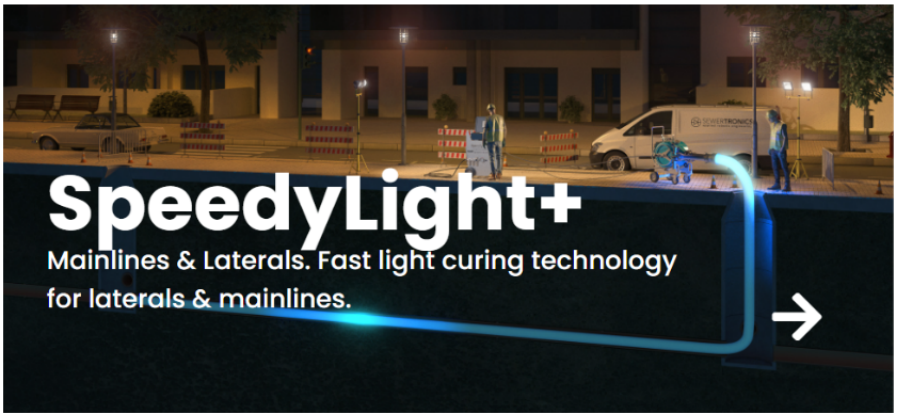
SEWERTRONICS
applied robotic engineering

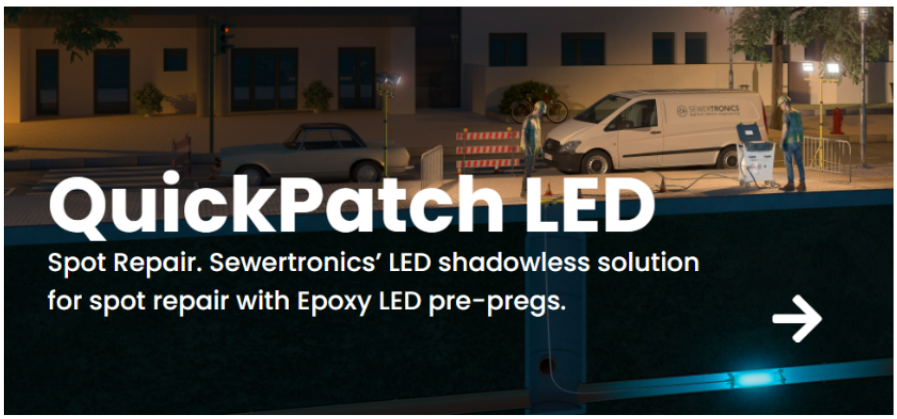
LED curing solutions for trenchless pipe renovation.

LED Curing product range

A wide portfolio of LED curing solutions for trenchless pipe renovation. Systems to renovate mainlines, laterals, in-house drains and sectional repairs in sewer pipes.

LED curing solutions for trenchless pipe renovation.





SpeedyLight+

UV LED CURING TECHNOLOGY

Laterals & Mainlines
From DN70 to DN600
For inversion liners and pull-in fiber-glass liners
Up to 100 m

SpeedyLight+ LED

Fast light curing technology for laterals & mainlines

The SpeedyLight+ LED curing system is a game changer in the sewer renovation market. Its revolutionary LED technology allows contractors to optimize their operations by increasing working efficiency at the job site up to six times. It is designed to cure felt liners, invertible glass-fiber liners and fibre-glass pull-in liners.

Working diameters start at DN70 and the system is capable of effectively curing liners up to DN600. SpeedyLight+ LED features interchangeable curing heads for better maintenance and system cost optimization. Due to the low power consumption of the of LED technology, a SpeedyLight+ LED system can be powered from standard 220V mains or from any standard electrical source.

Fast laterals curing

A 7 m long DN150 lateral can be cured in 7 minutes. SEWERTRONIC's SpeedyLight+ LED curing system enhances renovation productivity.

Mobile, portable

All-in-one design allows the curing system to deploy virtually anywhere. Control unit, power supply and cable reel are integrated in a single, portable package.

90° soft bend or 2x45°

SpeedyLight+ LED successfully negotiates 90° soft bend or 2x45°. Its semi-rigid hose ensures a convenient push of the head along the pipe.

In Horizontal. In Vertical

SpeedyLight+ LED system is designed to be used in both horizontal and vertical pipes. Most laterals are horizontal, although building rehabilitation frequently involve vertical piping.

Green Technology

SpeedyLight+ LED protects our Environment by using less power and less energy to cure.

Integrated CCTV camera

Curing head with embedded camera delivering 150° field of view for a crisp image of the pipe.

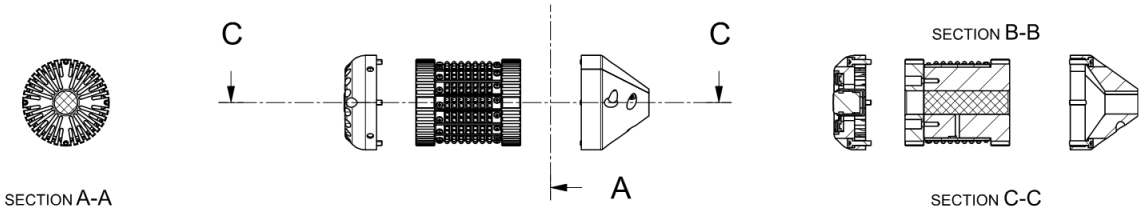
SpectraLight

A curing head for each application.

Sewertronics' is based on a static monolithic design (patent granted) that overcomes the need to force air along the interior of the curing head to stabilize LED working temperature. SpectraLight family of curing heads follow this patented design where its housing, with optimized thermal conductive properties and cooling fins, exchanges heat with the air traveling outside the core. This air is also used to pressurize the liner during inversion and curing process.

The family comprises 4 different heads, from an extra-small one up to a triple head, extending the range of application of the SpeedyLight+ curing systems up to DN600 in UV fibre-glass liners.

SpectraLight design and cooling concept patented.



4 different heads for a wide range of diameters and type of liner.

FAST LED light curing

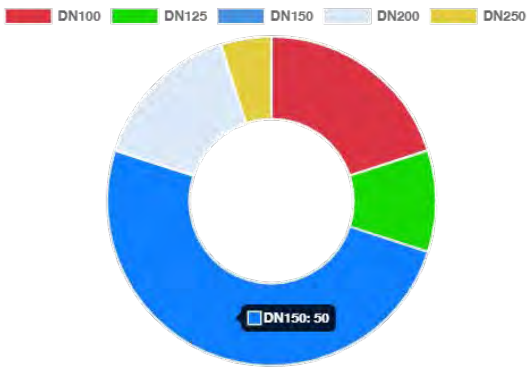
The technology embedded in the SpeedyLight+ LED systems allows contractors to cure impregnated liner at a speeds up to 1,2 m/min, reducing the average time at the job site and increasing the average number of jobs per day. With shot lengths of 7-8 m, SpeedyLight+ LED can cure up to 5 times faster than traditional technologies.

The larger the pipe section to cure, the slower the curing speed will be. Some physics are involved in this variation of speed: the larger the diameter and the wider the surface of liner to be cured, the lower the energy (power) density delivered to the internal surface of the pipe.

LED output power, rotative or fixed beam and other parameters like liner thickness and type of polyester needled felt or woven fiber-glass have influence on the optimal curing speed.

Laterals range

In the lateral rehabilitation market, the most common diameter is DN150 (50%), followed by DN100 (20%) and DN200 (15%). The fewest number of renovations are performed in laterals with diameters of DN125 (10%) and DN250 (5%).

