



Multipurpose slipform paver

# Slipform Paver SP 500



# Versatile all-rounder in concrete paving

## Telescoping machine frame

The heavy-duty, torsion-resistant main frame is built from sturdy structural steel sections. It has been designed for a minimum working width of 2.0 m, and can be telescoped hydraulically on both sides to a total working width of 6.0 m (standard).

## Super smoother

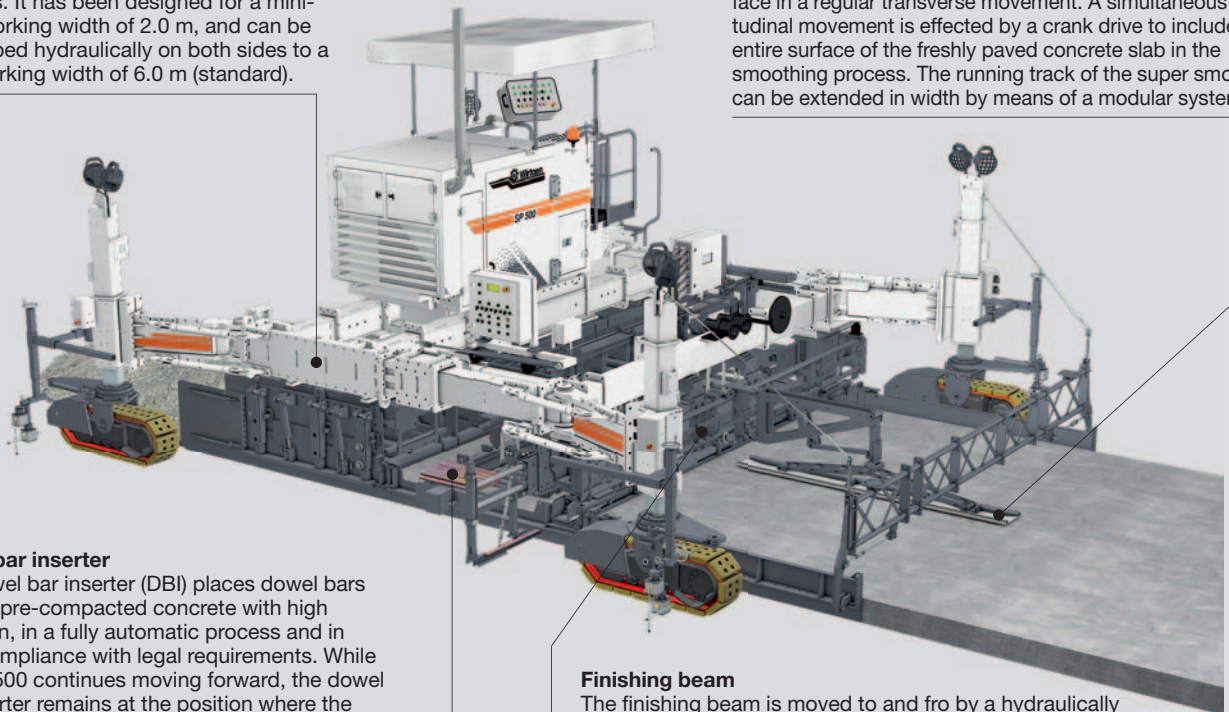
The super smoother of high-quality aluminium is mounted at an extension arm and is moved over the entire concrete surface in a regular transverse movement. A simultaneous longitudinal movement is effected by a crank drive to include the entire surface of the freshly paved concrete slab in the smoothing process. The running track of the super smoother can be extended in width by means of a modular system.

## Dowel bar inserter

The dowel bar inserter (DBI) places dowel bars into the pre-compacted concrete with high precision, in a fully automatic process and in strict compliance with legal requirements. While the SP 500 continues moving forward, the dowel bar inserter remains at the position where the dowel bars are inserted into the concrete until the operation has been completed. The dowel bar inserter is integrated into the machine frame and can be extended in width by means of a modular system.

## Finishing beam

The finishing beam is moved to and fro by a hydraulically driven eccentric to produce an even concrete surface. It is required when using a dowel bar inserter, and is additionally recommended when paving concrete mixes with a very low water-cement ratio (slump). The finishing beam can be extended in width by means of a modular system.



