



**Highway & Airport
Paving Equipment**

Concrete Batching
& Mixing Plants

Canal Construction
Equipment

Trenching
Equipment

S850

Mid-Size Slipform Paver



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INTRODUCTION



Guntert & Zimmerman pioneered concrete slipform paving equipment in the mid 1950's. Today, G&Z's experience and passion for detail, along with the input of leading paving contractors worldwide, has resulted in a midsize slipform paver that sets the standard. Design goals achieved include:

- Dramatically reduced transport and reconfiguration time.
- Narrow profile design to pave in tight confines.
- Use of high quality electronic and hydraulic circuitry.
- Dramatically reduced heat and noise for the operator.
- Exceptional maneuverability and ease of operation.
- Unsurpassed structural integrity.

The versatile S850 Concrete Slipform Paver is designed to be the paver of choice for all your paving needs from 12 ft. to 34 ft. (3.65 m to 10.36 m). With optional tractor frame extensions, the S850 paver is capable of paving widths up to 39.4 ft. (12 m). The S850 is agile enough for economic use on cut up urban and residential paving work without sacrificing the weight, power, and balance required to produce superior riding highway and airport concrete pavements. Investment in new paving technology has never been more compelling.



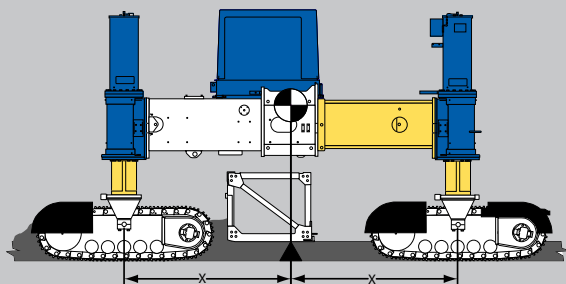
HEAVY DUTY TRACTOR FRAME



Deep section, fabricated, tube type construction of the double telescopic tractor frame design allows paving widths from 12 ft. (3.66 m) to 26 ft. (7.92 m). The machine telescopes 7 ft. (2.13 m) on either side of the 12 ft. (3.65 m) center module for a total telescopic ability of 14 ft. (4.27 m). With the addition of optional bolt-in frame sections, the total possible paving width is 39.4 ft. (12 m).

The S850 has its weight in all the right places. It has the weight of a mainline slipform paver and the agility of a smaller machine. The machine's center of gravity and the rear of the slipform conforming pan are almost perfectly centered between the front and rear crawler tracks.

A 275 hp (205 kW) or optional 350 hp (261kW) diesel engine powers high quality and efficient piston pumps. This ensures that the S850 has more than ample power. This optimization of weight, balance, and power offers the best opportunity for high production and exceptionally smooth paving.



USER-FRIENDLY CONTROLS



The centralized Operator Control Desk allows the S850 operator to easily monitor and remotely control all paver functions. All controls (24V DC) are intuitively located and marked on the control desk and include manual and automatic elevation and steering controls as well as a monitoring screen for controls set-up, monitoring and paver self-diagnostics. All machine functions are processed through a dependable Programmable Logic Controller (PLC) and Networked Microcontroller System which processes the S850 elevation and steering controls either in reference to "stringline" or "stringless" input. The control desk is vibration isolated. A platform is provided next to the control desk which allows the operator exceptional

90 DEGREE STEERING



Optional 90 Degree Steering allows the four crawler tracks to be turned perpendicular to the paving direction with a flip of a switch. There is a limited steering range in this mode. 90 Degree Steering reduces the size of hand pours, dramatically increasing on site paver maneuverability and helps speed width change and self-loading for transport.



visibility of the paver's concrete spreading operation. The control desk includes a lock out / power switch located inside the control desk, an aluminum cover for weather and vandal protection and an emergency stop.

The computerized Crown Control system may be installed as an option on the S850 paver and can be used for up to three profile breaks. This feature can be installed on the S850 with or without a Compact Dowel Bar Insert (CDBI) for smooth transitions in and out of crown.