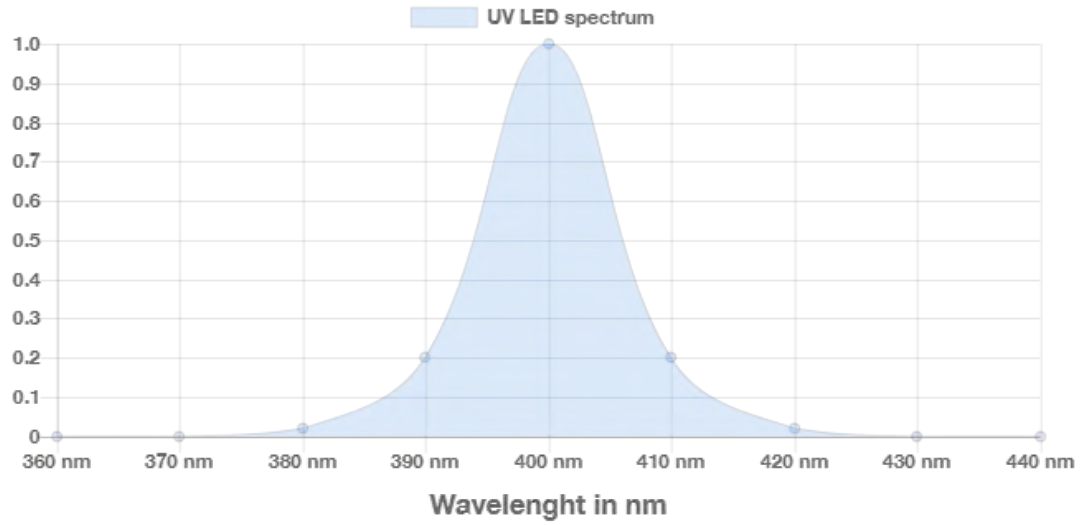


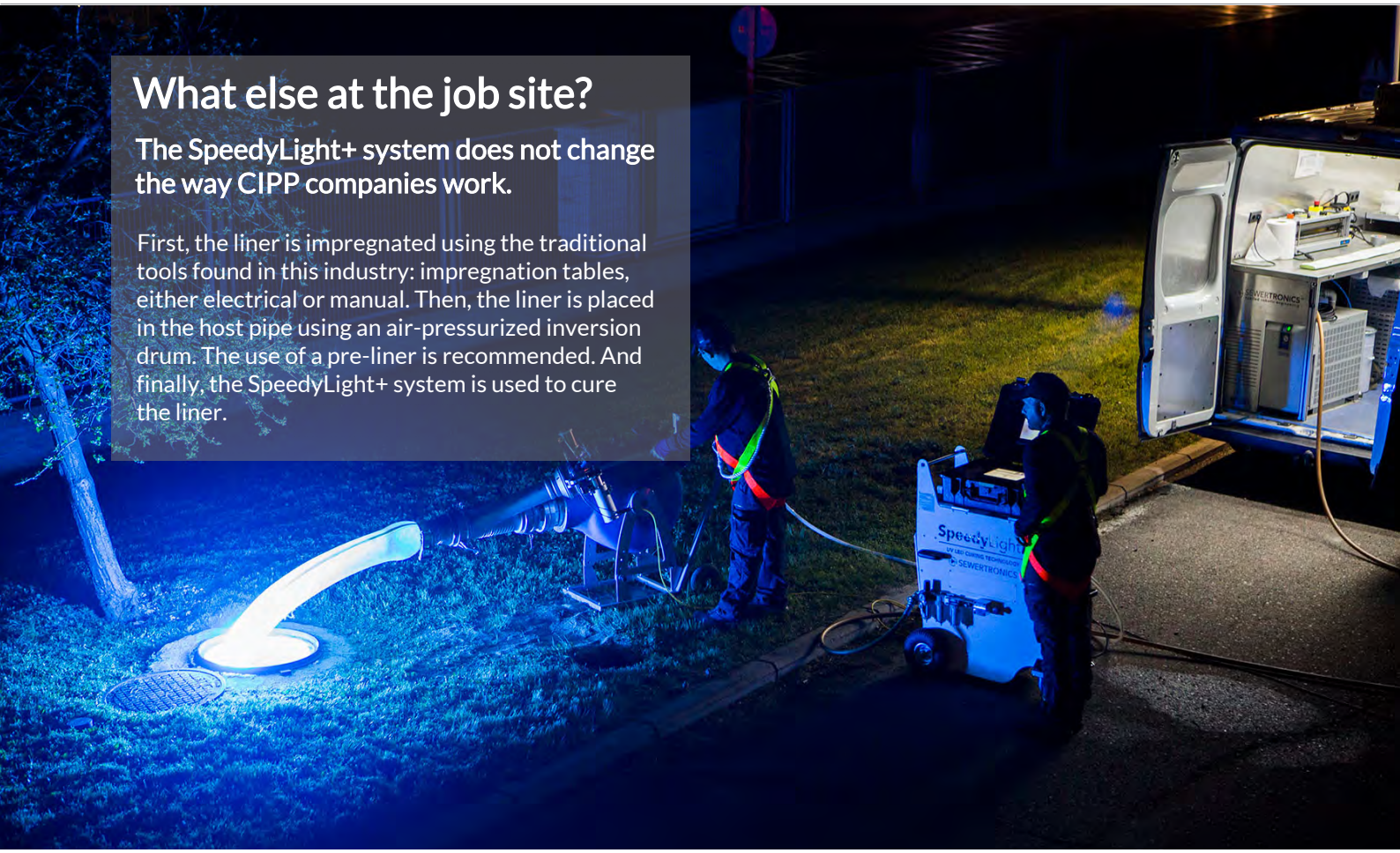
All in-one

The SpeedyLight+ LED system has been specifically designed to be light and compact. Its design delivers a smart package than can be easily transported. The total weight of the unit (including power supply) is just over 100 kg, and has built-in mobility wheels.

LED Curing

A high-powered LED array irradiates the impregnated liner, initiating an exothermic reaction thet cures the entire thickness of the carrier resin. The wavelength (400nm) of the LEDs ensures energy is efficiently used to cure the liner. The LED components integrated in the SpeedyLight+ LED system are lead-free and comply with RoHS legislation.





What else at the job site?

The SpeedyLight+ system does not change the way CIPP companies work.

First, the liner is impregnated using the traditional tools found in this industry: impregnation tables, either electrical or manual. Then, the liner is placed in the host pipe using an air-pressurized inversion drum. The use of a pre-liner is recommended. And finally, the SpeedyLight+ system is used to cure the liner.

90 - degree bends

SpeedyLight offers a family of three different LED curing heads: XS head suitable for diameters 70 mm - 150 mm and capable of managing 90° bends starting at 100 mm, S head suitable for diameters 100 mm - 200 mm and capable of managing 90° bends starting at 160 mm and L head suitable for diameters 100 mm - 400 mm and capable of managing 90° bends starting at 200 mm. Different curing heads for all different needs.

Green Technology

SpeedyLight+ LED technology contribute to saving our environment. It uses less energy to cure every metre of liner, as well as it uses resin that is styrene and amine free. Light technology helps the industry to protect our Environment in various ways.

Open-end Rehabilitation

The rehabilitation can be done from one end of the pipe.

It is also possible to work with an open-end liner. In situations where the second manhole is not accessible, the rehabilitation can be done from one end of the pipe using a dedicated transparent hose. Being transparent is essential so that the UV radiation is not blocked by the hose.

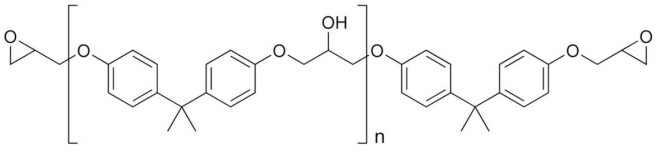
Integrated CCTV camera.

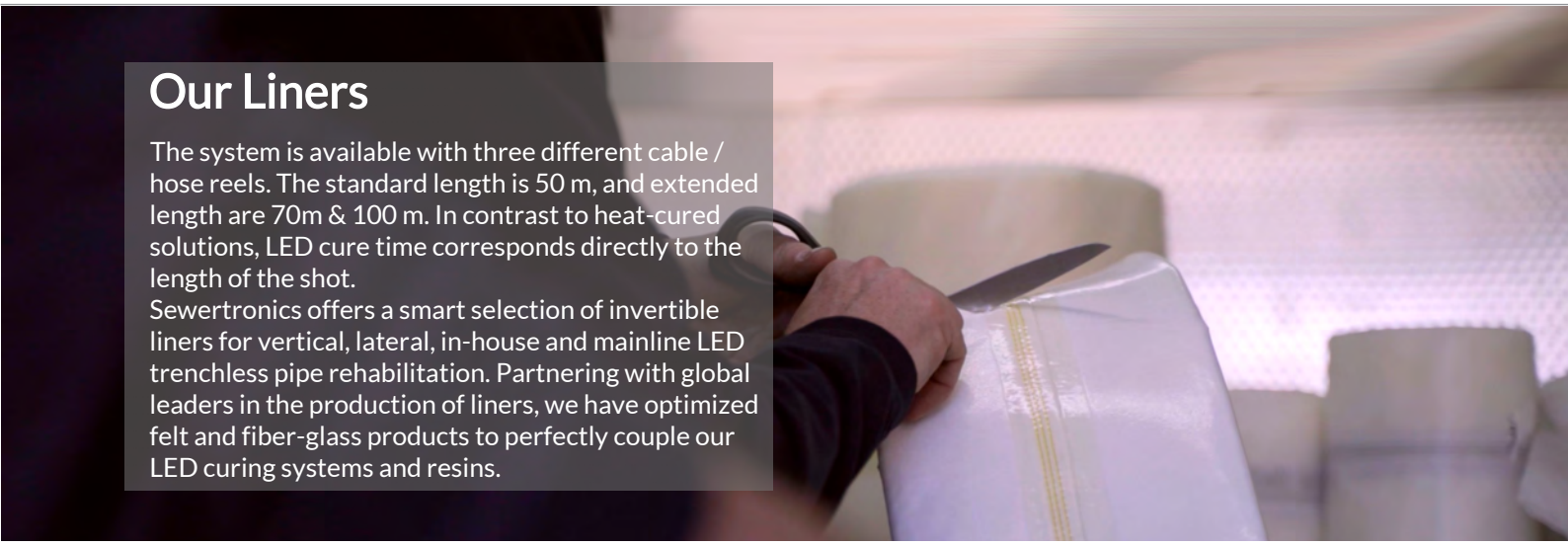
CCD camera combines a large aperture lens.

