



## PRODUCT DATA SHEET

### Bluelight LED CIPP

## Bluelight™ LED CIPP

HammerHead's Bluelight LED CIPP system is a cured-in-place pipe lining used to rehabilitate non-pressure pipelines 3 to 10 inches in diameter without excavation. Rehabilitation with Bluelight CIPP eliminates infiltration, protects against future corrosion, and provides a structural repair to deteriorated or damaged existing pipelines as a less disruptive alternative to traditional dig and replace. The rehabilitation is made by installing a resin impregnated fabric tube which is inverted into an existing pipeline and expanded against the interior of the pipe during LED light cure. The finished CIPP is tight-fitting and continuous over its installed length with a smooth transition from the rehabilitation to the existing pipe.

### Applications for Use

The Bluelight LED CIPP system is certified by NSF International for compliance with NSF Standard 14, ASTM F1216, the International Plumbing Code, and the Uniform Plumbing Code to provide a watertight, structural repair to existing pipelines. This includes storm and sanitary sewers, drainage, vents, and other piping systems. Installed product is resistant to municipal sewage, acids and alkalis commonly found in drains, sewers, and vents. Bluelight LED CIPP solutions may be used to rehabilitate existing piping in straight sections, bends, offset joints, and pipe diameter or material transitions. HammerHead Trenchless provides detailed guidelines and instructions for use and makes training available in support of quality management.



DWV SEWER SE I.P. Code U.P. Code



International Plumbing Code



Uniform Plumbing Code

### Technical Data

Bluelight LED CIPP is an engineered composite consisting of a specialized textile tube and a proprietary thermoset resin system designed for installation in existing pipelines with damp or moisture filled surfaces. The specially formulated styrene-free resin cures with a specific spectrum of LED blue light up to 5 times faster than traditional curing methods, such as hot water, steam, or ambient air. The design of this CIPP takes into consideration hydrostatic, soil, and live loads in accordance with ASTM F1216, Appendix X1 when used to rehabilitate buried pipelines. Bluelight LED CIPP is resistant to municipal sewage, including the corrosive attack of thiobacillus bacteria and the acids and alkalis commonly found in drains and municipal sewers. It also meets the requirements of ASTM F1216 Appendix X2 for chemical resistance. Heat resistance properties of the installed CIPP are optimal for residential, municipal, and light industrial application environments conveying sanitary sewer waste streams.

### Structural Properties

The Bluelight LED CIPP system forms a watertight pipe that provides a structural repair with a tight fit throughout the length of the rehabilitated pipe. CIPP rehabilitation can be made in existing pipe of circular or oval cross section constructed of concrete, vitrified clay, PVC, asbestos cement, cast iron, ductile iron, and other constructions where the structural stability of the CIPP is not dependent upon its adhesion to the host pipe. Structural stability of the CIPP is achieved through compression during cure as the CIPP is expanded tightly against the walls of the existing pipe. At the same time the resin from the CIPP is



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compressed into joints, irregularities, and defects in the wall of the existing pipe effectively anchoring the CIPP in-place. The structural properties in the following table are met or exceeded when HammerHead installation guidelines are followed.

Property	Test Method	ASTM F1216 (minimum)
Flexural Modulus	ASTM D790	250,000 psi
Flexural Strength	ASTM D790	4,500 psi

Contact HammerHead Trenchless for long-term structural properties.

### Bluelight Resin System

Bluelight LED resin system is a single component, styrene-free vinyl ester resin. It is cured in the blue light wave range of approximately 450 nm by patented LED light sources. This resin offers superior mechanical properties chemical resistance, and adhesion under conditions typical for buried pipelines.

As a component of the Bluelight LED CIPP system, this resin is specifically formulated with excellent wet-out capability, low-odor, and no styrene for quick and easy pipeline rehabilitation.

### Bluelight Tube

HammerHead offers several options for tube that are selected based upon existing pipeline configuration and conditions affecting installation, such as length, bends, offsets, or diameter transitions. Contact HammerHead for recommendations.

	HH LED Liner	HH LED 3D Liner	HH FLEX LED Liner
<b>Nominal Thickness</b>	3.5 mm and 4.5 mm	3.5 mm	3.0 mm and 3.5 mm
<b>Diameter Range</b>	4 in. to 10 in. (100 mm to 250 mm)	4 in. (100 mm)	3 in. to 4 in. (75 mm to 100 mm)
<b>Material Type</b>	PE felt with TPU coating	PE felt with TPU coating	PE felt with TPU coating
<b>Bends</b>	Up to 45 deg	Up to 90 deg	Up to 90 deg
<b>Pipe Transition</b>	NA	4 in. to 6 in. (100 mm to 150 mm)	3 in. to 4 in. (75 mm to 100 mm) 4 in. to 6 in. (100 mm to 150 mm)

### Shelf Life and Storage

**Resin:** Three months when stored in original sealed packaging at 40-70°F (5-21°C) and less than 65% relative humidity.

**Tube:** One year when stored protected from light at 40-80°F (5-27°C) and less than 65% relative humidity.

**Resin Impregnated Tube:** Thirty days when stored in original packaging at 40 to 70°F (5-21°C).





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### Safety

Refer to the Safety Data Sheets for these products for safety and health information prior to use. Follow all notices on the Safety Data Sheets (SDS). If you do not understand or cannot adhere to the guidelines and procedures for handling and use of these products in strict accordance with the SDS, do not use these products. Contact HammerHead at 800-331-6653 for a copy of the SDS.

The information contained herein is offered without charge for use by technically qualified personnel at their discretion and risk. All statements, technical information and recommendations contained herein are based on test and data which we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and no warranty of any kind is made with respect thereto. Always read, understand, and comply with hazard warnings described in the products' Safety Data Sheet(s) before use.

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