


ASK THE TAC

What causes pinholes and/or small bubbles in CIPP?

 Pinholes in CIPP can be caused by defects in the thermoplastic coating induced during manufacture or damage during transportation or installation. For example, if there is a pinhole every 19 inches along the length of the tube, that could have been caused by a burr or other rough surface on a 6-inch roller used during manufacture or wet-out.

Sometimes the CIPP thermoplastic coating may have blisters or small bubbles scattered randomly on the CIPP surface. This may be for a few feet, or it could be throughout the entire length of the CIPP. These small blisters may develop into pinholes. If the sewer is in groundwater, leaks through the pinholes can occur. This is typically the result of a steam cure CIPP installation where the exothermic heat generated during resin cure is not properly removed from the curing system.

CIPP thermoplastic coatings used for steam cure installations should be selected to withstand the steam temperatures used during cure, which

can be up to 240° F or more, depending on the steam pressure used. However, the exothermic temperatures caused by the chemical reaction of curing resin can reach well above 300° F. If this combined heat is not adequately removed from the system during cure, generally by ample amounts of air and steam flow through the system, coating damage can occur.

To repair a CIPP defect, it may be necessary to install a new CIPP inside an existing CIPP. This can significantly increase the risk of damaging the thermoplastic coating of the new CIPP. The existing CIPP, or any plastic host pipe, provides insulation around the new curing liner and may retard heat transfer into the host pipe and soil during cure, increasing the temperature of the thermoplastic coating. Special precautions may need to be taken during cure to prevent overheating. These include modified catalyst mixes and/or modified curing procedures and schedules. Another precaution in this situation is to use water cure.

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Have a technical question? Email NASSCO’s Technical Advisory Council
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