The curing head's CCD camera combines a large aperture lens, 150-degree field of view and a 3000 mW LED ring to deliver a bright, sharp image. The main purposes of the camera is to support the curing process and is not designed to replace the CCTV inspection system.

Sewertronics' epoxy LED resin

Sewertronics' epoxy LED family of resins have been specifically designed to work in combination with SpeedyLight+, SpeedyLight VX and QuickPatch LED curing devices. Those hybrid epoxy based binder, free from volatile solvents, ensures a proper polymerization yet delivering a high degree of bonding and adhesiveness. From a mechanical perspective, Young modulus and first breaking strength exceeds the industry standards allowing to cure liners of 3.0 to 4.5 mm under any load hypothesis and hose pipe stage. Guidelines and recommendation from EN ISO 11296-4 and DWA 144-3 have been followe

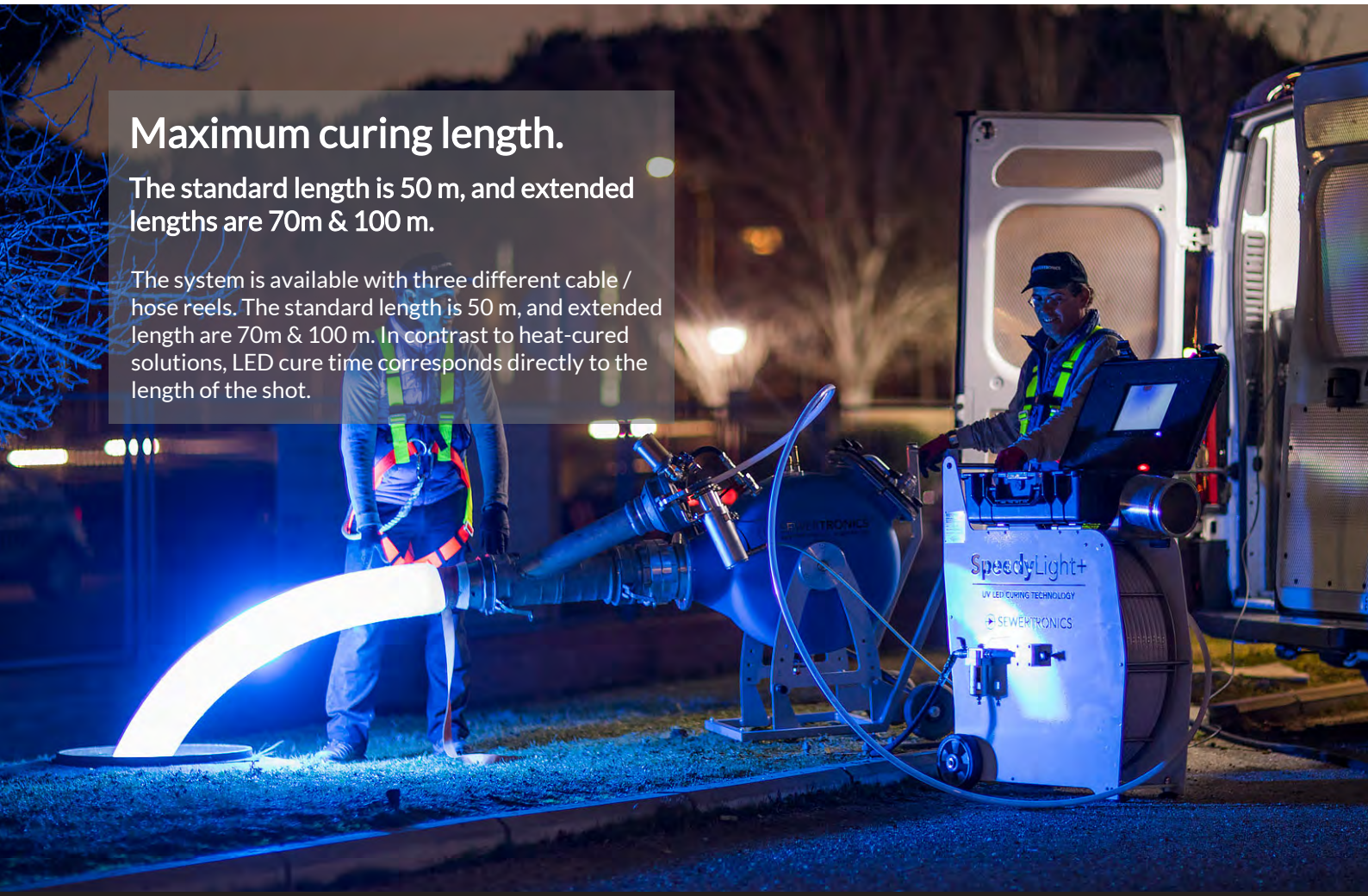




Our Liners

The system is available with three different cable / hose reels. The standard length is 50 m, and extended length are 70m & 100 m. In contrast to heat-cured solutions, LED cure time corresponds directly to the length of the shot.
Sewertronics offers a smart selection of invertible liners for vertical, lateral, in-house and mainline LED trenchless pipe rehabilitation. Partnering with global leaders in the production of liners, we have optimized felt and fiber-glass products to perfectly couple our LED curing systems and resins.

From felt liners -needled and seamless knitted- to Fiber-glass seamless liners. Our quality felt liners curve, stretch and accommodate up to 90° bends, and are specifically developed for optimal results in a wide range of applications and pipe configurations. Extremely flexible tubes, ideal for use on multiple bends up to 90° with minimal wrinkling. Liners available in diameters from DN70 to DN400 and different thicknesses.



Maximum curing length.

The standard length is 50 m, and extended lengths are 70m & 100 m.

The system is available with three different cable / hose reels. The standard length is 50 m, and extended length are 70m & 100 m. In contrast to heat-cured solutions, LED cure time corresponds directly to the length of the shot.

SpeedyLight VX

LED CURING TECHNOLOGY

Verticals & House-Connections
From DN70 to DN150
For inversion liners
Up to 25 m

SpeedyLight VX LED

A curing system for verticals & in-house with LED epoxy resin.

The SpeedyLight VX LED curing system is designed for in-house and vertical no-dig rehabilitation applications. Its revolutionary LED technology, bundled with Sewertronics LED epoxy resin, allows CIPP contractors to optimize their curing times by avoiding downtimes associated to ambient curing resins. Working diameters start at DN70 and the system is capable of curing liners up to DN150.

SpeedyLight VX LED features a 25 m hose on a very compact and portable frame. In combination with Sewertronics epoxy resin, SpeedyLight VX delivers quality repairs, including a hi-degree of host pipe bonding and adhesiveness.

SpeedyLight VX LED

A curing system for verticals & in-house with LED epoxy resin.

Fast light curing

The SEWERTRONIC's SpeedyLight VX LED system drastically reduces curing times in vertical and house connections rehabilitation.

Designed for buildings

All-in-one design allows the curing system to deploy virtually anywhere. Control unit, power supply and cable reel are integrated in a single, portable package.

90º bends

SpeedyLight VX LED successfully negotiates 90º bends in DN100. It's semi-rigid hose ensures a convenient push of the head along the pipe.

