

## Pipe HeatWrap for Simplified Curing of PVC Connections

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Reference: PVC HeatWrap

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### Overview

Auburn University is seeking a licensee or development partner for a PVC Pipe HeatWrap. The solvents used to join PVC and CPVC pipes are temperature sensitive, resulting in longer setting times as the temperature drops. This increased setting time can become detrimental to the productivity and quality of plumbing work performed in winter conditions. Current methods to heat pipe joints are crude, labor intensive and ineffective. This non-toxic PVC Pipe HeatWrap is designed to hold commercially available heat packs in place around the PVC joint to raise the temperature of the PVC Pipe and decrease the amount of time and labor required for the solvent to set.

This technology has potential applications in the following economic sectors:

- Construction Industry
- Plumbing Industry



### Advantages

- Does not exceed temperature of commercially available heat packs, which typically heat up to 130°F, thereby not degrading pipe integrity
- Insulated Gore-tex material helps to raise the temperature of the pipe quickly and evenly, sustaining a high temperature for an extended period of time
- Once attached, the device is hands free, providing less labor and higher productivity on site
- Safer and easier to manage than open flames or hair dryers

### Description

Cold weather conditions challenge the construction process by creating problems for plumbers joining polyvinyl chloride (PVC) and chlorinated polyvinyl chloride (CPVC) piping. The main impact of cold temperatures on PVC pipe connections is that the cold weather increases the pipe's "initial set" time. Initial set time is defined as the amount of time the pipe joint adhesive solvent needs to dry, thus making the pipe joint stable enough for additional joints to be made without compromising the integrity of the previously completed joint. Existing measures used to heat PVC pipe connections include industrial hair dryers and propane torches, both of which are labor intensive, potentially hazardous and can present problems of uneven pipe heating and extreme heating temperatures, which are insufficient and degrade the integrity of the pipe. Performing a pipe connection with a HeatWrap will safely increase the temperature around the pipe and therefore decrease the setting time required by the adhesive solvents at the PVC joint, while maintaining the integrity of the pipe.

### Status

- A working prototype has been developed.
- A patent application has been filed.
- Proof-of-concept testing has been performed, demonstrating significantly raised PVC pipe temperatures using the HeatWrap.

### Licensing Opportunities

- This technology is available for exclusive or non-exclusive licensing
- Joint development opportunities include funded research or a joint venture

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