COUNTER ROTATION



The S850 is equipped with counter-rotation capability where the operator can quickly re-orientate the S850 crawlers into the counter-rotate position and rotate the machine 360 degrees within the machine's overall width. Counter-Rotation is just one of the pre-programmed steering modes available with the S850 controls, along with crab and coordinated steer, front and rear only steer.

JACKING COLUMNS



G&Z's precision built, square-to-round style jacking column design with built-in replaceable bronze wearing parts that prevent sticking allow for the most positive steering control in the industry. This design also offers years of precise, maintenance free use.

Male steadments (legs) are provided with hard 370/420 Brinell wear strips on all four sides. The square tube is machined flat and square for a precision fit.

With optional longer stroke steering cylinders 90 Degree steering is possible.



GRADE & STEERING CONTROL



Electronic, no contact type, moisture proof, and proportional steering and elevation sensors, as well as G&Z's own proprietary software provides precise steering and elevation accuracy and self-diagnostic capability.

Front and rear tracks can be manually or automatically steered by both pivoting the tracks with steering cylinders and by varying the speed of the crawler tracks on one side of the machine in relationship to the other using the Ackermann Steering feature to provide the machine with exceptional automatic steering accuracy. This dual system of steering offers the paver operator tremendous flexibility for maneuvering in tight confines.

The S850 is provided with columns with graduated scale vertical and lateral fine adjustment in relationship to a stringline.



PAVING KIT



G&Z's Paving Kit includes a deep section, latticework frame that is rigid enough to handle the S850 design width and achieve excellent smoothness results on projects with strict smoothness requirements. It can be provided with up to two crowning sections. The ends of each paving kit section are manufactured with thick plate bolting connections that are milled square and flat. The bolt holes are precision drilled on a mill to ensure sections can be interchanged and easily lined up. The Paving Kit design requires fewer bolts per section allowing for rapid paving width changes. As an option, the Paving Kit can be provided with bolt-on pan skins so if worn or damaged in the future, the pans skins can be quickly repaired or replaced at minimum cost.

When supplied with intermediate paving kit hangers, the Paving Kit can be mounted in multiple locations under the S850 Tractor independent of the bolster location and can be quickly and easily mounted or removed from the tractor. Each paving kit truss section is provided with a front and rear tool bar or bolt strip so bolt-on items may be relocated easily in small increments.

CROWN SECTION



The optional Paving Kit Crowning Section is provided with a hydraulic motor driven, dual screw jack system that holds the crown position without drift. A digital readout of the crown angle is provided at the operator console. Computerized Crown / Transition Control system is also available as an option.

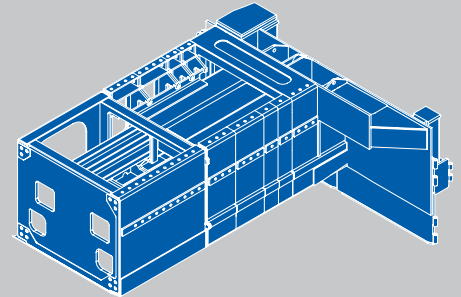


SPLIT GUILLOTINE SIDEFORMS



As an option, the standard Guillotine Sideforms with 0-18 in. (0 - 457 mm) of hydraulic adjustment can be supplied "split" where the front and rear portions of the Guillotine Sideforms operate independently. The rear portion can be winged out as much as 15 degrees with powerful hydraulic cylinders to allow the sideforms to clear and back over the previously poured slab. This feature also allows easy access to the edge overbuild device for cleaning and speeds up morning starts. The sideform open / close cylinders are powerful enough to close the sideform against plastic concrete. Split Guillotine sideforms also make it easier and practical to pave into or away from a previously poured slab such as a bridge deck or taxiway. The paving kit terminal end sections are also provided with removable shim packs for fine (minor) width adjustments to yield the specified slab width reducing concrete losses.

TELEENDS TELESCOPIC PAVING KIT END SECTIONS



The optional and patented G&Z TeleEnds: Telescopic Paving Kit End Sections provide the contractor the ability to perform paving kit width changes rapidly, without the use of cranes, and with only a one or two-person crew. A width change which could typically take a three to four person crew 6 to 10 hours can now be performed by a one or two person crew in less than two hours. For a width change involving a single spacer less than one hour.

