



CSA B137 SERIES-17

vs.

CSA C22.2 NO. 327

What is the correct HDPE standard for medium and high voltage electrical applications in Canada?



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INTRODUCTION



PRIOR TO 2018, there was no official address of HDPE in the Canadian Electrical Code, nor a product designation for HDPE use for power in Canada. This information presented is to clarify what is acceptable by code standards today on HDPE and electrical applications and where standards have been misrepresented in the past.





THE SITUATION

The issue of not having a standard to address the use of HDPE in the electrical market in Canada saw the adoption of a standards that had recognition by CSA, namely B137 Series-17, however, in a completely incorrect application.

KEY FINDINGS

KEY FINDINGS #1

As electrical installations required a CSA listed product, some of the benefits of HDPE, like longer lengths instead of sticks, less connections, were attractive to specific applications and ended up finding their way into the marketplace. Up until 2018 when the standard was released, there have been numerous applications where it was deemed acceptable to use a product that had some designation, though not the right one.

KEY FINDINGS #2

CSA B137 Series -17 pipe is manufactured to a standard that addresses potable water, not electrical. It is designed to carry water, not cabling. It does not meet the current CSA C22.2 No. 327 ("HDPE conduit, conductors-in-conduit, and fittings").

KEY FINDINGS #3

Why not use any standard HDPE product for electrical? The simple answer is that it does not meet CSA C22.2 No. 327 and the guidelines which enable a manufacturer to produce to this standard for power applications. For example, if not following CSA C22.2 No 327, the quality of resin could be in question, where potentially a low quality regrind product could be in use which could lead to future problems. The rigorous testing required by the CSA standard ensures that products are up to electrical standards and qualifications that meet the CSA C22.2. Although HDPE pipes could look the same, if it does not carry a CSA designation for power, they are not acceptable.

CONCLUSION

As we move forward, we hope that this information presents some clarity in what is acceptable and what is not for HDPE in power applications. The good news is we are seeing municipalities, hydro's and transportation authority's adopting this standard into their own policies and practices. This will lead to widespread education and industry acceptance.

KEY TAKEAWAYS

- Not all HDPE products are created equal and have been designed for specific applications.
- CSA C22.2 327 is the correct and only HDPE standard specified for electrical applications in Canada.
- The CSA C22.2 No. 327 is also called up in the current Canada Electrical Code (CEC) (CSA C22.1).

