Canadian Standards Association
Mississauga, Ontario
To the Part I Committee

Subject No. 3110 Chair: M.D. Gardener/S. Douglas Date: March 22, 2005

Title: Request for an Interpretation, Rule 12-906

Submitted by: Doug Badry of Norda Power & Controls Northern Ltd., 32 Blaker Place, Whitehorse, Yukon, (867) 668-4593 on February 18, 2003.

Proposal: Subject to Rule 12-906 would an approved EMT type connector alone meet the definition of "equivalent means" when used on conduits containing conductors smaller than #8?

Reasons for Request: Interpretation in dispute.

Supporting Information: Recently this rule has been interpreted to require a bushing or insulated throat on all EMT conduits regardless of size of conduit or the size of conductor in the conduit. This has not been the practice everywhere and there should be a consistent interpretation.

Chair's Comments:
The question as proposed contradicts itself as EMT connectors would not be used on conduit.

When interpreting a Rule in Part I we are required to follow Appendix C note C10.6; interpretations shall be based on the literal text and not the intent.

The question to determine if an EMT connector is an "equivalent means" to a "bushing" cannot be answered as an interpretation request of Rule 12-906. The question should be submitted to the Part II, C22.2 No. 18.3 committee.

Chair's Proposal:
Reject this proposal and close the subject.

Round one deliberation: Eight Subcommittee members replied, four agreed to close the subject, four disagreed.

1 I agree with the Chair the proposal should be rejected and subject closed as far as this section is concerned.

2 The Chair is going by the letter of the law and as it is Christmas time, may I suggest, in my humble opinion we should be more lenient with the submittor.
The question is that of a raceway rather than a conduit. wrong term used by submittor.

The question should be then "Does the EMT fitting meet the requirements of Subrule 12-906(1) WITHOUT ADDITIONAL protection?".
My answer is the fitting has a rounded edge with no abrasive parts and it does meet the intent in that it will not damage the conductors, so my answer is YES.

3 It should be tubing not conduit. The answer is yes the connector does meet the intent of the Rule.

4 I agree that we should be a little more lenient with the submitter and answer the question. My answer would be YES.

Clause 5.4 of C22.2 No. 18.3 states the following:
5.4 Throats and end stops for FITTINGS
5.4.1 General
5.4.1.1 Other than a COUPLING or LOCKNUT, a conduit FITTING shall be provided with a positive end stop for
the conduit and a smooth, rounded throat to protect against abrasion of insulation on conductors entering
the FITTING from the conduit. The throat shall be continuous around the circumference of the FITTING.

5 We have had a similar discussion in our province recently and based on intent for tubing, not conduit, we should answer this. My answer is YES.

Chair's Comment:

In the first round we did not achieve consensus as to our authority to answer the submitters question. To involve Part II, I sent the question to the C22.2 No. 18 subcommittee and received the following comments;

1) All EMT fittings (connectors) are required to have a smooth throat, which is intended to serve this "bushing" function. EMT fittings are also provided with an optional insulating throat liner in addition to the smooth throat formed in the metal EMT connector. Some jurisdictions require the use of the connectors with the insulated throat where 8 AWG or larger conductors are installed. However, the smooth throat formed in the metal connector literally meets the intent of Rule 12-906. Discrete products called Bushings and Insulating bushings addressed in CSA C22.2 No.18.3 are typically threaded and are for use with threaded rigid conduit.

2) I have checked with our electrical people and their response is as follows. They have no specific arguments against an EMT connector being considered an equivalent means to a bushing in so far as it protects conductors at ends of raceways. But an EMT connector is not an equal to a bushing.

3) I can also add to Tim's response by providing you with the words from C22.2 No. 18.3:

5.5 Throats and end stops for THREADLESS FITTINGS
5.5.1 CONNECTORS
5.5.1.1 Other than as specified in Clause 5.5.1.2, a threadless CONNECTOR for use with rigid metal conduit, intermediate metal conduit, or electrical metallic tubing shall have a smooth, rounded end stop with a throat diameter as specified for a BUSHING in Table 1.

Note: In Canada, intermediate metal conduit (IMC) is not recognized.

5.5.1.2 A threadless CONNECTOR for electrical metallic tubing in the 2-1/2 (63), 3 (78), 3-1/2 (91), and 4 (103) trade sizes shall have a smooth, rounded end stop with an internal diameter as specified in Table 7. See Clause 7.3.1.

Round Two Proposal:
With agreement from the submitter and at the risk of overstepping our authority I propose the following question;

Does an EMT connector without an insulated throat or bushing, meet the requirements of Subrule 12-906(1)?

Round two Deliberation: Eleven subcommittee members replied all agreed, two with the following comments:

1) Just for clarification we should use the wording "approved EMT connector".
2) We should use the word 'approved ' in the question as Shawn suggested.
   My answer is based on an approved connector being used.

Chair's Comment:
Appendix C – C12.13 considers the term "approved" redundant in this case, and therefore is not needed in the question.

Subcommittee Recommendation:

Question; Does an EMT connector without an insulated throat or bushing, meet the requirements of Subrule 12-906(1)?

Answer; Yes