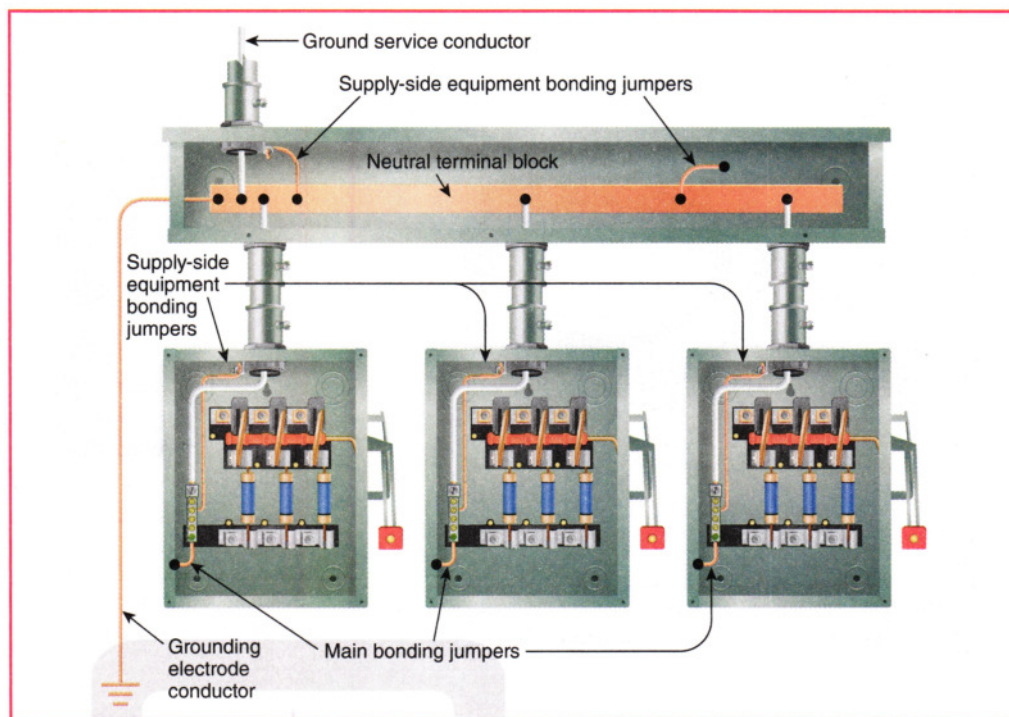


EXHIBIT 250.33 Grounding and bonding arrangement for a service with three disconnecting means.



See also

250.24(C), which specifies that the grounded service conductor must be run to each service disconnecting means and be bonded to the disconnecting means enclosure

- (2) Connections made up wrenchtight using threaded couplings, threaded entries, or listed threaded hubs on enclosures
- (3) Threadless couplings and connectors if made up tight for metal raceways and metal-clad cables
- (4) Other listed devices, such as bonding-type locknuts, bushings, or bushings with bonding jumpers

Bonding-type locknuts and grounding and bonding bushings for use with rigid or intermediate metal conduit are provided with means (usually one or more set screws that make positive contact with the conduit) for reliably bonding the bushing and the conduit on which it is threaded to the metal equipment enclosure or box.

Grounding bushings used with fittings for rigid or intermediate metal conduit or with electrical metallic tubing (EMT) have means for connecting a bonding jumper or have means provided by the manufacturer to attach a wire connector (see Exhibit 250.34). This type of bushing may also have one or more set screws to reliably bond the bushing to the conduit.

Threaded hubs used to connect rigid metal and intermediate metal conduits to service equipment and other line-side enclosures are suitable for bonding the conduit only if they have been listed as grounding and bonding equipment per UL 467, *Standard for Grounding and Bonding Equipment*. Such hubs are available with gaskets and are suitable for use in wet locations

so that a conduit connection can be made to an enclosure above the live parts. Grounding and bonding hubs are provided with a grounding and bonding locknut to ensure that the connection between the hub and the conduit is suitable for the higher levels of fault current available at the service location. Although many threaded hubs are listed as conduit fittings, not all threaded hubs have additionally been listed as grounding and bonding equipment. Conduit hubs listed as grounding and bonding equipment are also required (see 250.97) where the



EXHIBIT 250.34 Grounding bushings used to connect a copper bonding conductor to the conduits. (Courtesy of Thomas and Betts, a Member of the ABB Group)