Testing boundary	Worksheet arithmetic only; no bond approval, grounding performance, instrument calibration, or safety procedure is verified.	

Formulas

loop resistance = measured voltage drop / test current

corrected bond resistance = loop resistance - lead resistance

reference margin = entered reference resistance - corrected bond resistance

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Warnings and limitations

This is not a bonding approval, grounding verification, or energized-work decision. It only reduces entered measurement values.