Quick Width Change Capability:

TeleEnd — 3 ft. (915 mm) per side

TeleEndXL — nom. 4 ft. (1,250 mm) per side



CATERPILLAR C7 // C9



The fuel efficient Caterpillar C7 ACERT US Federal Tier 3 / European Stage IIIA six-cylinder Diesel Engine is ready to take on your toughest paving project. The C7 provides all of the performance, reliability, durability and long maintenance intervals that you would expect from a Caterpillar engine. Caterpillar Electronic Control Module manages all engine components for a completely integrated system.

The Caterpillar C9 ACERT US Federal Tier 3 / European Stage IIIA Diesel Engine is available as an option. This allows the S850 to have enough power to attach a G&Z Compact Dowel Bar Inserter without the need of a separate pumping unit.

The C7/C9 engine radiator and integral heat exchanger are cooled with a pusher type fan to evacuate heat and noise from the enclosure. To further reduce noise and vibration on the operator, the engine with pump drive box are vibration isolated from the power unit module and the power unit module is vibration isolated from the tractor frame center module.

SPREADER PLOW



The powerful G&Z Spreader Plow System, in conjunction with the provided metering gate, can move more concrete faster than a spreader auger system. The use of a spreader plow system eliminates the need for sideform mounted gearboxes and center hanger bearings associated with augers, which impede the flow of fresh concrete into the corners of the liquification hopper and across the front of the machine. The plow system costs only a fraction of what an auger system costs to operate because no wearing parts are running in the concrete. The spreader plow system offers easy width changes. The track sections are held together by two line-up pins and held together by just four bolts.

EDGE OVERBUILD / INTEGRAL CURB AND GUTTER



The terminal pan sections on the Paving Kit are provided with edge overbuild adjustment to help compensate for edge slump. The terminal pans can be substituted with other optional integral curb and gutter mold cross sections.

TRAILING FINISHING PAN



As an option, the S850 can be fitted with G&Z's proven trailing finishing pan system. Mounted off the rear of the Paving Kit under the optional rear telescopic access walkway, the 48 in. (1.2 m) trailing finishing pan with fixed edger pans provides a proven method of finishing pavement surface and edges and ensures that the product coming out the back of the paver is of the highest quality and smoothness. The trailing finishing pan along with the required rear telescopic aluminum walkway can be hinged up for easy transport.

FINAL FINISHER



The optional Final Finisher (FF) with supports is an effective finishing device with a longitudinal, magnesium surface finishing ski, that floats on the concrete surface. The longitudinal ski oscillates fore and aft while traveling transversely back and forth across the slab. Transverse travel and longitudinal stroke speed are hydraulically adjustable. The FF is optionally available with a PLC controlled hydraulic valving system that slows the ski down as it approaches the slab edge and cushions the change of direction. The PLC also allows the ski to stop at different locations on each pass across the slab. The support arms of the FF are optionally available with hydraulic lifting cylinders to lift the FF ski out of harm's way when not paving.

NARROW PROFILE

2'-1" (635 MM) FROM EDGE OF PAVEMENT TO WIDEST POINT ON THE PAVER.



When equipped with G&Z narrow profile D3 size crawler tracks with 16 in. (400 mm) wide grousers, the S850 has the narrowest profile of any multi-lane paver available on the market. In the standard paving configuration, the distance from edge of pavement to the widest point on the tractor is only 25 in. (635 mm) with the sensor support arms removed. This narrow profile design provides contractors with solutions to difficult site paving challenges such as paving through tunnels or between bridge columns where only limited room is available for trackline.



NoLine

STRINGLESS PAVING PREPARATION KIT



The S850 features G&Z's NoLine: Stringless Paving Preparation Kit. NoLine integrates the use of stringless technology and "direct connects" into the S850 controls and provides telescopic mounts for the two total station prisms. Stringless paving technology is gaining wide spread market acceptance. As the bidding table gets more competitive, the need for innovative solutions to reduce job site costs is increasing. With the use of stringless technology, the contractor saves money on surveying, stake driving, and string set up making them more competitive in the market.



