

USask Master Specification Directions: The master specifications are intended to be incorporated into the Consultant's final, project specific specification package. The project specific specifications are expected to include any and all sections or portions of sections (Part 1, Part 2, Part 3) that are required to create a fully executable project specification. USask Master Specs only provide information that USask **requires** be a part of the final specification package. Components or sections not included in the Master USask Specifications may still be required for a complete, well-designed project. **It is the consultant's responsibility to ensure all specifications match USask requirements. Any deviations or revisions to any section included in the master specifications requires written consent from the USask Engineering department. The consultant is liable for any omissions, errors, or incorrect equipment or components supplied to site.**

The Master Specifications shall be used in conjunction with USask's Design Guidelines. Any conflicts shall be brought to the attention of USask Engineering staff for clarification.

Part 1 Products

.1 Breakers General

- .1 Bolt-on moulded case circuit breaker: quick-make, quick-break type, for manual and automatic operation with temperature compensation for 40°C ambient.
- .3 Common-trip breakers with single handle for multi-pole applications.
- .4 Breakers in 250 V power panelboards (central distribution type) shall be rated for 22 kA interrupting capacity. Breakers in 250 V lighting and distribution panelboards shall be rated at 22 KA.
- .5 Breakers in 600 V power panelboards (central distribution type) shall be rated for 42 kA interrupting capacity. Breakers in 600 V lighting and distribution panelboards shall be rated at 42 KA.
- .6 Central distribution panels shall be a minimum of 44" wide unless otherwise indicated. Freestanding CDPS's rated 1200 amp and larger shall be minimum 18" deep. If freestanding of lower ampacity is required, a strut stand is required.
- .7 Breakers with current limiting fuses will only be accepted if the required interrupting capacity is greater than 65 kA.
- .8 Magnetic instantaneous trip elements in circuit breakers to operate only when value of current reaches setting. Trip settings on breakers with adjustable trips to range from 3-8 times current rating.
- .9 Circuit breakers with interchangeable trips as indicated.
- .10 Series rating of breakers is not acceptable.
- .11 Acceptable manufacturer: same as Panelboard manufacturer. Do not mix manufacturers.

.2 Thermal Magnetic Breakers (Design A)

- .1 Moulded case circuit breaker to operate automatically by means of thermal and magnetic tripping devices to provide inverse time current tripping and instantaneous tripping for short circuit protection.

.3 Magnetic Breakers (Design B)

- .1 Moulded case circuit breaker to operate automatically by means of magnetic tripping devices to provide instantaneous tripping for short circuit protection.

.4 Fused Thermal Magnetic Breakers (Design C)

- .1 Fused thermal magnetic breakers with current limiting fuses internally mounted. Time current limiting characteristics of fuses coordinated with time current tripping characteristics of circuit breaker. Coordination to result in interruption by breaker of fault-level currents up to interrupting capacity of breaker. Fuses individually removable and interlocked with breaker. The removal of fuse cover, blowing of a fuse or removal of a fuse, to trip breaker.

.5 Solid State Trip Breakers (Design D)

- .1 Moulded case circuit breaker to operate by means of a solid-state trip unit with associated current monitors and self-powered shunt trip to provide inverse time current trip under overload condition, and long time, short time, instantaneous tripping for phase, ground fault short circuit protection.

.6 Optional Features

- .1 Include:
 - .1 shunt trip.
 - .2 auxiliary switch.
 - .3 motor-operated mechanism [c/w time delay unit].
 - .4 under-voltage release.
 - .5 on-off locking device.
 - .6 handle mechanism.
- .2 Breakers with thermal and magnetic tripping except as indicated.
- .3 Main breaker: mounted on top or bottom of panel to suit cable entry. When mounted vertically, down position should open breaker.
- .4 Breakers with current limiting fuses will only be accepted if the interrupting capacity is required to be 200 kA.
- .5 Lock-on devices for breakers for fire alarm and emergency circuits.
- .6 Lock-off devices for breakers for transformers not within visual distance and as indicated.
- .7 Lock-off devices for breakers feeding remote mounted loose VFD's.

.7 Enclosure

- .1 NEMA rated to suit room classification.

END OF SECTION