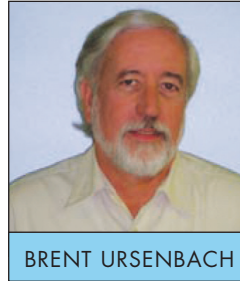


MECHANICAL CODE DISCUSSION

Code Compliant Materials



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I RECENTLY RECEIVED A QUESTION from an inspector regarding a gas piping material identified as gasFlex. The inspector was looking for direction on if this material was acceptable for gas line installations in a building. An HVAC contractor had completed an installation in a new home using this material. Following a review of the distributor's website, I found this is a PE/Alum/PE polyethylene tubing, consisting of two layers of polyethylene pipe with an aluminum core sandwiched between the two PE layers. The website's technical resources, USA Code section, simply states the system complies with NFPA 54 (National Fuel Gas Code) for "Fuel Gas Piping Systems Accepted materials." Do I accept this as approved, simply because the website claims it complies with a gas code?

NFPA 54, National Fuel Gas Code and the International Fuel Gas Code (IFGC) both contain virtually identical requirements for aluminum gas tubing. Quoting the 2018 IFGC:

403.5.4 Aluminum tubing.

Aluminum-alloy tubing shall comply with ASTM B210 or ASTM B241. Aluminum alloy tubing shall be coated to protect against external corrosion where it is in contact with masonry, plaster or insulation, or is subject to repeated wettings by such liquids as water, detergent or sewage. Aluminum-alloy tubing shall not be used in exterior locations or underground.

A review of the code and the

manufacturer's data shows:

- Aluminum used for gas must comply with ASTM B210 or B241. Claiming it complies is insufficient. Testing by a recognized testing agency must verify and list the specific tubing complies.



- The manufacturer claims the tubing may be used in exterior locations, underground and in concrete. The code specifically prohibited aluminum tubing in these locations.
- The manufacturer's installation instructions are incomplete. For nail protection, the instructions refer to any approved CSST providers nail/striker plate. A little bizarre – sounds like a Toyota manual referring to a Nissan service guide.

The manufacturer to date has not taken advantage of the code recognized approval process for new products, obtaining an ES Report (Evaluation Services) provided by ICC or other ES providers. FYI - An ICC-ES Report is a document that presents the findings, conclusions, and recommendations from a particular evaluation. ICC-ES Reports verify that new and innovative building products comply with code

requirements. ICC-ES Reports provide information about what code

requirements or acceptance criteria were used to evaluate a product, and how the product should be identified, installed and much more.

Please see:

<https://icc-es.org/evaluation-report-program/>

With further research, I found this product is

manufactured in China and only available on Amazon and Ebay. This is not implying foreign manufactured products may not be used, rather, these products must go through the code recognized approval process.

Considering my research, I could not recommend approval of the product. Maybe at some time in the future, the manufacturer or national distributor will obtain required approvals.

As I look back to 1972, my first year in the HVAC industry, I marvel at the advances in the industry. I'm certainly not opposed to new innovative products, if such products have obtained the approvals verifying compliance with the adopted codes. If you encounter a new product and wonder if it's acceptable, research the code, discuss with the code official, or feel free to contact me.

Best wishes for a wonderful Holiday season —Brent ■