28-106 Insulated conductors — Individual motors

1) The insulated conductors of a branch circuit supplying a motor for use on continuous duty service shall have an ampacity not less than 125% of the full load current rating of the motor.

28-108 Insulated conductors —Two or more motors

1) Insulated conductors supplying a group of two or more motors shall have an ampacity not less than
   a) 125% of the full load current rating of the motor having the largest full load current rating plus the full load current ratings of all the other motors in the group, where all motors in the group are for use on continuous duty service;
   b) the total of the calculated currents determined in accordance with Rule 28-106 2) for each motor, where all motors in the group are for use on non-continuous duty service; or
   c) the total of the following, where the group consists of two or more motors for use on both continuous and non-continuous duty service:
      i) 125% of the current of the motor having the largest full load current rating for use on continuous duty service;
      ii) the full load current ratings of all other motors for use on continuous duty service; and
      iii) the calculated current determined in accordance with Rule 28-106 2) for motors for use on non-continuous duty service.
2) Where the circuitry is interlocked in order to prevent all motors of the group from running at the same time, the size of the conductors feeding the group shall be permitted to be determined for the motor, or group of motors operating at the same time, that has the largest rating selected as determined in Subrule 1).
3) Demand factors shall be permitted to be applied where the character of the motor loading justifies reduction of the ampacity of the insulated conductors to less than the ampacity specified in Subrule 1), provided that
   a) the insulated conductors have sufficient ampacity for the maximum demand load; and
   b) the rating or setting of the overcurrent devices protecting them is in accordance with Rule 28-204 4).

Overcurrent protection

28-200 Branch circuit overcurrent protection (see Appendix B)

1) Each ungrounded conductor of a motor branch circuit shall be protected by an overcurrent device in accordance with Subrules 2) to 5).
2) The overcurrent device required by Subrule 1) shall be
   a) a non-time-delay fuse;
   b) a time-delay fuse;
   c) an inverse-time circuit breaker;
   d) an instantaneous-trip (magnetic only) circuit interrupter applied in accordance with Rule 28-210; or
   e) a self-protected combination motor controller selected in accordance with Rule 28-500.
3) The rating of the overcurrent device required by Subrule 1) shall
   a) not exceed the values given in Table 29 using the rated full load current of the motor, except that an overcurrent device having a minimum rating or setting of 15 A shall be permitted even though it exceeds the values specified in Table 29; and
   b) for a branch circuit supplying two or more motors, not exceed the maximum value permitted by Rule 28-206.
4) Where an overcurrent device rated in accordance with Subrule 3) a) will not permit the motor to start, the rating or setting of the overcurrent device shall be permitted to be increased as follows:
   a) for a non-time-delay fuse, not more than
      i) 400% of the motor full load current, for fuses rated up to 600 A; or
      ii) 300% of the motor full load current, for fuses rated 601 to 6000 A;
   b) for a time-delay fuse, not more than 225% of the motor full load current; and
   c) for an inverse time circuit breaker, not more than
      i) 400% of the motor full load current, for circuit breakers rated up to 100 A; or
      ii) 300% of the motor full load current, for circuit breakers rated greater than 100 A.
5) Where the overcurrent device required by Subrule 1) is a thermal magnetic circuit breaker that has separate instantaneous-trip settings, the instantaneous-trip setting shall not be greater than that specified in Rule 28-210.