Verticals & house connections

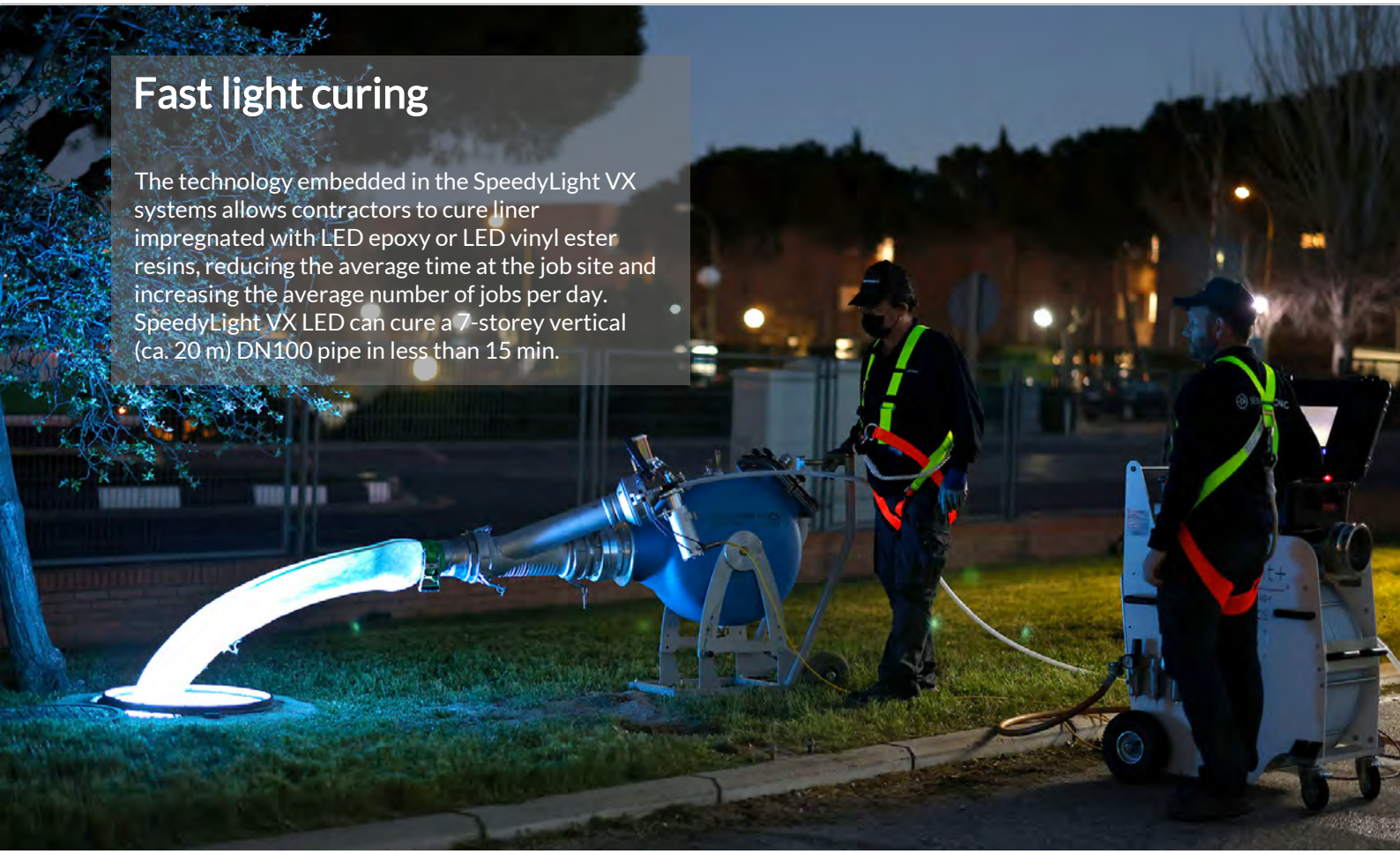
SpeedyLight VX LED system is designed to be used in both horizontal and vertical pipes. Most laterals are horizontal, although building rehabilitation frequently involve vertical piping.

Green Technology

SpeedyLight VX LED protects our Environment by using less power and less energy to cure.

Integrated CCTV camera

The curing head has a camera whose large aperture and 150º field of view deliver a crisp image of the pipe.



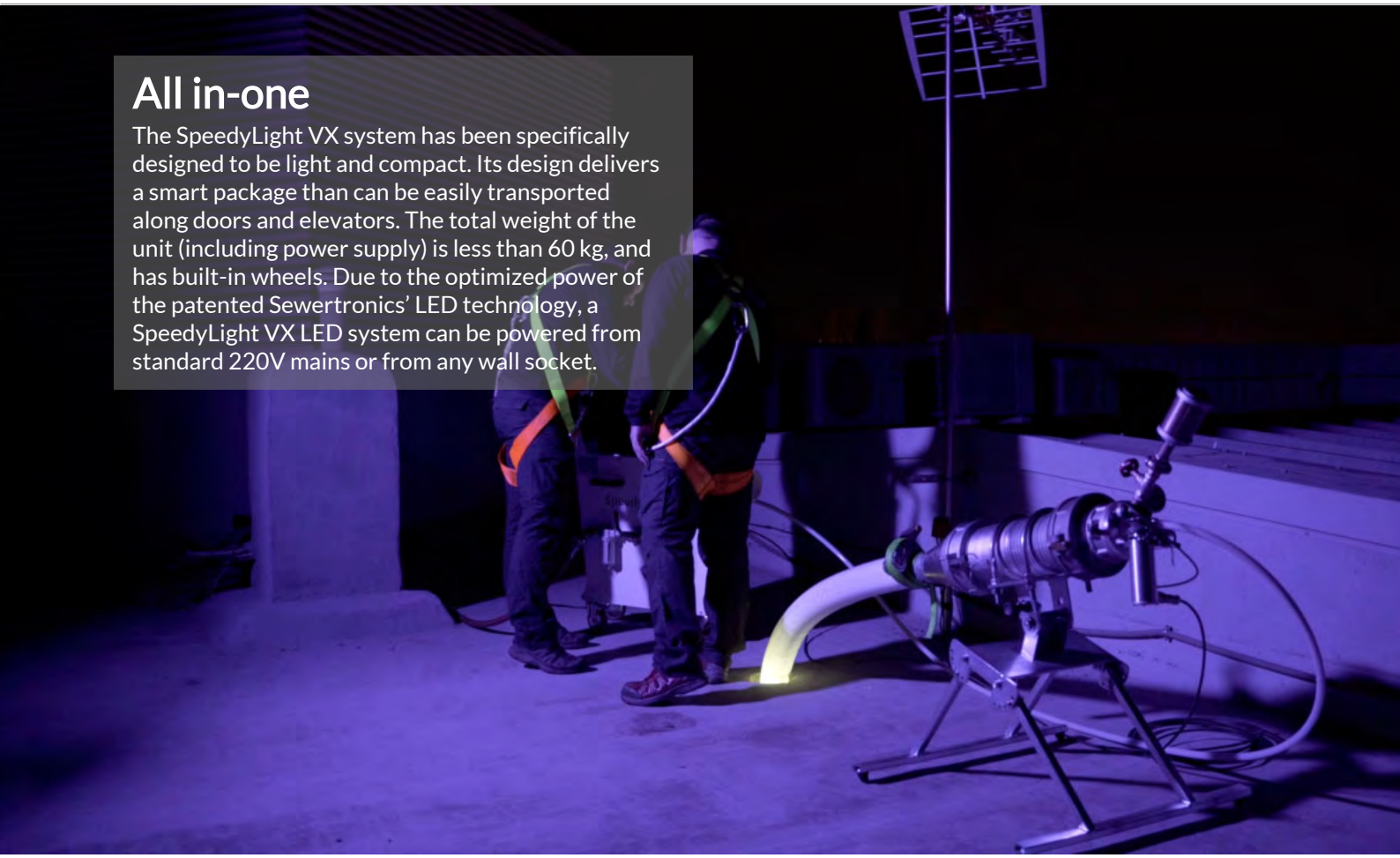
Fast light curing

The technology embedded in the SpeedyLight VX systems allows contractors to cure liner impregnated with LED epoxy or LED vinyl ester resins, reducing the average time at the job site and increasing the average number of jobs per day. SpeedyLight VX LED can cure a 7-storey vertical (ca. 20 m) DN100 pipe in less than 15 min.

Integrated CCTV camera

CCD camera combines a large aperture lens

The curing head's CCD camera combines a large aperture lens, 150-degree field of view and a 3000 mW LED ring to deliver a bright, sharp image. The main purposes of the camera is to support the curing process and is not designed to replace the CCTV inspection system.