OPERATOR SAFETY AND VISIBILITY



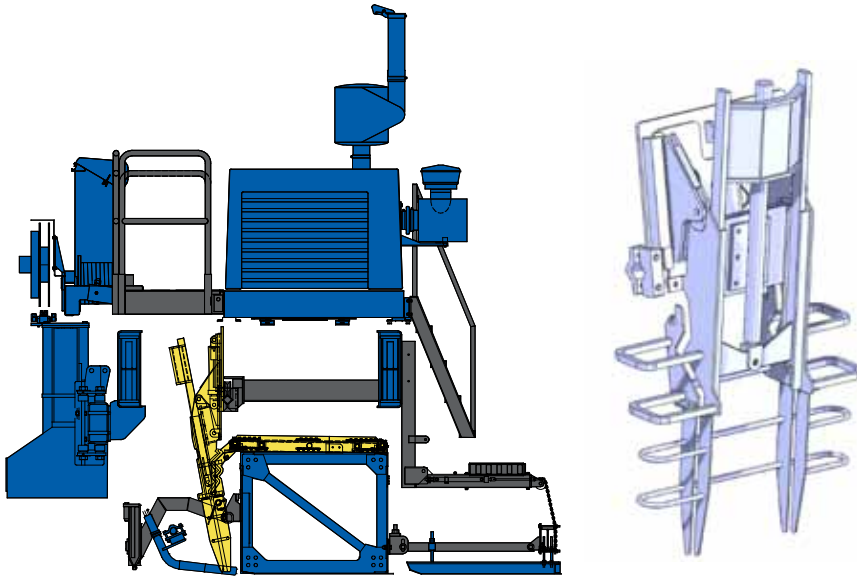
The S850 features superb operator visibility. The operator can easily see all around the machine including under foot into the concrete liquification hopper. The Operator Control Desk is centrally located on the tractor center module to optimize visibility as well. The S850 is provided with emergency stops on all four corners of the machine with magnetic holders to allow them to be relocated.

TRIPLE CROSS SLOPE CONTROL



As an option, the S850 can be supplied with G&Z's patented Triple Cross Slope Control System which allows the paver steering and elevation to be controlled with reference to a single stringline located on one side of the paver or without stringline if the paver can take its grade and steering reference off an accurately placed slab. The Cross Slope System also includes automatic "slope transition adjustment" over a pre-programmed distance. The G&Z Triple Cross Slope Control System has been used successfully at widths up to 26 ft. (8 m) depending on the smoothness specification. As a part of the Triple Cross Slope Control System, the contractor gains the Anti-Torsion Control feature which protects the tractor frame from undesirable torsion potentially introduced into the frame when walking over uneven ground. The cross slope sensors located on each bolster maintain the bolsters in the same plane by activating the four S850 hydraulic jacking columns.

FRONT TIE BAR INSERTER



The Front Tie Bar Inserter (FTBI) is arranged to mount to a tool bar either off the center module of the tractor frame or directly to the front of the frame / slipform pan and inserts the tie bar between the nose of the slipform pan and the tip of the vibrator to its specified depth. The FTBI is provided with a chain feeder magazine and is fed from the rear walkway of the machine.

OTHER AVAILABLE OPTIONS

- Keyway Formers
- Curb and Gutter Molds
- Side Dowel Bar Inserter
- Telescopic Front Access Walkway
- TeleEnds with 4 ft. (1.25 m) of Telescopic Ability per Side
- Tamper Bar
- Narrow Profile Side Tie Bar Inserters
- Manual Side Tie Bar Inserters (STBI)
- Sideform Extensions for slabs up to 24 in. (610 mm)
- High Pressure Water Sprayer
- Urethane Covered Grouser Pads
- AC or DC Night Lighting Systems
- Rear Telescopic Aluminum Walkway
- Electric Poker Vibration Systems in lieu of Hydraulic Vibration
- Hydraulic Vibrator Computerized Monitoring System
- Dry Lean Base Equipment

COMPACT DOWEL BAR INSERTER



G&Z is the worldwide leader in DBI technology. The S850 is available with G&Z's market leading Compact Dowel Bar Inserter (CDBI). The patented CDBI is a single, self-supporting module that mounts quickly on the rear of the S850. The highly productive, mobile, and reliable G&Z CDBI is designed to insert dowel bars accurately on the transverse contraction joint, make width changes and transport easily, and achieve smooth rides. G&Z's optional and patented self loading system eliminates the need for a crane for loading on a trailer. The transport width of the CDBI module is less than 12 ft. (3.5 m). The kit can be ordered with several options including an OCB spreader plow and a high production insertion for option (4 forks per bar).



