

Ground Assembly

Repair, Testing & Certification Service

Reliable Equipment and Service Co., Inc.

Test Methods for In-Service Temporary Grounding Assemblies Per ASTM F2249-03 Guidelines

Scope of the Test Methods:

The specifications outline in-service inspection and electrical testing for temporary grounding jumper assemblies which have been used by electrical workers in the field.

Significance of the Testing:

The test procedures in this specification provide an objective means of determining if a grounding jumper assembly meets minimum electrical specifications.

Mechanical damage, other than broken strands, may not significantly affect the cable resistance. Close manual and visual inspection is required to detect some types of mechanical damage. Retest the grounding jumper assembly after performing any maintenance in order to ensure its integrity.

Procedure for the Testing:

A. Cleaning and Measuring of Grounding Jumper Assembly Prior to Electrical Testing:

1. Identify the cable gage (AWG) and make a precise measurement of the cable length.
2. Clean cable insulation with solvent.
3. Thoroughly clean the jaws of the clamps with a stiff wire brush.

B. Inspection of Grounding Jumper Assemblies:

1. Visual inspection shall be made of all grounding jumper assemblies prior to testing.
 - a. If the following defects are evident, the grounding jumpers may be rejected without electrical testing:
 - a1. Cracked or broken ferrules and clamps.**
 - a2. Exposed broken strands.**
 - a3. Cut or badly mashed or flattened cable.**
 - a4. Extensively damaged cable - covering material.**
 - a5. Swollen cable jacket or soft spots, indicating internal corrosion.**
 - a6. Cable strands with a black deposit on them.**
 - b. Grounding jumper assemblies which are visually defective shall be removed from service and permanently marked, tagged or destroyed (if beyond repair) to prevent re-use.
 - c. Before the grounding jumper assembly can be placed back in service, it must pass the inspection requirements in the above Section (B.1.a.) and in Section D: Electrical Requirements.

C. Electrical Requirements:

1. Our preferred electrical test method relative to the standard is:
 - a. AC impedance measurements
Testing shall be performed per the specifications of the Operating Instructions for the Bierer GTSeries Assembly Tester (attached).
- 2A. Grounding jumper assemblies which do not pass the electrical test will be subject to repair / reconditioning as outlined in Section D.

OR

- 2B. Grounding jumper assemblies that fail the electrical test shall be removed from service and permanently marked or destroyed to prevent reuse.
A quote will be issued by the sales department for a **NEW** equivalent jumper / ground assembly.

Reliable Equipment and Service Co., Inc. In-Service Test Methods for Temporary Grounding Jumpers and Assemblies **is modeled after the ASTM F2249-03 Standard.**

D. Repair/Reconditioning of Grounding Jumper Assembly after inspection:

1. For the readings which are high, additional cleaning and tightening of the assembly may restore its electrical integrity.
2. Disassemble the grounding jumper assembly and thoroughly clean the ferrule and clamp interface with isopropyl alcohol and a stiff wire brush.
3. Inspect all components during the disassembly and reassembly process.
4. Reassemble the grounding jumper.
All physical connections should be checked for tightness with specified torque values.
5. Grounding jumper assemblies that fail the electrical test after additional maintenance or repairs are performed shall be removed from service and permanently marked or destroyed to prevent reuse.
6. A quote will be issued by the sales department for a **NEW** equivalent jumper or ground assembly.