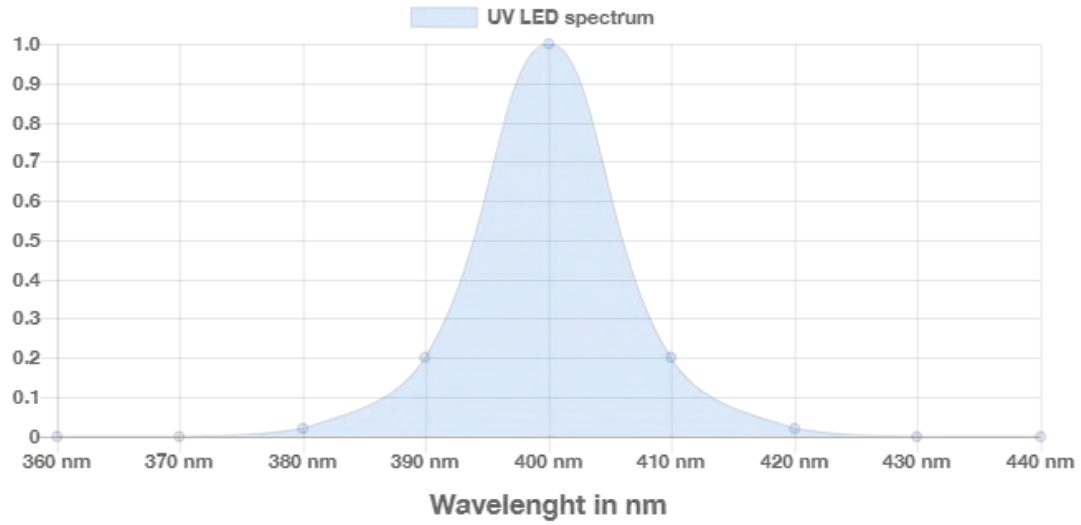


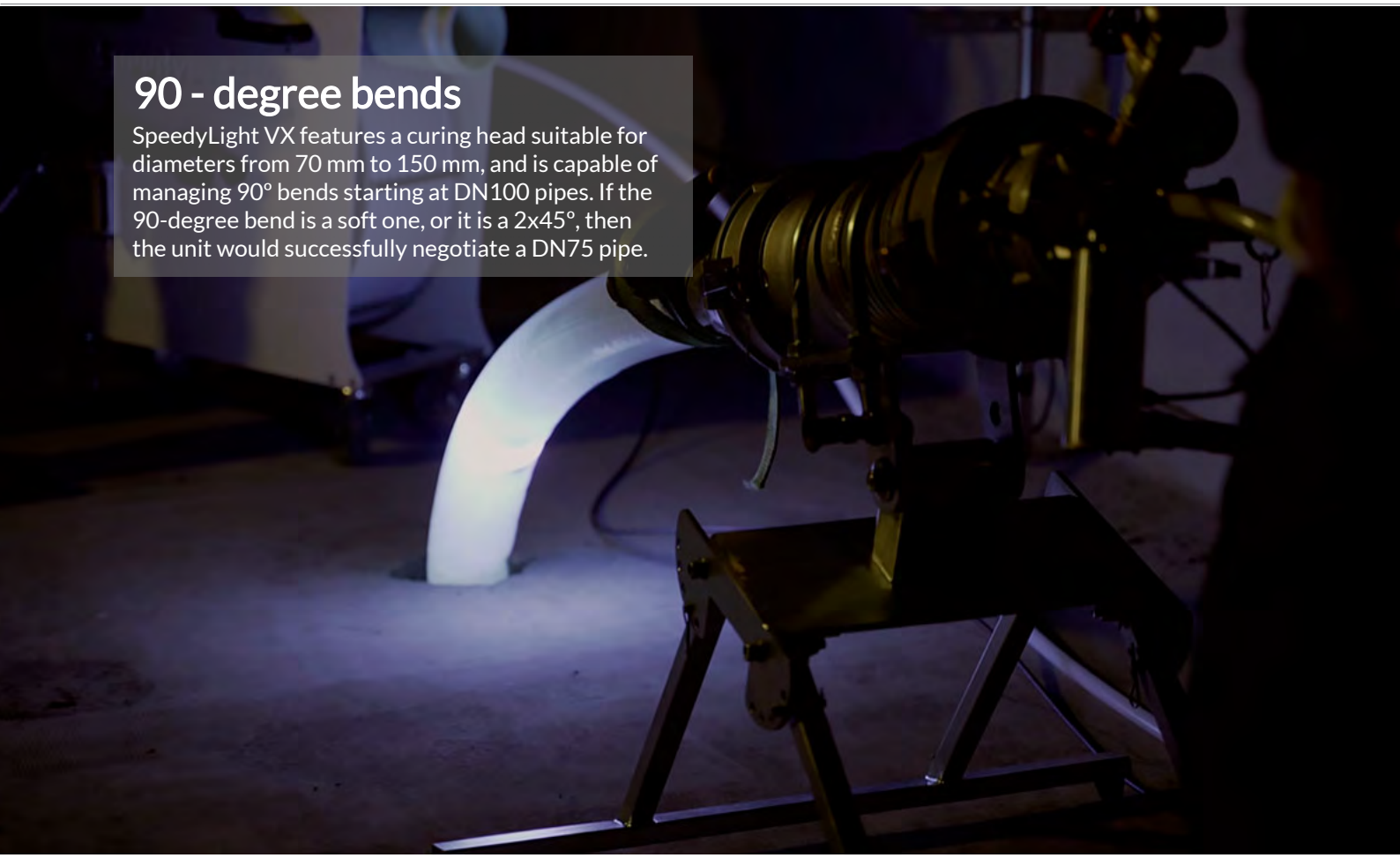
All in-one

The SpeedyLight VX system has been specifically designed to be light and compact. Its design delivers a smart package than can be easily transported along doors and elevators. The total weight of the unit (including power supply) is less than 60 kg, and has built-in wheels. Due to the optimized power of the patented Sewertronics' LED technology, a SpeedyLight VX LED system can be powered from standard 220V mains or from any wall socket.

LED Curing

A high-powered LED array irradiates the impregnated liner, initiating an exothermic reaction thet cures the entire thickness of the carrier resin. The wavelength (400nm) of the LEDs ensures energy is efficiently used to cure the liner. The LED components integrated in the SpeedyLight VX LED system are lead-free and comply with RoHS legislation.





90 - degree bends

SpeedyLight VX features a curing head suitable for diameters from 70 mm to 150 mm, and is capable of managing 90º bends starting at DN100 pipes. If the 90-degree bend is a soft one, or it is a 2x45º, then the unit would successfully negotiate a DN75 pipe.

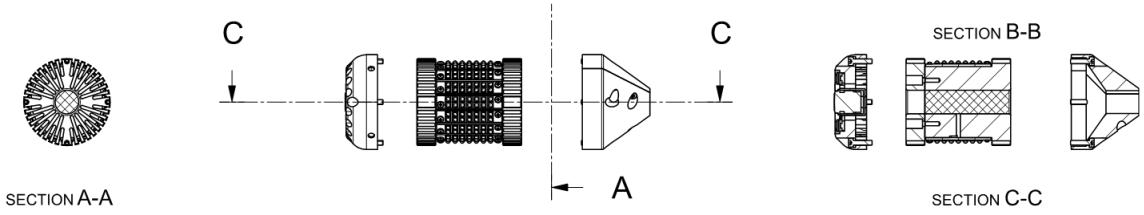
SpectraLight curing head

Sewertronics' SpectraLight curing head is based on a static monolithic design (patent granted) that overcomes the need to force air along the interior of the curing head to stabilize LED working temperature.

SpectraLight family of curing heads follow this patented design where its housing, with optimized thermal conductive properties and cooling fins, exchanges heat with the air traveling outside the core. This air is also used to pressurize the liner during inversion and curing process.

This head is 40 mm in diameter and allow to negotiate DN100 bends.

SpectraLight patented design and cooling concept



Green Technology

SpeedyLight VX LED technology contribute to saving our environment. It uses less energy to cure every metre of liner, as well as it uses resin that is styrene and amine free. Light technology helps the industry to protect our Environment in various ways.

Verticals & house connections

The SpeedyLight VX LED system is designed to be used in both horizontal house connections and vertical pipes. It presents a perfect combination of compactness, agility and size to perfectly fit into difficult-to-reach areas.

LEDRig

UV LED CURING TECHNOLOGY

Mainlines & Laterals
From DN150 to DN600
For pull-in glass-fibre liners
Cable length 200 m

UV LED Advantages

Smart and efficient UV LED light radiation modules

Hi-efficiency LED modules take the best from every W of energy, limiting unproductive heat and minimizing the size of the power supply unit required, while simplifying your ancillary equipment on site.

LED ON, LED OFF. No ignition spacing.

No wasted time on lamps ignition spacing. Classic UV lamp solutions are forced to set sequential start-up due to the large amount of power drawn (peak) at lamp ignition. All LEDRIG modules are turned ON at the very same time, saving precious time on every job.

Switch LED off & head back home.

