



Canadian Standards Association
Mississauga, Ontario
To the Part I Committee

Subject No. 3227

Chair: T. Olechna

Date: April 5, 2005

Title: Condensation in Consumer's Service Raceways, Rule 6-312

Submitted by: Gary Gilbert of Electrical Safety Authority, Mississauga, Ontario on January 17, 2005.

Proposal: Modify the following subrule and add a new subrule:

6-312 Condensation in Consumer's Service Raceway

(1) Where condensation is likely to occur due to changes in temperature, where passing from the interior to the exterior of a building ~~The consumer's service raceway entering a building shall be sealed and shall be suitably drained where it enters the building above grade level~~

(2) Where moisture is likely to collect in raceway, consumer's service raceway shall be suitably drained.

Reasons for Request: This rule should be lined up with similar requirements as 6-300(3). Moisture forming due to condensation is a problem in many areas of the country. The main reason for condensation is where you have warm air escaping in the raceway and cold temperatures effects. If you seal the raceway you stop the air flow, and control condensation. This effect only involved raceways that pass from interior to the cold exterior. If moisture build up will collect then there should be extra requirements for drainage. The information coming from the local inspectors is that sealing is taking care of the condensation issue and moisture issue.

Supporting Information: No reports are coming back from existing installations prior to the 2002 Code changes taking affect where we have a moisture issue, and all we had was sealing, or draining.

Chair's Comments: (Second Round)

Based on the voting it is apparent that we have majority disagreeing with the proposal. A number of you made comment about the 1998 Code.

The following were comments concerning disagreeing

- When I have had a customer complaint of condensation in an existing service entrance it is corrected by using a sealing product. It works every time. I don't know of any problems with services that have been sealed.
- I was confused when I read this proposal as the verbiage is different from that in my code book and no change is shown in memo's 1 through 4. It appears to be an excerpt from the 1998 code. This rule was changed for the 2000 code.
I suggest the proposal be closed out as non-germane.
The submitter should submit a new proposal based on the current code.
I would point out though that the drain is vital as moisture enters the raceway during heavy rain and driving wind.. Moisture collecting in the bottom of a fitting and freezing can burst the fitting. Hence we MUST have drains for overhead services entering the building above grade level
- Moisture buildup from condensation is only one source of water in the conduit. If moisture enters the conduit due to other factors, such as water wicking in between the conductors and the jacket, or from wind blown rain, then this proposal would trap the water, as the means for draining is now deleted.
- I agree that the sealing of the service raceway should be done at the point where the raceway enters the building. The point of sealing will vary slightly depending on the type of service conduit installation.

The proposed subrule (2) leaves it open to interpretation as to when draining is required. The present subrule (2) in the code eliminates the possibility of moisture or water entering the service box from the service head.

Overall, I think the present rule covers the sealing and draining requirements adequately.

- I believe the proposal should be rejected as it is based on the 1998 Code. I agree with Mr. Dunsire's comments.
- -Agree with Dunc's comments.
-The actual Rule is direct, precise and without any interpretation.
-The Rule should stay as is.

One agreeing with the proposal with comments

- I would recommend that to clear up some of the confusion about condensation, as this is what this rule is about, in the proposed Subrule 2 the term moisture should state "moisture from condensation"
This rule does not address the ingress of moisture from other sources such as rain etc.
I would also recommend that this complete rule should be moved to as a Subrule in Rule 6-306 which is appropriately titled Consumer's service raceway.

I spoke to the submitter and it was not the intent to quote the 1998 rule but rather use those rules for clarification as they made sense. The intent was to include the rationale for condensation as the discussion is concentrating on moisture getting into the raceway, but the Rule subject is condensation. Once the exchange of cold and hot air is terminated then condensation is controlled. The submitter omitted underlining the complete first sentence, and I missed it in my assessment.

Therefore when making your comments please reflect on the subject and the topic, Any comments other than moisture from condensation will be considered as non germane. If the issue is other moisture then a proposal shall be made to correct this problem.

Therefore the proposal is to be modified slightly to clear things up

-The complete first sentence is to be added in Subrule 1(This is a clarification on what the initial intent was) (yes it does sound like 1998 words)

-A new Subrule 2 is to be added with the words “Moisture from condensation” and not just “moisture” (this is as per the original request

-The current Subrule 2 will become Subrule “3”

6-312 Condensation in Consumer’s Service Raceway

(1) Where condensation is likely to occur due to changes in temperature, where passing from the interior to the exterior of a building, the consumer’s service raceway entering a building shall be sealed, and shall be suitably drained where it enters the building above grade level

(2) Where moisture from condensation is likely to collect in raceway, consumer’s service raceway shall be suitably drained.

(3) ~~(2)~~ The consumer's service raceway shall not be terminated on top of the service box except where drained outdoors

Subcommittee recommendation: to accept the proposal as per the second round discussion.

The committee was in support of the second round proposal as it was identified that condensation is the issue and we must concentrate on that topic.

The committee voted in the following manner:

- 5 Agree
- 2 Agree with the Chair’s proposal with comment
- 1 Disagree with the Chair’s proposal for the reasons stated

Comments received

- The proposal separates the two requirements for sealing and draining as they relate to condensation. They will not be mandatory in all cases (depending on climate) as the present rule requires.

- I am accepting this revised proposal in recognition that we must revisit the subject as suggested by the chairman to deal with moisture from sources other than condensation.

Negative comment

Because we are in the final stretch before a new Code, we are writing non applicable Rules to meet the target date.

-What is the interpretation of "Where condensation is likely to occur"? And, the interpretation of "Where moisture from condensation is likely to collect"?

-This will differ not only from province to province but from inspector to inspector, and from contractor to contractor.

-Inspection Services will have to publish Bulletins to explain this proposed Rule.

-This is Canada with temperature changes year round. This problem surely exists everywhere.

-The actual Rule is direct, precise and without any interpretation. This has been in use in Quebec for years.

-The proposed Rule is similar in formulation as the 1994 Code : we are again turning back.

In dealing with the negative I submit the initial reason for requesting the change:

"The main reason for condensation is where you have warm air escaping in the raceway and cold temperatures effects. If you seal the raceway you stop the air flow, and control condensation" Therefore control the condensation with proper sealing, and you get rid of the problem.