



Standard Specifications for Temporary Protective Grounds to Be Used on De-energized Electric Power Lines and Equipment¹

This standard is issued under the fixed designation F855; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 These specifications cover the equipment making up the temporary grounding system used on de-energized electric power lines, electric supply stations, and equipment.

1.2 It is common practice for the users of protective grounding equipment to prepare complete instructions and regulations to govern in detail the correct use and maintenance of such equipment.

1.3 The uses and maintenance of this equipment are beyond the scope of these specifications.

1.4 These specifications for a system of protective grounding utilizing copper cables are covered in four parts, as follows:

	Sections
Clamps for Temporary Protective Grounds	4 – 16
Ferrules for Temporary Protective Grounds	17 – 30
Cables for Temporary Protective Grounds	31 – 39
Protective Grounds (Complete Assembly With Clamps, Ferrules, and Cable)	40 – 52

1.5 Each of the four parts is an entity of itself, but is listed as a part of the system for completeness and clarification.

1.6 Currents presented in [Table 1](#) are based upon cable melting times, as determined from equations by I. M. Onderdonk and are to be used in situations involving an asymmetry value less than 20 % ($X/R \leq 1.8$). See [Appendix X3](#).

1.6.1 Currents presented in [Table 2](#) are based upon the values from EPRI Project RP2446 Computer Program RTGC “A Desktop Computer Program for Calculating Rating of Temporary Grounding Cables” and are to be used in situations involving an asymmetry value greater than 20 % ($X/R \geq 1.8$), see [Appendix X4](#).

NOTE 1—[Table 1](#) represents the clamp and assembly ratings that existed prior to this revision. [Table 2](#) represents new ratings now required for high X/R situations.

1.6.2 See [Appendix X3](#) and [Appendix X4](#) for a discussion of these topics.

¹ These specifications are under the jurisdiction of ASTM Committee F18 on Electrical Protective Equipment for Workers and are the direct responsibility of Subcommittee F18.45 on Mechanical Apparatus.

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1.7 The values stated in Newton-Meter units are to be regarded as the standard. The values in parentheses are the inch-pound units.

1.8 The following precautionary caveat pertains to the test method portions, Sections 12 and 25 of these specifications: *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:²

- [B172](#) Specification for Rope-Lay-Stranded Copper Conductors Having Bunch-Stranded Members, for Electrical Conductors
- [B173](#) Specification for Rope-Lay-Stranded Copper Conductors Having Concentric-Stranded Members, for Electrical Conductors
- [D470](#) Test Methods for Crosslinked Insulations and Jackets for Wire and Cable
- [D753](#) Specification for General Purpose Polychloroprene Jacket for Wire and Cable (Withdrawn 1984)³
- [D2219](#) Specification for Poly(Vinyl Chloride) Insulation for Wire and Cable, 60°C Operation
- [D2633](#) Test Methods for Thermoplastic Insulations and Jackets for Wire and Cable
- [D2768](#) Specification for General-Purpose Ethylene-Propylene Rubber Jacket for Wire and Cable (Withdrawn 2007)³
- [D2770](#) Specification for Ozone-Resisting Ethylene-Propylene Rubber Integral Insulation and Jacket for Wire and Cable (Withdrawn 2007)³
- [E8/E8M](#) Test Methods for Tension Testing of Metallic Materials

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ The last approved version of this historical standard is referenced on www.astm.org.