

TECH TIPS

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CARE AND FEEDING OF YOUR NEW CURED-IN-PLACE PIPE: INSPECTION

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Many system owners invest a great deal of time and effort in the development of procurement documentation, engineering specifications, quality controls and installation oversight in the rehabilitation of pipes using the Cured-in-Place Pipe (CIPP) process. Once the pipe has been rehabilitated, however, some assume that it's just like any other pipe, so they move onto the next project. Unfortunately, many times post-installation follow-up and routine inspection come as an afterthought. Sometimes it comes as an unexpected surprise which can result in a problem. To help head off such events, let's take a few minutes to talk about what the next steps are for taking care of your new CIPP.

Post-Installation Follow Up

With most CIPP materials in use today the standard warranty period is an average of one year from date of installation. Therefore, it is important that during the first year you check in on your new pipe and make sure things are still looking good. Usually a visual inspection should be sufficient to get a feel for how the liner is doing. I recommend that this post-inspection be performed in the 6- to 9-month window. During this follow-up inspection particular attention should be paid to the following items:

1. Overall physical appearance of the liner
 - a. Is the liner still the same shape? Has it sagged or ovalized? Are there unexpected bulges or voids? Are there any loose or delaminated areas? Any tears or fraying at the seams? Any lifting or swelling at the manhole interface?
 - b. Is there evidence of infiltration? Unusual discoloration?
2. Condition of secondary finishing details
 - a. Is the condition of grouting or end dressing good? Main/lateral connection seals still present and firmly attached? No hanging or caught debris at laterals or ends?

If something unexpected shows up during this inspection, get in touch with your installer right away and investigate the situation. Warranties are there for a reason, so make sure you check things out in a timely fashion.

Routine Inspections

Routine inspection and cleaning are a vital part of the maintenance of any piping system, and liners are no different, but the inspections do require an understanding of the liner composition. For example, one of the main benefits of modern composite liners is that their inner surfaces are very smooth and durable. This allows material in the pipe to flow smoothly and quickly down the line. This same property is also one of the archenemies of today's inspection camera operator.

With traditional pipes it typically doesn't matter what you do with your tractor, or what wheels you install. The accumulation of deposits on the slightly gritty pipe

surface made for tons of traction, and the coloration of the pipe made for high contrast visuals. Then they came along with these new-fangled dead smooth plastic pipes. Combine that pipe with a touch of grease and you can forget traction. The easy answer is to throw on some carbide wheels and go for it, but while this restores your traction it also creates a risk.

A lot of people don't think about the fact that we use carbide tools when we cut out laterals and the ends of these liners. We do this because carbide is one of the hardest substances on the planet, which means it stays sharp and can scratch/penetrate even the hardest of pipe materials. As it turns out, a carbide tractor wheel is essentially a more aggressive version of the same type of cutter head we use when cutting laterals.

So, what does this mean for our inspections? For normal driving in a pipe with heavy carbides we can expect some degree of scuffing or scratching. This kind of marking does not really impact the integrity or lifespan of a liner. The problem arises when a camera operator resorts to what is known as a "turn-and-burn" technique to overcome traction or debris problems. This technique involves letting the tractor try to grind its way through a pile of mud/debris or trying repeatedly to get it to climb over, under, around or through some sort of blockage. In these situations, heavy carbide wheels can grind completely through a liner in less than a minute.

Some techniques to help prevent this kind of damage include precleaning of the lines before inspection or the use of alternate wheels or tractor. Another very simple technique that can greatly reduce such issues is to simply have an assistant feed slack to the tractor. The inertia of today's very large cable drums and extended length cables can be surprisingly difficult when you figure that poor tractor is 600 feet away and dragging 600 feet of cable behind it. Some systems allow you to freewheel the drum as well.

Inspection is just the beginning to keep your CIPP in good working order. Please look for the next NASSCO Tech Tip which will discuss the importance of cleaning and maintenance of CIPP.