Technical Note PP 828-TN

Internal Fusion Bead Flow Resistance

For pressure piping applications, tests show that polyethylene pipe with internal fusion beads has a surface roughness of 7 x 10^{-5} feet, which corresponds to typical surface roughness values for the design of smooth pipes and to a Hazen-Williams C-factor for water at 60°F of 150. AWWA and Factory Mutual Research both recommend a C-factor of 150 for the design of polyethylene water pipe using the Hazen-Williams equation.

When these surface roughness or C-factor values are used in design, the effects of internal fusion beads are automatically factored into the results, and flow resistance due to internal fusion beads does not need to be considered separately.

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