



Canadian Standards Association
Mississauga, Ontario
To the Part I Committee

Subject No. 3081

Chair: R. Leduc

Date: November 25, 2002

Title: Grounding Means in Nonmetallic Boxes, Rule 10-906(10)

Submitted by: David Kendall of Carlon, 25701 Science Park Drive, Cleveland, Ohio, 44122, (216) 766-6645 on September 5, 2002.

Proposal: Add a new Subrule 10-906(1) to read as follows:

(10) Nonmetallic outlet boxes are not required to have a dedicated grounding means as long as the switch(s) or receptacle(s) is supplied with a grounding lug or screw.

Reasons for Request: Grounds lugs are incorporated for both switches and receptacles and are widely available. Ground lugs have not been a requirement of the National Electrical Code for nonmetallic outlet boxes for the past 30 years, this has been an acceptable practice without a reported incident.

Chair's Comments: In reviewing the Code, I could not see any specific rule requiring that non-metallic boxes have a dedicated grounding (bonding) means. Rule 10-906(4) only makes reference to ensuring that a bonding conductor is brought into the non-metallic box to ensure that it can be attached to electrical devices. I believe this to be a Part II issue that should be addressed by the Technical Subcommittee on C22.2 No. 18-98. Clause 4.2.9.4 speaks specifically to "Bonding (to Ground) in Non-metallic Boxes" and I believe that the main purpose for requiring a bonding strap in a non-metallic box is to ensure that the metallic screws of devices are adequately grounded. In any case, I recommend that this subject be forwarded to the TC for C22.2 No. 18-98 suggesting the issue be reviewed with the objective of harmonizing North American Standards.

Subcommittee Deliberations (1st Round):

9 of 13 members responded, all agreeing with the Chair's proposal to send it to the appropriate Part II Technical Subcommittee. However, one member went on to propose wording for Rule 10-905(10) as follows:

(10) Nonmetallic outlet boxes are not required to have a dedicated grounding means, provided there is a provision for grounding on the device.

Two other members had comments as follows:

1. I agree this should be a Part II issue. We probably should harmonize it, but there is some loss of protection in certain instances:

- If the connection to the device fitted to the box is forgotten, it will probably still be grounded through the screw contact (not necessarily for multi gang boxes).
- The box grounding terminal provides a fixed place to anchor the ground conductors if there is more than one cable coming into the box. Without it, they must be twisted together and attached to one of the removable devices.

Having said the above, it is often awkward to implement the grounding bond between the box terminal and the device terminal and still be able to install the device straight-up without it being twisted by the short ground conductor between the box and the device.

2. I agree with the Chair's proposal to not add a new Subrule 10-906(10), and that the issue raised is a Part 2 issue which should be dealt with in C22.2 No. 18.

It should be pointed out that this is part of a philosophical difference between US and Canadian standards. The "metal strap or plate" referred to in Clause 4.2.9.4 of C22.2 No. 18 must be installed in the plastic box, while in the US that plate will be marketed as an optional item. The same applies to Clause 4.2.9.3 which states "screws provided shall be installed". In the US they would be purchased separately.

Chair's Comments

The member's proposed revision to Rule 10-906(10) would be difficult to enforce at the time of rough-in since we have no way of knowing if the device will have a bonding terminal. In any case, the member agrees that it is a Part II issue. I declare that the Subcommittee has reached consensus.

Subcommittee Recommendation

Forward the file to the Part II Technical Subcommittee No. 18 and close the subject.