# Wirtgen slipform pavers SP 15i and SP 25i: Leveraging technology

**A Kentucky concrete slipforming contractor has moved in a big way into curb, gutter and parapet construction by utilizing the advanced technology available to them.**

Fox Enterprises now constructs offset curb, gutter and parking lot “island” placements using an on-site guidance system. The system permits automated placement of those items, including tight radii. Its fleet recently expanded to include a larger slipform paver that can do offset curb-and-gutter paving, but also inset pavement slab paving. “We want to be the best there is, and for that we need to buy the best technology available,” said Ed Chenault, President, Fox Enterprises, Richmond, Kentucky. “Automated control of the paver is the future. My daughter someday will take over the reins of the company, and I want to have the next generation of paving technology available to the next generation of management. I didn’t buy the new slipform pavers for a five-year plan, I bought them for the long haul, the future of the company.” To this end Fox bought two Wirtgen SP 15i slipform pavers with exclusive AutoPilot control technology in 2012 and 2014, and followed up with the next-sized model, the SP 25i in late 2016.

**Cost-efficient Wirtgen technology**

“The bottom line is that with this technology, on many projects we can install curb at a lower cost than before,” Chenault said. “We’ve overcome the challenges that you get with any kind of new technology. Now that we know the machines’ capabilities, we are getting more efficient in their use. We’re developing more and more opportunities to put them to work, and are pursuing other contractors that are using similar technologies, because they understand the advantage of competitive pricing with higher technology.”

**Top precision thanks to Wirtgen AutoPilot**

“The Wirtgen AutoPilot technology is really cool, and I use GPS daily,” said Samantha Chenault, Vice President, Fox Enterprises. “If we can advance the technology with the kind of work that we are doing and keep up with the times, this is the best way to do it.” Quite often Fox will serve as a subcontractor, which was the case when it was placing curbs, gutters and islands in a reconstructed parking lot for a major manufacturer outside Lexington, Kentucky. Ed Chenault was working on a stormwater improvement and parking lot expansion there. “Using AutoPilot, we installed a large number of trench drains, and were placing curb and gutter to tie into the trench drains,” he said.

“We have more success with the tight radius for curbs using AutoPilot than we do with stringline.” To use AutoPilot, Fox has to select the right project and mate the AutoPilot to the project, Chenault said. “It depends on the general contractor we are following,” he continued. “The general has to buy in to the utilization of the technology. We have found that most of our contractors and customers welcome this technology with open arms, because they understand the need for better technology.

**Work more effectively**

The Wirtgen AutoPilot is a pioneering 3D control system for use with the Wirtgen SP 15i and SP 25i slipform pavers. It is a user-friendly, cost-effective system for the construction of pouredin-place concrete profiles, such as curbs or safety barriers, in offset application. The GPS based system guarantees high precision and maximum efficiency, regardless of whether straight profiles, highly complex curved profile paths, or even closed profile configurations need to be paved. The AutoPilot enables fully automatic, highquality paving at extremely small radii of merely 2 ft. (600 mm) with great ease and without the use of stringlines. This entirely dispenses not only with the time-consuming work of surveying but also with the installation and removal of stringlines. The Wirtgen AutoPilot also automatically negotiates any obstacles on the job site, such as manhole covers. The proprietary Wirtgen 3D control system gives construction companies a distinct competitive edge, for it pays off quickly and opens up new fields of application.

Establishing a digital terrain model is not required as programming of the profile path or profile configuration is completed on site. The system comprises a computer integrated in the machine as well as a control panel. Two GPS receivers, mounted on masts on the machine, communicate with an additional GPS reference station positioned on site. The machine control software is a proprietary Wirtgen development. The system is handled skillfully even by inexperienced personnel after only a short period of time. After positioning the total station and laser on the job site, the slipform paver is taken to the specified starting position and heading. Parameters are directly entered into the system via the rotary push-button and function keys at the clearly structured control screen. Menu navigation is self-explanatory, and graphics visualize the various profiles and profile configurations.

**Automatic paving in six steps**

Programming the Wirtgen AutoPilot is a matter of mere minutes. In a first step, the machine operator selects a profile configuration at the control panel. Next he enters length, width and radius of the configuration to establish the steering path of the slipform paver. The starting point is determined in a third step, followed by machine level and elevation profile. In a final step, the machine operator determines the cross

slope.

A laser sensor or sonic sensor mounted on the slipform paver scans the ground surface to ensure precise level control. The fully automatic paving operation commences. Previously programmed profile configurations can be saved and retrieved as required. The operator is in full control during the entire process. He can intervene in the automatic paving operation at any time if necessary, for example, to modify the machine’s level and angle of incline.

IMAGES:

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|  | W\_photo\_SP15i\_00057\_HI Fox President Ed Chenault and Vice President Samantha Chenault; the company is buying advanced technology as it plans for future generation ownership. Samantha Chenault is happy about the fully automatic 3D control: “The Wirtgen AutoPilot convinced me one hundred percent.” |

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|  | W\_photo\_SP15i\_00059\_HI The slipform paver owes its versatility to the highly flexible arrangement of the paving mould and track units. Offset moulds in a wide variety of profi les can be mounted either on the right or on the left side of the machine. |

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|  | W\_photo\_SP15\_02671\_HI Fox is able to utilize existing mold inventory,  mating them to the Wirtgen slipform paver SP 15i. |

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|  | W\_photo\_SP25i\_01080\_HI Inset paving on Kentucky Route 80 (KY 80) using Wirtgen SP 25i required uphill climb.  No problem for the extremely versatile multipurpose machine. |

*Note: These photographs are only intended as a preview. For printing in publications, please use the photographs in 300 dpi resolution that are available for download from the Wirtgen GmbH / Wirtgen Group websites.*

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