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The cost of testing for oil and gas pipe bends is going up, especially for destructive testing ("test bends").

Two new Canadian Standards Association (CSA) codes have just been published (August 2022), taking pipe bending out of **CSA Z245.11, Steel fittings** – *"As of this edition, induction bends and cold bends have been removed from this Standard, and are now covered in **CSA Z245.16** and **CSA Z245.17**, respectively."*

In these two codes, the destructive testing (test bend) requirements have increased, adding significant costs. As has long been the case, destructive testing must be done on every heat number for pipe used for bends for oil and gas pipeline systems, but more tests are now required for each test bend. For cold bends, this cost *increase* for each test bend could be in the range of \$300 to \$3,500, depending on the type of pipe (welded (ERW) or seamless (SMLS), sweet or sour service, low temperature service or not (Cat1 or Cat2), etc.), the pipe size, and if post-bend heat treatment is required. For induction bends, the cost increases are even greater. These are only the *increases* – i.e., over and above what test bends had cost prior to these changes.

There are also changes in the CSA codes for non-destructive examination (NDE) of production bends, also adding costs for all projects.

When buying pipe bends, ask your bending vendor if they are complying with these new codes. If they aren't, then the bends may not be in compliance with regulations governing oil and gas piping systems.

If you are buying polyethylene-coated pipe bends (Yellow Jacket / Ultrabond) and there are no areas on them where the coating has been removed for non-destructive examination of the underlying pipe (possibly patched after inspection), then the bends may not be in compliance with regulations governing oil and gas piping systems.

To be sure, review the project reports supplied to you by your bending vendor for the bending project and check for compliance.

If you deal with pipe bends for oil and gas and need more information or copies of these two new codes, they can be purchased from CSA's web site –

CSA Z245.17:22 Cold bends

This is the first edition of CSA Z245.17, Cold bends.

This Standard covers the requirements for factory-made steel induction bends intended to be used for transporting fluids as specified in CSA Z662 Oil and gas pipeline systems.

<https://www.csagroup.org/store/product/CSA%20Z245.17%3A22/>

CSA Z245.16:22 Induction bends

This is the first edition of CSA Z245.16, Induction bends.

This Standard covers the requirements for factory-made steel induction bends intended to be used for transporting fluids as specified in CSA Z662 Oil and gas pipeline systems.

<https://www.csagroup.org/store/product/CSA%20Z245.16%3A22/>