NEMA Standards Publication


ANSI/NEMA C37.55-2002 (R2010)

# American National Standard for Switchgear - Medium-Voltage Metal-Clad Assemblies - Conformance Test Procedures



National Electrical Manufacturers Association

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# Conformance Test Procedures


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American National Standard
for Switchgear—

# Medium Voltage Metal-Clad Assemblies—Conformance Test Procedures

Secretariat:

**National Electrical Manufacturers Association**

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## Foreword (This Foreword is not part of American National Standard C37.55-2002.)

This standard has been developed to describe selected tests and procedures to demonstrate conformance in accordance with Section 6, Tests, of ANSI/IEEE C37.20.2, Metal-Clad Switchgear. It is published separately from ANSI/IEEE C37.20.2 to facilitate its use and to permit timely revisions based on experience.

Major revisions have been made to this edition to coordinate with revisions made to ANSI C37.04, C37.06, C37.09, and C37.20.2. The voltage range factor (K), historically >1 for older circuit breaker designs, has been changed to 1.0, effectively eliminating it from consideration. Table 1 has been revised accordingly. Previous editions of this standard shall continue to apply for conformance tests made on equipment rated in accordance with the earlier editions of C37.04, C37.06, and C37.09.

This standard is one of several in a series of test procedures for conformance testing of switchgear products. While this standard is written for general guidance, performance criteria are established so that this standard can be adopted as the basis for certification of metal-clad switchgear for use in non-utility installations subject to regulation by public authorities and similar agencies concerned with laws, ordinances, regulations, administrative orders, and similar instruments.

This standard has been prepared by a Working Group sponsored by the Power Switchgear Assemblies Technical Committee of the Switchgear Section of the National Electrical Manufacturers Association (NEMA 8-SG-V). During the course of its preparation coordination has been maintained with the High Voltage Power Circuit Breaker Technical Committee of the Switchgear Section of the National Electrical Manufacturers Association (NEMA 8-SG-IV). Reports of progress were also made at regular intervals to the Switchgear Committee of the Power Engineering Society of the Institute of Electrical and Electronics Engineers.

Proposed or recommended revisions should be submitted to:

Vice President, Technical Services
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This standard was processed and approved for submittal to ANSI by Accredited Standards Committee on Power Switchgear C37. Committee approval of the standard does not necessarily imply that all committee members voted for its approval. At the time of its approval, the C37 Committee had the following members:

**T. Olsen, Chair**
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# Medium-Voltage Metal-Clad Assemblies— Conformance Test Procedures

## 1 Overview

### 1.1 Scope

This Standard is a conformance testing standard optionally applicable to all medium voltage metal-clad switchgear assemblies designed, tested, and manufactured in accordance with ANSI/IEEE C37.20.2, Metal-Clad Switchgear. This standard covers selected tests to demonstrate conformance with Section 6, Tests, of ANSI/IEEE C37.20.2. The requirements of ANSI/IEEE C37.20.2 are sufficient for application of medium voltage metal-clad switchgear assemblies, and conformance testing is not necessary to satisfy the basic requirements of ANSI/IEEE C37.20.2. Conformance testing is performed to show compliance with the basic requirements when it is required to satisfy special agreements or regulatory agency requirements. Conformance testing may be performed in association with the basic design testing if such testing is agreeable to those concerned; however, conformance testing is more likely to be performed some time after original development to satisfy a specific need. Conformance testing need not be performed if not required.

### 1.2 Control and instrumentation components—protection requirements

MC (metal-clad) switchgear assemblies usually include control and instrumentation components unique for the application that are not individually evaluated under this standard. However, these components, when utilized in circuits that obtain their energy from primary sources within the MC switchgear, must be suitably protected in accordance with 4.2.

NOTE—In this standard, the use of the term "MC switchgear" shall be considered to mean "metal-clad switchgear." The use of the term "circuit breaker" shall be considered to mean "indoor alternating current medium voltage circuit breakers (rated above 1000 volts) applied as removable elements in metal-enclosed switchgear assemblies," unless qualified by other descriptive terms.

### 1.3 Installations not covered

This standard does not cover equipment intended for use in installations under the exclusive control of electric utilities for the purposes of communication or metering, or for generation, control, transformation, transmission, and distribution of electric energy located in buildings used exclusively by utilities for such purposes, or located outdoors on property owned or leased by the utility or on public highways, street, roads, and the like, or located outdoors by established rights on private property.

### 1.4 Purpose

This standard specifies the tests that shall be performed to demonstrate that the MC switchgear being tested conforms with the ratings assigned to it and meets the mechanical and electrical performance requirements specified in ANSI/IEEE C37.20.2.