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CIPP | Advantages, risks and potentials of LED curing

ABSTRACT

Bluelight is a LED curing CIPP system for laterals and small pipes. It works in a diameter-range between 100mm and 250mm (from 4 inch to 10 inch) with flexible liners and can perform diameter changes plus bends up to 90 degrees. Nonflexible GFRP liners can also be cured from 200mm up to 300mm.

The curing is performed by LEDs in the wavelength of the blue light (450 nm). The carrier is based on flexible felt with a PU coating or GFRP. The resin is based on a styrene free vinyl-ester backbone with a patented photo-initiator that reacts only in the wavelength of the light-heads.

In recent years, the Bluelight LED system technology developed by Danish Per Aarsleff A/S has become established in Germany, Switzerland and Scandinavia as a standard method for renovating pipe liners in connecting pipes. The system technology on offer consists of patent-protected curing technology and matching pipe liners which have been approved by the DIBT (German Civil Engineering Institute). In practice, this approach has proved itself to be simple, fast, clean, practically noise and odour-free and, most importantly, reliable right from the first moment of use.

What are the future development potentials of LED curing technology? Before discussing future potentials, it is first worth looking in detail at the principles that underpin this method. We shall also indicate the limitations of the technology and point out the risks of various combinations of liners and curing methods.