



**Summary of Substantive Changes
Between the 2011 and 2017 editions of
ASTM F1281, “Crosslinked Polyethylene/Aluminum/Crosslinked Polyethylene
(PEX-AL-PEX) Pressure Pipe”**

Presented to the IAPMO Standards Review Committee on September 10, 2018

General: General: The changes to this standard should not have an impact on currently listed products. The substantive change is:

- Clarified that the Inner and Outer PEX layers are subject to the minimum thickness requirements (See Sections 6.2.3 and 9.2).

Section 6.2.3, Dimensions and Tolerances of Pipe: Clarified that the Inner and Outer PEX layers are subject to the thickness requirements consistently specified in Table 2, as follows.

6.2.3 Inner and Outer Crosslinked Polyethylene Layer Thicknesses — The thicknesses of the inner and outer layers of crosslinked polyethylene in the PEX-AL-PEX pipe shall have a minimum values and tolerance as specified in Table 2, except for the polyethylene material in the outer PEX layer overlaying the weld, which shall have a minimum thickness of half ~~that~~ those specified in Table 2. The polyethylene thicknesses shall be measured in accordance with 9.2.

9.2 Inner and Outer Crosslinked Polyethylene Layer Thicknesses

9.2.1 Sample Preparation — Cut the pipe with a sharp knife or other suitable cutter, ensuring that the pipe after cutting is not more than 10 % out-of-round.

9.2.2 Thickness Determination — Use a hand-held magnifying glass equipped with graduated reticule, or a laboratory microscope with graduated reticule. The reticule should measure to the nearest to 0.1 mm (0.004 in.). Determine the thickness of the inner and outer layers of crosslinked polyethylene (exclusive of the adhesive layer) at six points around the circumference. One of the points only should be at the aluminum weld.

Tables 1 thru 5: Editorially revised the tables to remove specific dimensions from the “Nominal Pipe Size” and corrected the DN values.

Table 1, Outside Diameters, Aluminum Thickness, and Tolerances for PEX-AL-PEX

Table 2, Wall Thickness for PEX-AL-PEX Composite Pipe

Table 3, Minimum Adhesive Force for PEX-AL-PEX Composite Pipe

Table 4, Minimum Pipe Ring Strengths and 23°C (73.4°F) Burst Pressure of PEX-AL-PEX Composite Pipe

Table 5, Minimum Sustained Pressure for PEX-AL-PEX Composite Pipe