



**Summary of Substantive Changes  
between the 2016 and 2021 editions of  
ASTM F1216 “Rehabilitation of Existing Pipelines and Conduits by the  
Inversion and Curing of a Resin-Impregnated Tube”**

**Presented to the IAPMO Standards Review Committee on September 12, 2022**

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

- Expanded the scope to include photoinitiated reaction in installation and curing (see Section 7.6.3)

Section 3, Terminology: The following definition was added.

**3.2 Definitions of Terms Specific to This Standard:**

.....

[3.2.4 photoinitiated reaction—The polymerization of a resin system initiated by light or other electromagnetic radiation.](#)

Section 7, Installation: Expanded the scope to include photoinitiated reaction in installation and curing as follows:

**7.6 Curing**

.....

[7.6.3 Using Photoinitiated Reaction—After inversion is completed, while the tube is expanded under pressure, a light curing assembly may be drawn through the pipe. Prior to initiating the curing process, the installer shall use closed circuit television \(CCTV\) camera\(s\) in coordination with or mounted on the light curing assembly to verify that the tube is properly positioned and fitted to the host pipe. Any anomalies shall be corrected prior to initiating the curing process.](#)

[7.6.3.1 The curing lights shall be tuned or optimized for the photoinitiated resin system; or conversely the photo initiators shall be optimized to the output of the curing lights.](#)

[7.6.3.2 Processing—Before the inversion begins, for dynamic curing processes the CIPP system manufacturer shall provide the rate of travel for the light assembly through the pipe for each installation length, or as required for each specific tube dimensions. The rate shall be optimized to initiate polymerization and facilitate the cure of the CIPP resin.](#)

[7.6.3.3 Curing Control—A full protocol shall be defined by the manufacturer and recorded and maintained as documentation verifying the curing process. Data collected may include time, rate of travel of the light curing assembly for dynamic curing processes, pressures, temperature in the tube and the power output of the light assembly.](#)

**7.6.4 Required Pressures—As required by the purchase agreement, the estimated maximum and minimum pressure required to hold the flexible tube tight against the existing conduit during the curing process should be provided by the seller and shall be increased to include consideration of the external ground water, if present. Once the cure has started and dimpling for laterals is completed, the required pressures should be maintained until the cure has been completed. ~~For water or steam, the~~ The pressure should be maintained within the estimated maximum and minimum pressure during the curing process. If the steam pressure or hydrostatic head drops below the recommended minimum during the cure, the CIPP should be inspected for lifts or delaminations and evaluated for its ability to fully meet the applicable requirements of 7.8 and Section 8.**