NEMA Standards Publication

ANSI/NEMA C119.6-2006

American National Standard for Electric Connectors-Non-Sealed, Multiport Connector Systems Rated 600 Volts or Less for Aluminum and Copper Conductors

National Electrical Manufacturers Association

National Electrical Manufacturers Association
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for Electric Connectors—

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Secretariat:

National Electrical Manufacturers Association

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Foreword (This Foreword is not part of American National Standard C119.6-2006.)

This standard describes current cycle and mechanical tests used to establish performance characteristics of non-sealed, multiport distribution connectors used to join aluminum-to-aluminum, aluminum-to-copper, or copper-to-copper conductors.

This standard incorporates an alternate, accelerated current cycle test method, henceforth referred to as the current cycle submersion test (CCST). The CCST method differs from the traditional current cycle test in that test conductors are rapidly cooled by immersion in chilled water at the beginning of the current-OFF cycle and requires fewer total current-ON and current-OFF cycles. The CCST method differs from the traditional current cycle test (CCT) in that test connectors are rapidly cooled by immersion in chilled water at the beginning of the current-OFF cycle. Comparative testing has demonstrated that the CCST method will provide essentially the same performance test results as the traditional current cycle test (CCT) in fewer test cycles. The current cycle test remains the preferred test method recommended for qualification of a connector.

The Subcommittee on Multiport Connectors of the Accredited Standards Committee on Connectors for Electric Utility applications, C119, in its constant review of the publication, continues to seek out the views of responsible users that will contribute to the development of better standards.

Suggestions for improvement of this standard will be welcome. They should be sent to the National Electrical Manufacturers Association, 1300 North 17th Street, Suite 1752, Rosslyn, Virginia 22209.

This standard was processed and approved for submittal to ANSI by the Accredited Standards Committee on Connectors for Electrical Utility Applications, C119. Committee approval of this standard does not necessarily imply that all committee members voted for its approval. At the time it approved this standard, the C119 Committee had the following members:

Douglas Harms, Chairman
Ronald Lai, Vice Chairman
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The C119.6 Subcommittee on Non-sealed Multiport Connectors, which developed the revisions of this standard, had the following members:

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For Electric Connectors— Non-Sealed, Multiport Connector Systems Rated 600 Volts or Less for Aluminum and Copper Conductors

1 Scope and Purpose

1.1 Scope

This standard covers non-sealed, multiport distribution connectors rated 600 Volts or less used for making electrical connections between aluminum-to-aluminum, aluminum-to-copper, or copper-to-copper conductors for above grade, electric utility applications.

This standard establishes the electrical and mechanical test requirements for connectors used at normal operating temperatures not to exceed 90°C and is not intended to recommend any other operating conditions.

1.2 Purpose

The purpose of this standard is to give reasonable assurance to the user that connectors meeting the requirements of this standard will perform in a satisfactory manner, provided they have been properly selected for the intended application and are installed in accordance with the manufacturer's recommendations. The service operating conditions and the selection of the connector is the responsibility of the user.

1.3 Definitions

bolted-type connector: A connector in which the contact between the conductor and the connector is made by pressure exerted by one or more clamping bolts.

CCT: Current Cycle Test where current cycle heating and cooling are done in air.

CCST: Current Cycle Submersion Test where current cycle heating is done in air and cooling is done using water submersion.

conductor: Conducting material used as a carrier of electric current.

connector: A device joining two or more conductors for the purpose of providing a continuous electrical path.

multiport connector: A connector that joins two or more conductors with a third or plurality of connector points.

range-taking connector: Connector designed to accept multiple conductor sizes.

reusable connector: A connector that may be removed from service and installed again.