UV LED modules do not reach dangerous working temperatures. As soon as you are done with your curing job, you are ready to take the unit off the manhole and go back home. Another time saving factor to become more effective in the field. Cure more liners in a simpler and lighter way.

LED Curing is efficient

No ignition spacing

Optimized curing speeds

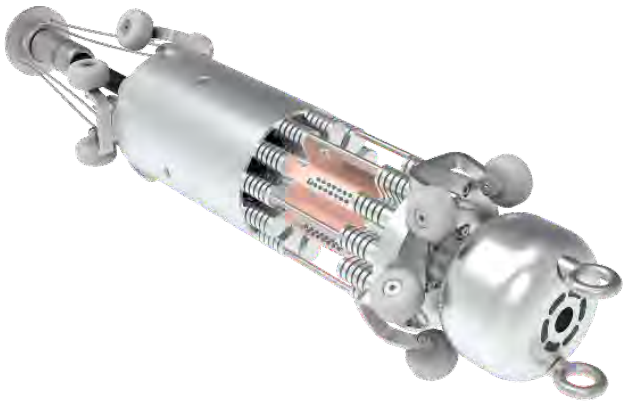
No injury risk due to hot parts

Does not require a large generator

Save time at the job site

UV LED curing from DN150 to DN600

The LEDRig system is a glass fibre curing solution for diameters ranging from DN150 to DN600. The high efficiency of UV LED technology means that electricity consumption can be reduced, while the equipment can be more portable and easier to use. Its modular design allows to implement different number of UV LED modules to adapt the unit to the diameter of the pipe.



LEDRig has a 200 m long umbilical cable mounted on a reel fitted with wheels so that it can be transported to the work site. A compact control unit integrated in the cable reel supplies power to the eight UV LED modules that make up a compact array. LEDRig is suitable for application in diameters ranging from DN150 to DN600.

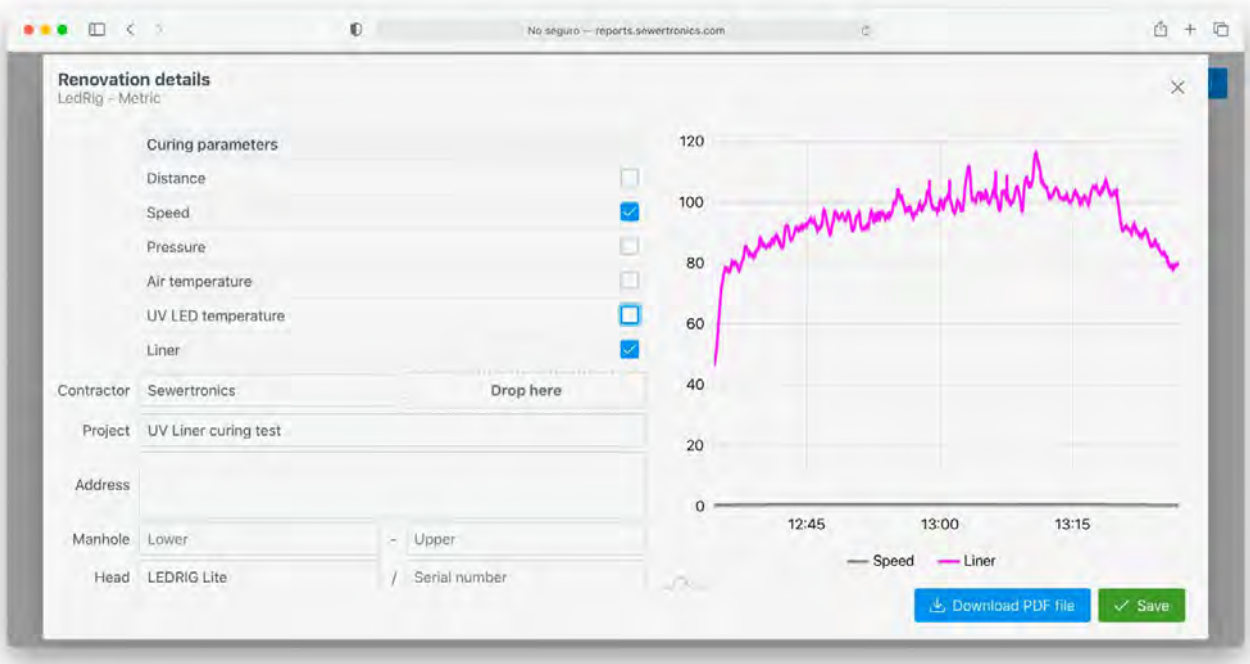
Modular design

The LEDRig UV LED modules are designed to be interconnected independently: the unit can control from 4 single modules up to 8 modules, including a front and rear camera modules.

On-Line reporting

LEDRig units record & store the main data from every curing job. Our online reporting feature, easy accessible via PC or handheld device with an internet connection, is a web based system that produces an instant reports that can be adopted and personalized to your needs, that includes: name of the contractor, client, project name, address, time & hour, curing time, LED head, start-finish manholes and contractor/client logo. Curing parameters can be all combined into a single report or addressed individually - air pressure, air temperature, LED temperature, curing speed, distance etc.

The right side of the screen displays a preview of the report. The left side displays a number of settings and all curing parameters to choose from. The final output report is a pdf file that can then be sent to your client or just saved for your own company records.

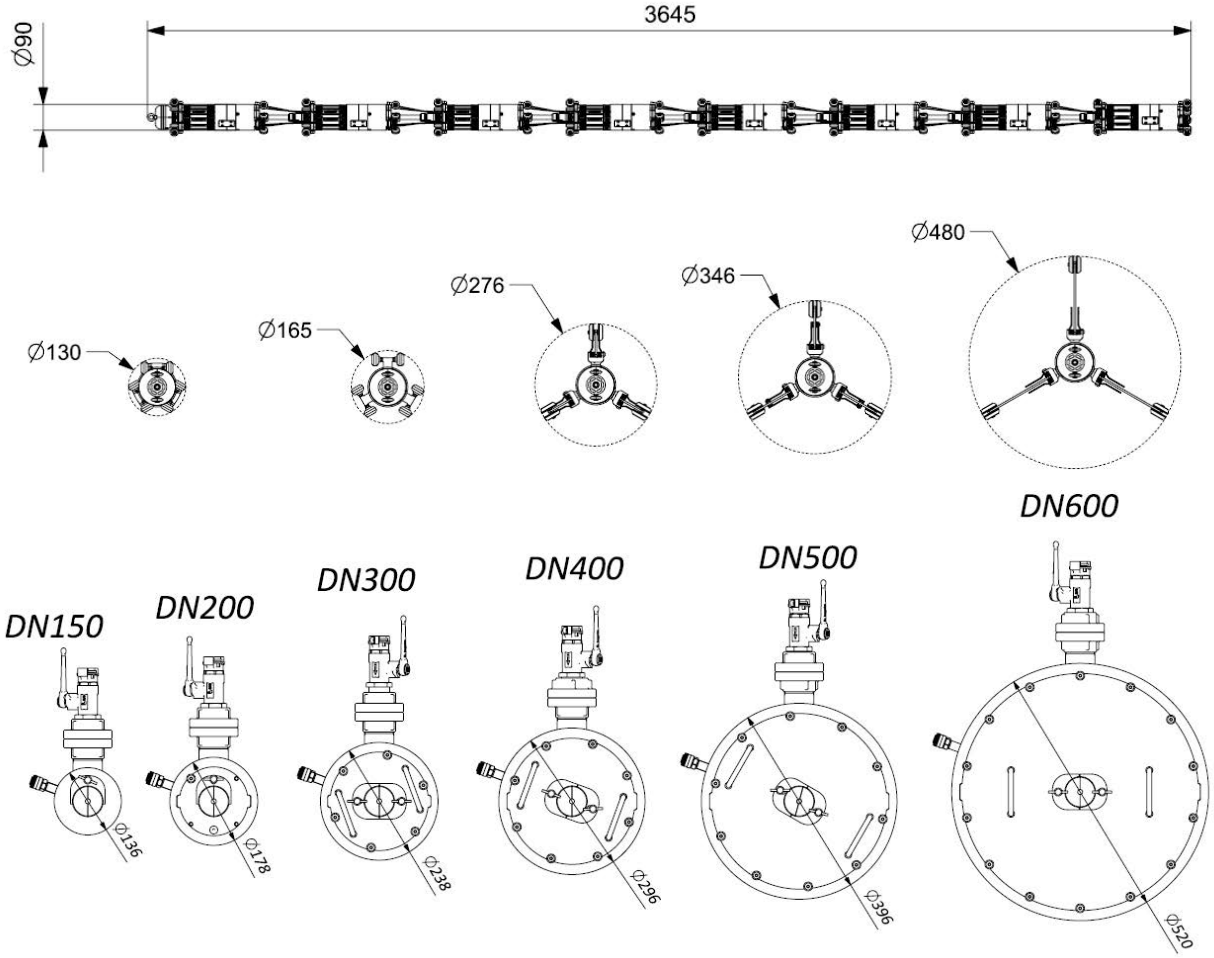


Curing speeds

The LEDRig curing system is designed to be versatile and the same time offer optimal curing speeds for its size and weight. These speeds will depend on the liner diameter and thickness. All these values are provided as a guide and may vary significantly depending on the type of liner and other conditions on the job site.