QUADRA

PAVING MODE

The patented **QUADRA** bolsters allow for two modes of paving: the “extended mode” for normal paving or the “compressed mode” for paving in tight spaces or on tight radius paving. When in compressed mode, the machine steers like a two track machine. Center to center of crawler tracks is 9 ft.-9 1/8 in. (2.97 m). End to end of crawler tracks is 17 ft.-6 in. (5.33 m). The bolsters hydraulically compress from the extended mode. When in extended mode, center to center of crawler tracks is 14 ft.-7 1/8 in. (4.44 m). End to end of crawler tracks is 22 ft.-9 1/2 in. (6.94 m). The bolsters hydraulically compress from the extended mode.

COMPRESSED MODE



EXTENDED MODE



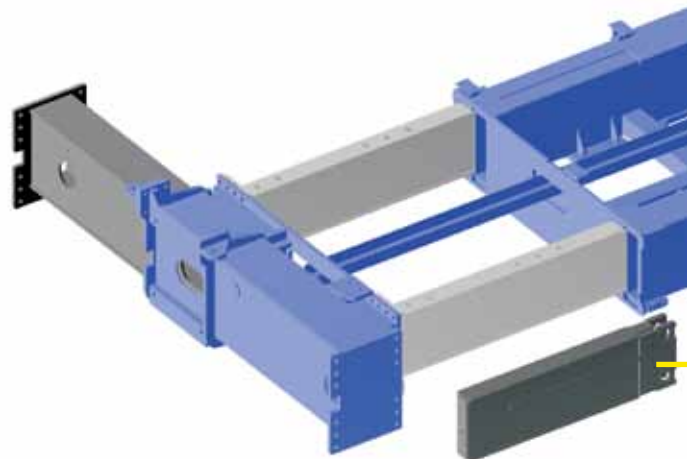
TRANSPORTING THE S850



TRACTOR FRAME JC EXTENSION SYSTEM

The revolutionary and patented JC Tractor Frame Extension System allows the double telescopic tractor frame to telescope from 12 ft. to 34 ft. (3.65 m - 10.36 m) without ever needing to unbolt a bolster from the tractor frame or disconnect a hose. Optional frame and hose tray extensions increase working width possibilities to 37.5 ft. (11.43 m). This unique Tractor Frame Extension System offers contractors the broadest telescoping ability in the industry.

Telescoping the tractor frame can be accomplished by turning the four crawler tracks 90 degrees to the direction of travel and walking the frame together or apart. Adding or removing the JC Extender sections can be easily accomplished in a matter of minutes with the patented pin connection system. Each JC Extender is attached with two pins.





QUADRA

TRANSPORT MODE

The **QUADRA** bolsters allow for two modes of transport: the “compressed mode” for walking and steering (with or without the paving kit) onto a 10 ft. (3.04 m) wide trailer with removable gooseneck or the “Extended mode” for straddling and self-loading on a drop deck trailer (with or without the paving kit). In “Compressed” mode, the load width is under 12 ft. (3.65 m). The load length is 11 ft. (3.35 m) longer than the paving width. With the rear jacking columns removed the load width is under 10 ft. (3.04 m).

