

trademark, manufacturer's type or identification number, continuous current rating, interrupting rating in megavolt-amperes (MVA) or amperes, and maximum voltage rating. Modification of a circuit breaker affecting its rating(s) shall be accompanied by an appropriate change of nameplate information.

N (4) Rating. Circuit breakers shall have the following ratings:

- (1) The continuous current rating of a circuit breaker shall not be less than the maximum continuous current through the circuit breaker.
- (2) The interrupting rating of a circuit breaker shall not be less than the available fault current the circuit breaker will be required to interrupt, including contributions from all connected sources of energy.
- (3) The closing rating of a circuit breaker shall not be less than the maximum asymmetrical fault current into which the circuit breaker can be closed.
- (4) The momentary rating of a circuit breaker shall not be less than the maximum asymmetrical fault current at the point of installation.
- (5) The rated maximum voltage of a circuit breaker shall not be less than the maximum circuit voltage.

N (5) Retrofit Trip Units. Retrofit trip units shall be listed for use with the specific circuit breaker with which it is installed.

N (B) Power Fuses and Fuseholders.

N (1) Use. Where fuses are used to protect conductors and equipment, a fuse shall be placed in each ungrounded conductor. Two power fuses shall be permitted to be used in parallel to protect the same load if both fuses have identical ratings and both fuses are installed in an identified common mounting with electrical connections that divide the current equally. Power fuses of the vented type shall not be used indoors, underground, or in metal enclosures unless identified for the use.

N (2) Interrupting Rating. The interrupting rating of power fuses shall not be less than the available fault current the fuse is required to interrupt, including contributions from all connected sources of energy.

N (3) Voltage Rating. The maximum voltage rating of power fuses shall not be less than the maximum circuit voltage. Fuses having a minimum recommended operating voltage shall not be applied below this voltage.

N (4) Identification of Fuse Mountings and Fuse Units. Fuse mountings and fuse units shall have permanent and legible nameplates showing the manufacturer's type or designation, continuous current rating, interrupting current rating, and maximum voltage rating.

N (5) Fuses. Fuses that expel flame in opening the circuit shall be designed or arranged so that they function properly without hazard to persons or property.

N (6) Fuseholders. Fuseholders shall be designed or installed so that they are de-energized while a fuse is being replaced. A

field-applied permanent and legible sign, in accordance with 110.21(B), shall be installed immediately adjacent to the fuseholders and shall be worded as follows:

**DANGER — DISCONNECT CIRCUIT
BEFORE REPLACING FUSES.**

Exception: Fuses and fuseholders designed to permit fuse replacement by qualified persons using identified equipment without de-energizing the fuseholder shall be permitted.

N (7) High-Voltage Fuses. Switchgear and substations that use high-voltage fuses shall be provided with a gang-operated disconnecting switch. Isolation of the fuses from the circuit shall be provided by either connecting a switch between the source and the fuses or providing roll-out switch and fuse-type construction. The switch shall be of the load-interrupter type, unless mechanically or electrically interlocked with a load-interrupting device arranged to reduce the load to the interrupting capability of the switch.

Exception: More than one switch shall be permitted as the disconnecting means for one set of fuses where the switches are installed to provide connection to more than one set of supply conductors. The switches shall be mechanically or electrically interlocked to permit access to the fuses only when all switches are open. A conspicuous sign shall be placed at the fuses identifying the presence of more than one source.

N (C) Distribution Cutouts and Fuse Links — Expulsion Type.

N (1) Installation. Cutouts shall be located so that they may be readily and safely operated and re-fused, and so that the exhaust of the fuses does not endanger persons. Distribution cutouts shall not be used indoors, underground, or in metal enclosures.

N (2) Operation. Where fused cutouts are not suitable to interrupt the circuit manually while carrying full load, an approved means shall be installed to interrupt the entire load. Unless the fused cutouts are interlocked with the switch to prevent opening of the cutouts under load, a conspicuous sign shall be placed at such cutouts identifying that they shall not be operated under load.

N (3) Interrupting Rating. The interrupting rating of distribution cutouts shall not be less than the available fault current the cutout is required to interrupt, including contributions from all connected sources of energy.

N (4) Voltage Rating. The maximum voltage rating of cutouts shall not be less than the maximum circuit voltage.

N (5) Identification. Distribution cutouts shall have on their body, door, or fuse tube a permanent and legible nameplate or identification showing the manufacturer's type or designation, continuous current rating, maximum voltage rating, and interrupting rating.

N (6) Fuse Links. Fuse links shall have a permanent and legible identification showing continuous current rating and type.