Patented cooling design

LEDRig features a patented design for the cooling of the LED curing modules. A set of especially designed lobes and fins to dissipate the heat produced by the LED. The number, dimensions and shape of these lobes have been studied to ensure optimal transfer of energy to air in the conduction. This is normally done by compressor which also provides with the necessary pressure to elevate the liner to its correct position before curing.



QuickPatch LED

SECTIONAL REPAIR LED CURING

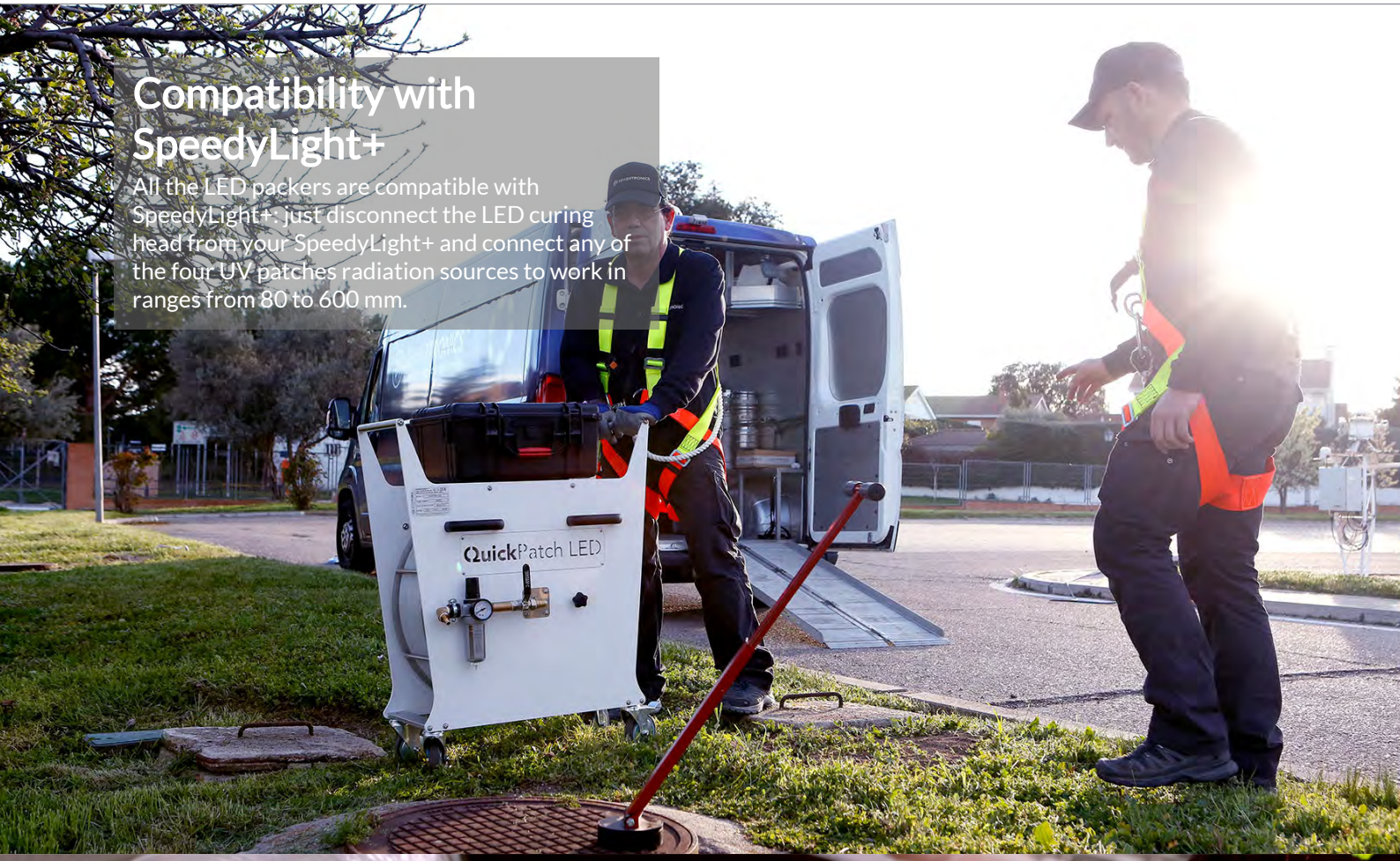
LED curing patch repair
From DN80 to DN600
Epoxy pre-pregs
Shadowless technology

QuickPatch LED

Sewertronics' LED shadowless solution for patch repair

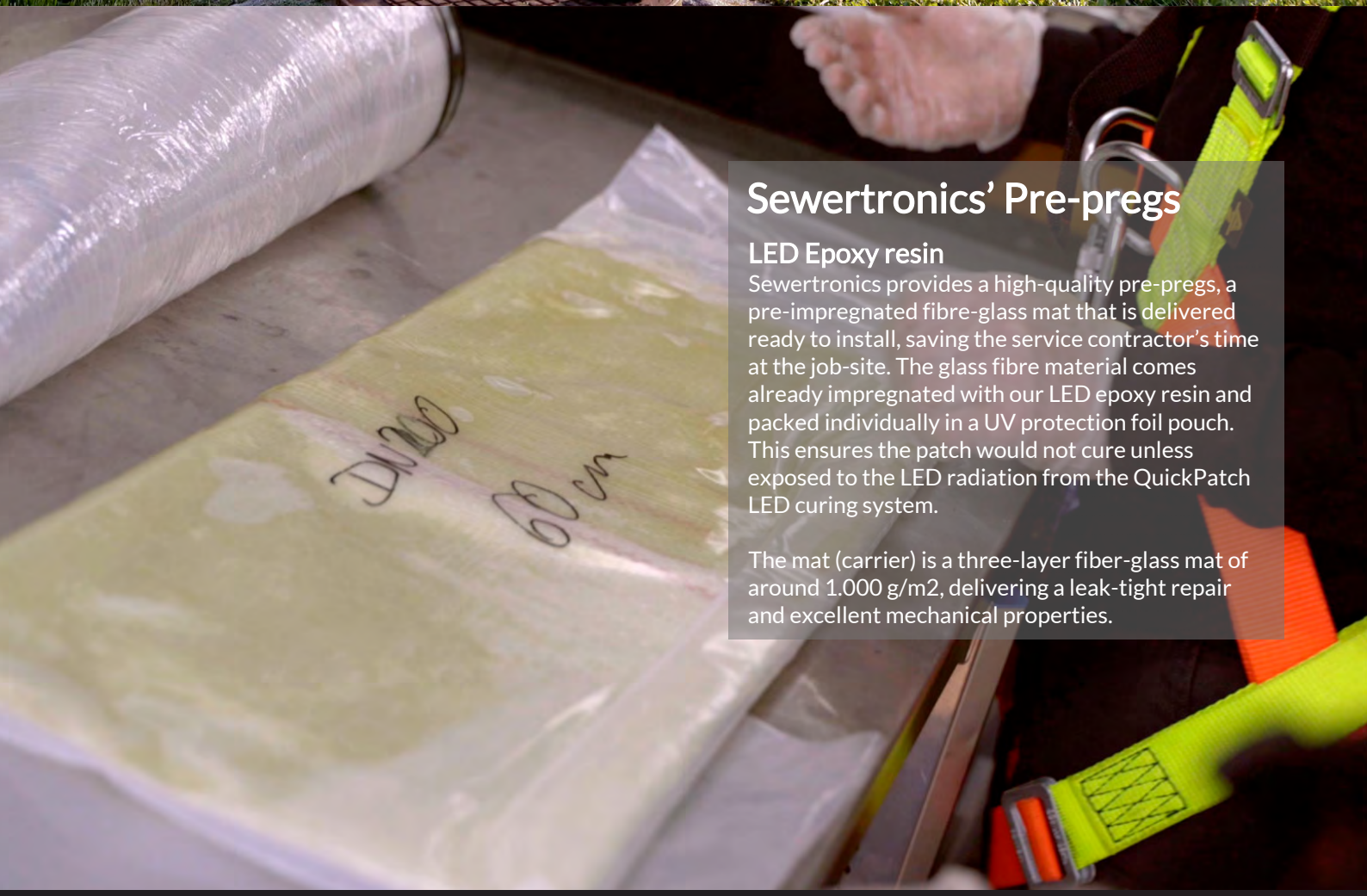
Le système de durcissement et de réparation spot QuickPatch LED est monté sur un châssis en aluminium à 4
The Sewertronics' QuickPatch LED cures prepregs for a spot repair from DN80 mm to DN600 mm. QuickPatch's high-power LED design incorporates a breakthrough, shadowless technology that guarantees full radiation reach to the entire surface of the fibre-glass prepregs. The LED radiation design, follows the radiation and cooling principles of our patented technology and allows to cure every patch in just 3-5 minutes.