COMPRESSED MODE

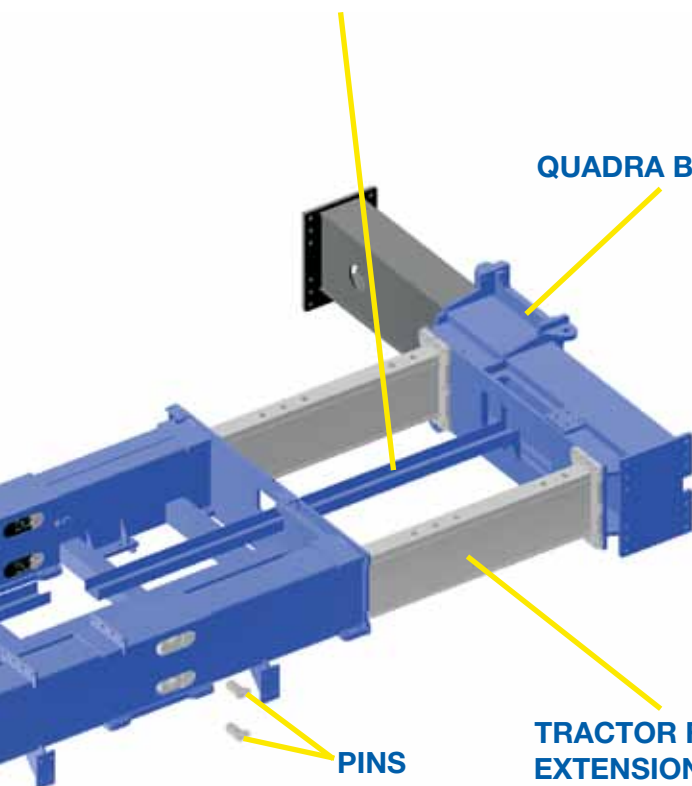


EXTENDED MODE



TELESCOPIC HOSE TRAY

QUADRA BOLSTER



TRACTOR FRAME
EXTENSION TUBE

PINS

JC EXTENDER



SPACEPORT AMERICA

DAVID MONTOYA CONSTRUCTION
TRUTH OR CONSEQUENCE, NM, USA

Project:

Concrete Runway 10,000 ft. (3048m) long x 200 ft. (60.96m) wide, with lanes paved at 33.3 ft. (10.1m) wide, 6 in. (152mm) base, 4 in (101mm) asphalt layer, and 14 in. (355mm) concrete slab.

Equipment:

G&Z Mobile Concrete Plant MCP12, S850 with Leica 3D Stringless Paving, PS1200, & TC1500



NEW DOHA INT'L AIRPORT

SGW (JV)
QATAR

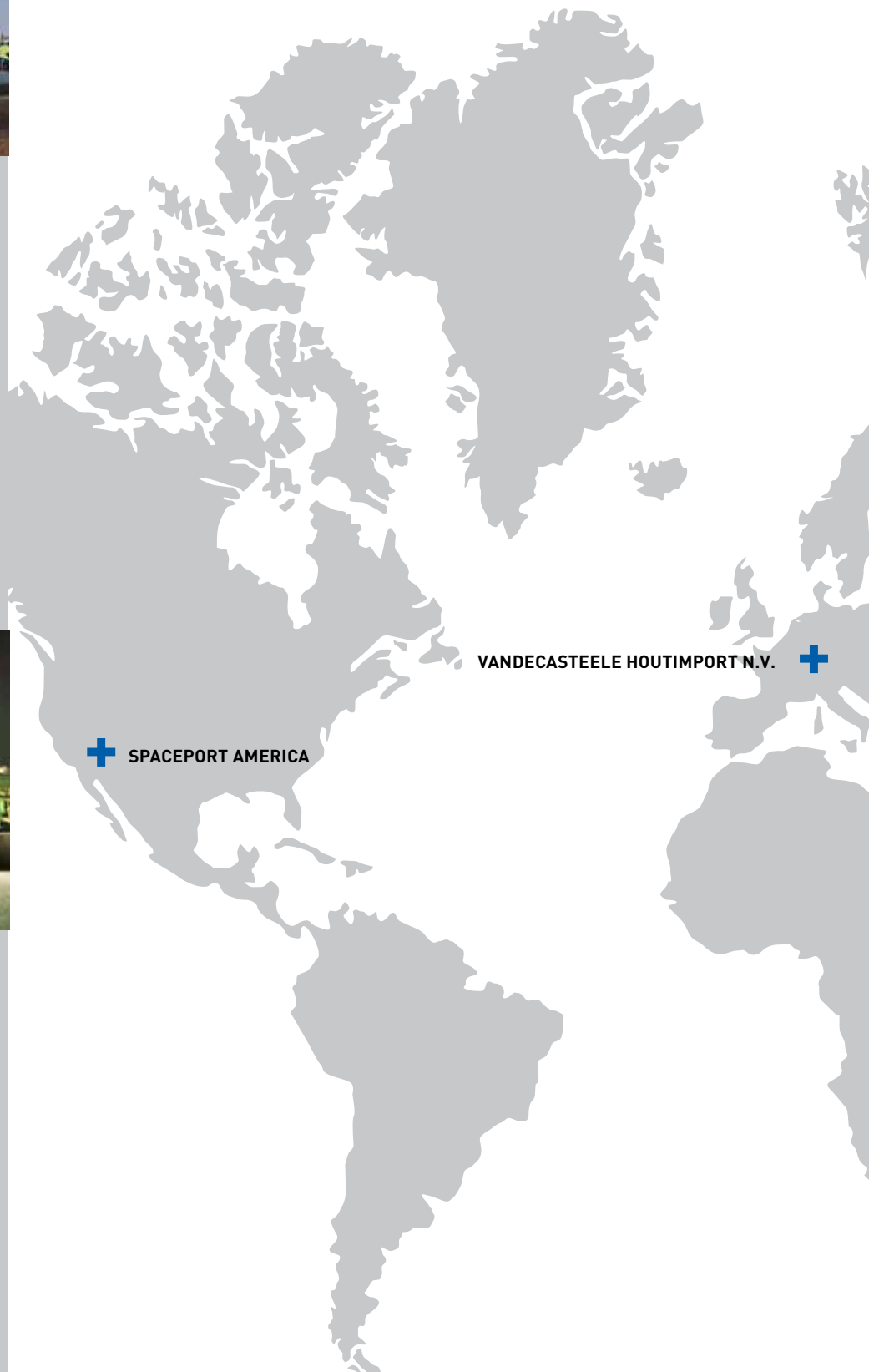
Project:

