



Canadian Standards Association
Mississauga, Ontario
To the Part I Committee

Subject No. 2388

Chair: M. Gardener

Date: November 5, 2002

Title: Recognition of Polyethylene Conduit

Submitted by: Steve Paniri of CSA on June 10, 1993

Proposal: Add new Rules on Polyethylene Conduits as follows:

POLYETHYLENE CONDUITS

12-1180 Use Permitted. Medium-density and high-density polyethylene conduit and fittings shall be permitted only for installation underground, either direct buried in accordance with Rule 12-928 or laid with its entire length encased or embedded in at least 50 mm envelop of masonry or poured concrete.

12-1182 Other Requirements. Rules 12-1154, 12-1156, 12-1160, 12-1162, 12-1164 and 12-1166 shall apply.

Reasons for Request: Polyethylene (PE) conduit is being used by electric utilities for direct burial, using the boring technique and pulling conduit through the bore. This is an efficient installation method and the field experience has been good. However, PE conduit can also be encased in concrete though not extensively installed in this manner, except in short lengths. The material has no flame rating, and therefore it should be restricted to underground use.

The request for the above proposed rules stems from the need to recognize the installation of the product in non-utility application where the Rules of Part I apply.

CSA Electrical Bulletin specifying the product requirement was balloted by the CSA Technical Committee on Wiring Products. Other than editorial changes, members representing the electrical inspection authorities objected, and rightly so, to issuance of the bulletin unless the proper rules in Part I are in place, or at least are in process of being accepted.

Chair's Comments: I'm not going to support this proposal to recognize the use of polyethylene conduits in underground or concrete encased locations. My reason not to support this proposal is not because of the polyethylene conduit itself but because there are no fittings such as connectors and/or adaptors. I believe there is a coupling mode for this product to allow for joining. But how do we terminate this product to an outlet box or change to another conduit systems when it extends from the underground or concrete location?

Subcommittee Deliberation: I received thirteen replies from the Subcommittee members where ten members agreed with the Chair's comments and three members agreed with the submission.

The three members who agreed with the submission stated:

1. "Utilities must have found their way around the supply of connectors and adaptors long ago".
2. We should accept the proposal and then allow Part II to do their job to develop the proper fitting and adaptors.
3. This type of conduit has been used for mechanical protection of conductors in underground applications such as "wells, parking lot lighting poles and by utilities for site services."

My response to the above comments is that utilities utilize polyethylene conduits in certain applications such as street lighting. The difference between utilities and contractors is that utilities own, install, and maintain the installation. Therefore a utility will terminate the polyethylene conduit in an appropriate method that will satisfy their requirements. When a contractor completes an installation, there will be several ways or methods of adapting the polyethylene conduit to other conduits or terminating into pedestals, underground boxes, etc. This will place the electrical inspector in a position to decide what is acceptable.

Subcommittee Recommendation: Since there is no consensus on this subject, the recommendation would be to reject the proposal and close the subject.

Chair's Comments: At the 106th meeting of Part I, this Subject was returned to the Subcommittee. One of the reasons given was that Part I and Part II should be kept in synchronization. I think at this time it may be appropriate to close this subject due to the age of the proposal & to the fact that a Bulletin was not developed.

In the original proposal, it was stated that:

"CSA Electrical Bulletin specifying the product requirement was balloted by the CSA Technical Committee on Wiring Products. Other than editorial changes, members representing the electrical inspection authorities objected, and rightly so, to issuance of the bulletin unless the proper rules in Part 1 are in place, or at least are in process of being accepted."

Since there is no evidence that a Bulletin for PE conduit is being developed & that PE conduit is only certified for Cold Water Services (CSA Standard B137.1) & that there has been no request to CSA to certify this product for electrical installations, I see no reason to proceed with this proposal. Also, according to Appendix C7, there has been no "fact-finding report" completed for this product. Maybe, the CSA Technical Committee on Wiring Products or the manufacturer of this product (if still interested) may want to pursue this under an other submission.

Chair's Recommendation: That this Subject be closed.