Just as our Speedylight+ and LED RIG equipment, QuickPatch LED changes the game in the rehabilitation industry by bringing incredibly fast curing times, portability and easy-to-use features.



Compatibility with SpeedyLight+

All the LED packers are compatible with SpeedyLight+: just disconnect the LED curing head from your SpeedyLight+ and connect any of the four UV patches radiation sources to work in ranges from 80 to 600 mm.



Sewertronics' Pre-pregs

LED Epoxy resin

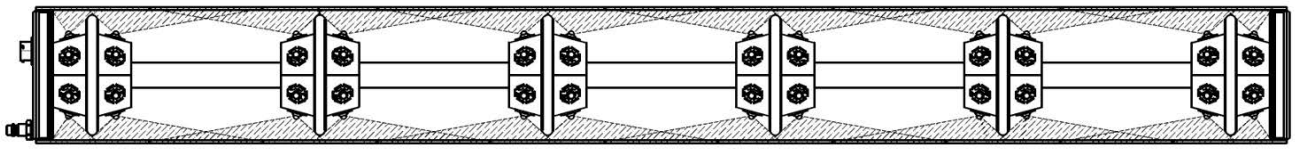
Sewertronics provides a high-quality pre-pregs, a pre-impregnated fibre-glass mat that is delivered ready to install, saving the service contractor's time at the job-site. The glass fibre material comes already impregnated with our LED epoxy resin and packed individually in a UV protection foil pouch. This ensures the patch would not cure unless exposed to the LED radiation from the QuickPatch LED curing system.

The mat (carrier) is a three-layer fiber-glass mat of around 1.000 g/m2, delivering a leak-tight repair and excellent mechanical properties.

QuickPatch LED

Shadowless technology

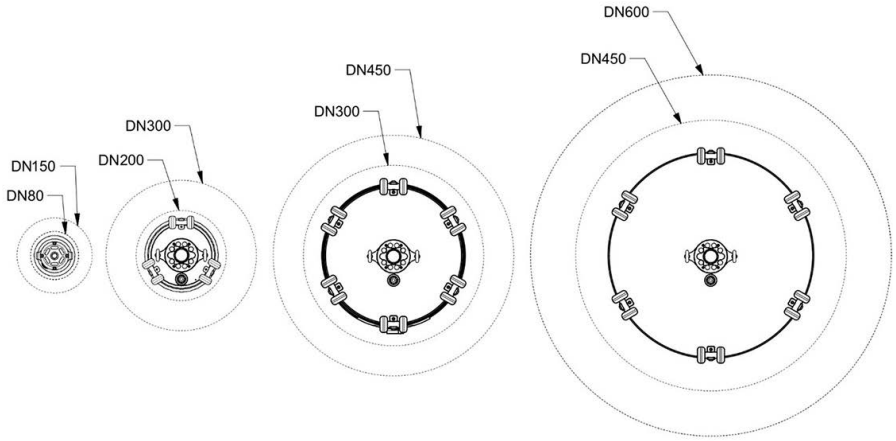
Sewertronics' shadowless technology (patent pending) delivers a homogeneous UV light exposure along 100% of the surface of the patch, ensuring a full body curing of the laminate.

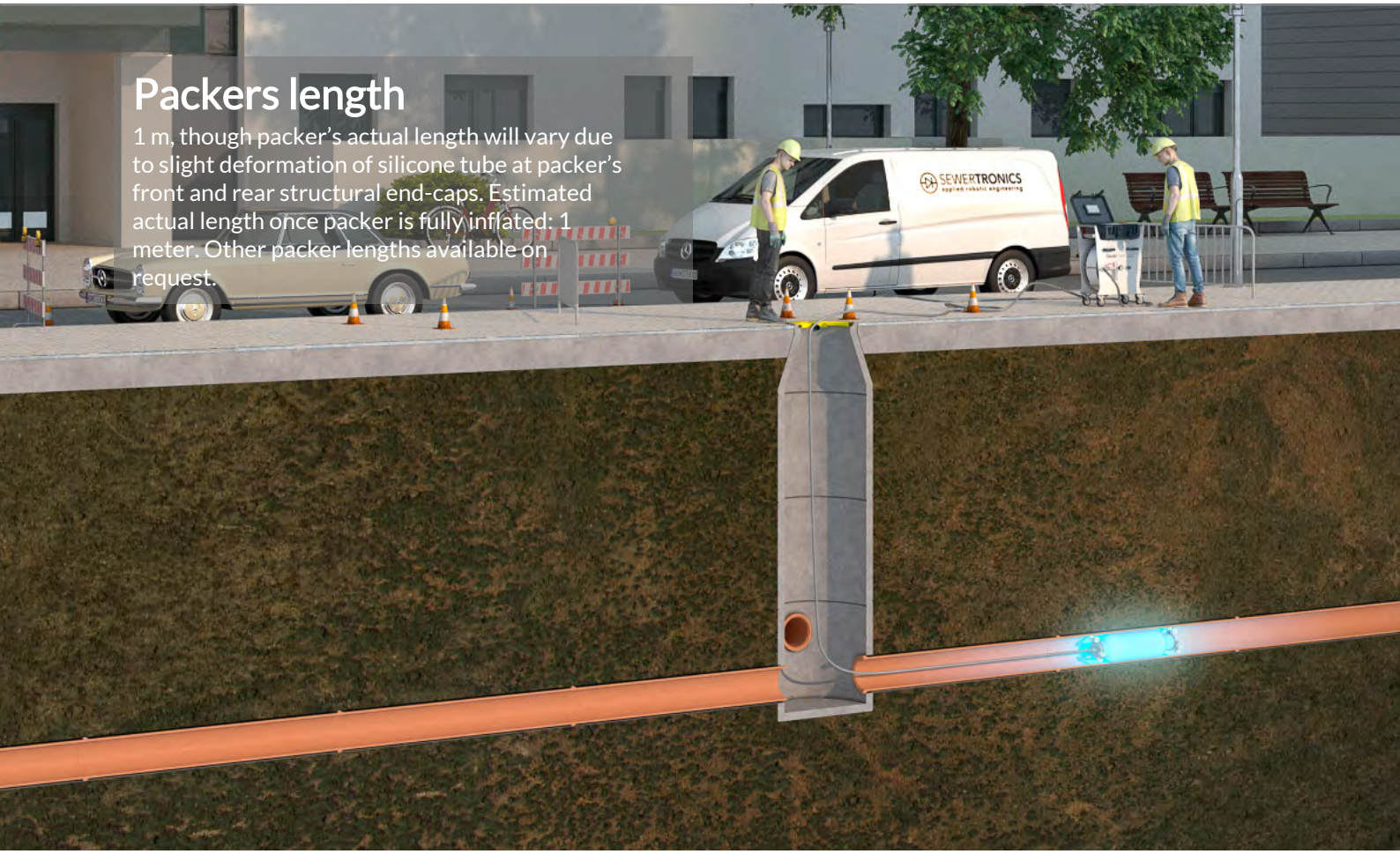


Diameter ranges: DN80 to DN600

QuickPatch UV LED is designed to cover a working range from DN80 to DN600. including the following packer sizes:

- DN80 – DN150
- DN200 – DN300
- DN300 – DN450
- DN450 – DN600





Packers length

1 m, though packer's actual length will vary due to slight deformation of silicone tube at packer's front and rear structural end-caps. Estimated actual length once packer is fully inflated: 1 meter. Other packer lengths available on request.

Embedded CCTV Camera

All QuickPatch UV LED packers integrate an axial view camera, to support during the positioning and curing operations. The control unit is equipped with a 10" monitor to display the images from the camera of each packer.

Go-to-the-job site kit

With Go-to-the-job site kit, you would have everything you need to cure LED packers. It includes: small compressor, pressure regulator, manometer, 1/2 air hose, 10 - 50 m of pushing rods (8 mm diameter, length 1.000 mm). Air filter and water separator.