6m (19.6 ft) wide with a 6m (19.6 ft) standard grid. The majority of the aprons are both transverse and longitudinal doweled. G&Z's Compact Dowel Bar Inserter (CDBI) was used to insert the transverse bars on 380mm (15 in) centers and 443mm (17 in) centers. 375,000 dowel bars on the project. Eight aprons are 400mm (15.75 in) thick some having a 25% thickened edge. Four aprons are 445mm (17.5 in) thick some having a 25% thickened edge. Longest Apron is 900m (2,953 ft) in length. Approximately 190 km (118 mi) of joint sealing for PQC aprons.

Equipment:

S850 Slipform Paver with Compact Dowel Bar Inserter

S850 APPLICATIONS...





...AROUND THE WORLD



PRIVATE ACCESS ROAD

MOLS

VANDECASTEELE, BELGIAN

Project:

8m (26 ft) wide / 20cm (7.9in) thick access road. Dowelled transverse joints with a 25mm (1 in) x 500mm (19.7 in) dowel at 25cm (9.8") centers. Longitudinal joints with tie bars of 12mm (.5 in) x 750mm (30 in). One curve with inner radius of 40m (131 ft) followed by second curve of 50m (164 ft). Final 100m (328 ft) had longitudinal slope of 8.78%. Total paving length of 540m (1,772 ft).

Equipment:

S850 Slipform Paver with Compact Dowel Bar Insertter



NATIONAL HIGHWAY

PATEL KNR (JV)

ASSAM REGION, INDIA

Project:

46 km (25.5 mi) of four lane reconstruction. Concrete is unreinforced plain concrete with sawn transverse joints at 4.5 m (14.7 ft.) spacing with load transfer dowels [32 mm x 500mm (1.25in x 19.6in) located mid-depth in slab] across the joints. The typical spacing of the dowels is 300mm (11.8in) with exceptions of 200mm (7.8 in) and 150mm (5.9 in) on centers at medians and shoulders respectively. The longitudinal joint is tied with a 16mm x 640mm (.6 in x 25 in) tie bar spaced on 600mm (23.6in) spacing.

Equipment:

S850 Slipform Paver with Compact Dowel Bar Insertter

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