Limits on thickness for tubes and cylindrical shells in the VSR standard

The VSR standard provides for different lower limits on the thickness of the walls of pipes and cylindrical shells. NextGen checks these limits on the basis of the criteria imposed by the standard, this article summarizes this process. .

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#Limits on thickness for tubes and cylindrical shells in the VSR standard

Chapters VSR.1.C and VSR.1.M contain information about the minimum thickness to be adopted for the walls, based on their material and use.

It is established whether the component can be considered a pipe, checking the following conditions:

- There are no openings on this component
- The "ligament efficiency" calculation is not active
- The external diameter of the component is less than 220mm
- The welding efficiency is equal to 1

> *Attention: the most commonly neglected criterion is that of unitary efficiency. This criterion derives from the passage of the standard which specifies that "z is the longitudinal welding efficiency module to be assumed equal to 1, with the required controls in Raccolta M"*

If the component meets all the conditions listed, it is treated as a pipe according to VSR.1.M.

It is then determined whether the tube is first or second class. The tube is considered first class if:

- It's an exchanger tube
- The outer diameter is less than or equal to 30mm

If the pipe is second-class or not seamless, then the criteria of chapters M are checked. If the pipe is first-class it is not necessary to check anything else.

Finally, if the above criteria are not respected, therefore the component cannot be considered a pipe, then the checks of chapters C are applied, treating the component as cylindrical shell even if this is used as a nozzle.