Dear Mr. Emplit,

We are concerned that the 2017 National Electrical Code® revisions in Table 725.144 have effectively created a “new” class of communication cables for operating temperatures greater than 60°C with designated ampacity limits for powering, without consideration for the transmission characteristics related to the application usage.

At this time, no known IEEE 802.3 communications and/or power delivery have been specified for operation on data center or enterprise Ethernet based communications circuits at 90°C conductor temperature. IEEE 802.3 references TIA and ISO/IEC cabling functionally specified over the temperature range from -10°C to +60°C. Cabling transmission characteristics beyond 60°C are not specified, therefore 802.3 operation may not be supported. This is independent of whether the cabling itself may survive exposure to such temperatures.

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1 This document solely represents the views of the IEEE 802.3 Working Group, and does not necessarily represent a position of the IEEE, the IEEE Standards Association, or IEEE 802.
Table 725.144 in the 2017 National Electrical Code® revision may apply to communication cables carrying power and data with the implication of applicability to balanced twisted pair structured cabling. IEEE 802.3 would appreciate TIA TR-42’s assistance in addressing the implications of the 2017 National Electrical Code® revision.

Sincerely,

David Law
Chair, IEEE 802.3 Ethernet Working Group