

Myers Power Products Metalclad Switchgear

Codes and Standards

Myers' metalclad switchgear complies with and built to the following standards

A.	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA) Switchgear Assemblies	NEMA S G 5-1975
B.	AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) AC High-Voltage Circuit Breakers Switchgear Assemblies Metalclad and Station Cubicle Switchgear	ANSI C37.06 ANSI C37.20 ANSI C37.20.2
C.	Underwriters Laboratories (UL)	

Construction

NEMA 1 Applications:

Myers' switchgear cubicles are fabricated from hot rolled steel and formed steel members, reinforced as required to form a rigid self-supporting structure. All sheet metal is 11-gauge minimum. Each cubicle has edges formed by appropriate metal break tooling and joints welded and ground smooth. The rear of each breaker enclosure includes a hinged panel with padlocking provisions for gaining access to the cable termination area. Suitable opening is provided in each cubicle for owner's power and control cables to enter from the top or bottom of the associated cubicle.

NEMA 3R Applications

Myers' switchgear cubicles are fabricated from hot rolled steel and formed steel members, reinforced as required to form a rigid self-supporting structure. All sheet metal is 11-gauge minimum.

For walk-in type of switchgear, a weatherproof aisle way is provided for each group of equipment large enough to permit interchanging of drawout circuit breaker elements. A weatherproof door with panic hardware at each end of the aisle way is provided. The aisle way and switchgear are shipped totally assembled in one piece on a common base to a maximum of 14'6" in width. Shipping splits are kept to a minimum shipment per switchgear lineup. The bottom of the switchgear and aisle way shall be covered with an undercoating compound to prevent corrosion.

Heater

For outdoor switchgear applications, all cubicles are provided with space heaters to prevent condensation moisture within the switchgear. The heaters are controlled by an adjustable thermostat set to turn on when the temperature falls to 60 degrees F, or other suitable setpoint.

Circuit Breakers

Myers can provide any major manufacturers vacuum circuit breakers in its metalclad switchgear. The circuit breakers are rated at 5KV, 15KV, 27KV or 38KV nominal with 1200, 2000, or 3000 amps continuous as required by the contract drawings. The vacuum circuit breakers are 3-pole and mounted on a drawout truck assembly and up to two circuit breakers can be provided in one single section. The circuit breakers are operated by a motor-charged mechanically and electrically trip-free, stored-energy operating mechanism. Provisions are included for manual charging of the mechanism. Interlocks can be provided to prevent moving the breaker to or from the operating position unless its contacts are in the open position. The operating springs are discharged automatically when the breaker is rolled fully into the compartment or is moved into the disconnect position. The Drawout Breakers are furnished with self-aligning automatic engaging secondary contacts.

Circuit Breaker Compartment

Each cubicle containing a circuit breaker, or two circuit breakers in a two-high stacked configuration, is provided with a mechanism which will move the breaker between the operating test and disconnect positions. The mechanism is self-aligning and rigidly held in the operating position without the necessity of locking bars or bolts. The stationary primary disconnecting contacts are constructed of silver plated copper. Grounded metal safety shutters are provided to isolate all primary connections in the circuit breaker compartment when the breaker is withdrawn from the connected position.

Ground Bus

A 1/4-inch by 2 inch copper ground bus shall be furnished and secured to each unit. The ground bus extends the entire length of the switchgear and is equipped with terminal lug at each end suitable for the owner's ground cable.

Instrument Transformers

Current transformers have ratios in accordance with the drawings. The current transformers assembly have a mechanical rating equal to the momentary rating of the circuit breakers. Potential transformers meet ANSI standard accuracy ratings and include primary and secondary fusing. The potential transformers are mounted in a disconnect mounting such as a draw out assembly.

Control Wiring

All of Myers' control wiring is installed and tested at the factory. All electrical conductors are standard copper #14 AWG or larger. All current transformer secondary wiring are #12 AWG. The wiring is thermosetting type SIS insulation rated 600 volts and designed for a maximum conductor temperature of 90 degrees C. Pre-insulated self-locking ring tongue type wiring terminal lugs with metal reinforced sleeves are provided on all conductor terminals. Permanent wire markers are provided on all control wiring. Terminal blocks are provided for conductors requiring connection to circuits external to the specified equipment for internal circuits crossing shipping splits, and where equipment parts, replacement and maintenance will be facilitated. All terminal blocks are rated 600 volts and 50 amperes minimum and have strap screw terminals. Standard terminal blocks for #10 AWG and smaller 600 volt insulated conductors are connection Type KUSC. Shorting type terminal blocks for current transformer connections shall be four (4) or six (6) point connection type KUSC. Each terminal block, conductor, device, fuse block and terminal are labeled to coincide with the identification shown on the drawings. Sufficient clearance, 6-inch minimum between columns of terminal blocks, are provided for all leads. All leads for external circuit wiring is connected to grouped terminal blocks. Splices are not to be permitted in Myers' switchgear wiring.

Shipping and Handling

Myers' method of packing protects the switchgear and associated equipment against corrosion, dampness, breakage, vibration injury that might reasonably be encountered during transit and handling. If necessary, delicate instruments are disconnected, packed and shipped to the job site for permanent mounting by the owner. All accessories, mounted devices, instruction books and parts lists are packed and shipped with the switchgear. Provisions are made for lifting and skidding. All lifting points shall be clearly marked. All temporary bracing are bolted to the switchgear so that no cutting torches will be required for installation. Disconnected wiring are properly tagged and supported. The switchgear is protected against the weather and mechanical damage during transit and storage.