## The whole range from curb to motorway

Flexibility is the main hallmark of the SP 500, for the multifunctional slipform paver is capable not only of producing concrete slabs of up to 6.0 m in width and 400 mm in thickness for motorway or airport construction, but also of paving small and large concrete profiles, such as curbs or traffic barriers. But that's not all: the SP 500's wide range of applications is enhanced even further by a

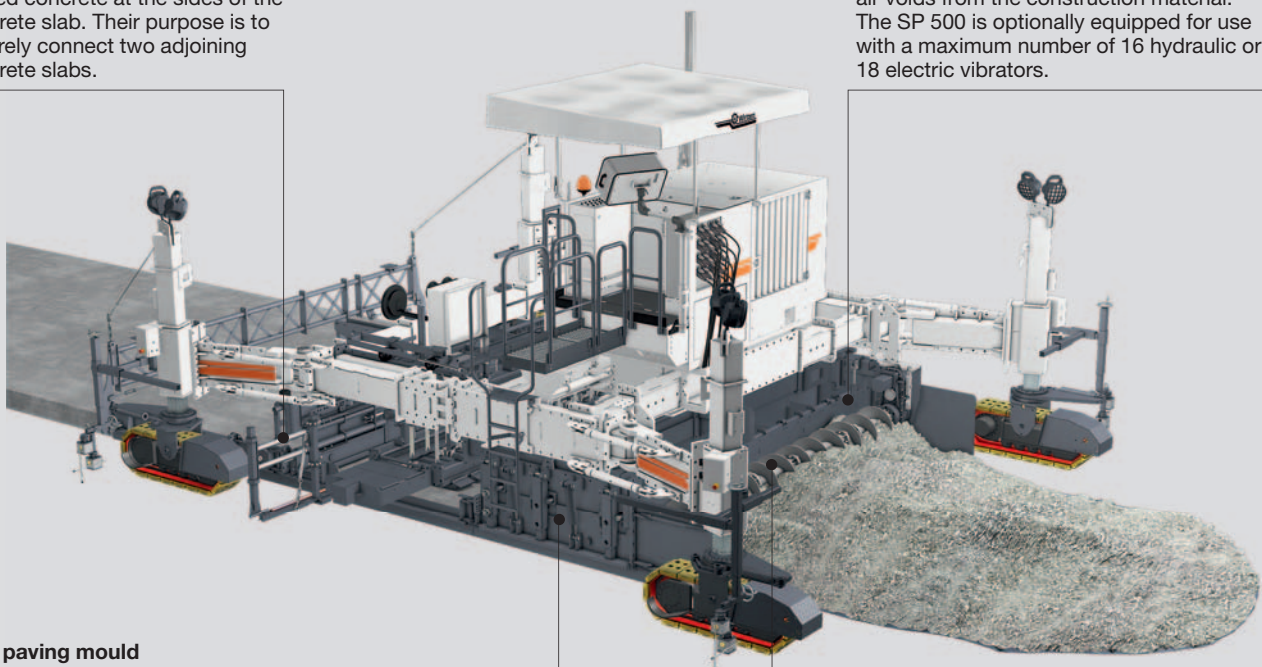
large number of options, such as hydraulically or electrical-ly driven vibrators, dowel bar inserter, finishing equipment, pivoting legs or wireless 3D control. Its modular design enables the paver to be fully configured to customer-specific requirements, and components to be easily retrofitted at a later date.

#### Tie bar inserter

The tie bar inserter can be used to place tie bars into the pre-compacted concrete at the sides of the concrete slab. Their purpose is to securely connect two adjoining concrete slabs.

#### Vibrators

Vibrators use high-frequency vibrations to compact the concrete, thus expelling any air voids from the construction material. The SP 500 is optionally equipped for use with a maximum number of 16 hydraulic or 18 electric vibrators.



#### Slab paving mould

The slab paving mould is of solid steel design, forming the concrete to the specified profile by means of the machine weight. It additionally produces an even, smooth surface. Inset slab paving moulds are available in many different working widths. The array of moulds on offer for the paving of concrete slabs covers widths ranging from 2.0 m to 6.0 m and thicknesses of up to 400 mm (standard).

#### Spreading plough / Spreading auger

A spreading plough or spreading auger is used to evenly spread the previously delivered concrete across the entire working width. Both spreading devices can be extended in width by means of a modular system.

- The SP 500 is eminently suitable for the high-quality concrete paving of country roads, motorways, airports, railway tracks and all kinds of concrete profiles.
- The hydraulically telescoping machine frame enables standard paving widths ranging from 2.0 m to 6.0 m – and even beyond 6.0 m at the customer's request.
- The slipform paver has also stood the test in special applications for complex tunnel construction, and when used with the innovative 3D technology.
- The modular design of the SP 500 also enables concrete pavements with a camber to be produced without difficulty.

# Multipurpose machine for all kinds of concrete pavements

## Pivoting leg and lifting column

Pivoting legs can be integrated at the front and rear to enable ideal positioning of the crawler tracks in accordance with the paving situation. Height adjustment of the paver is effected via the hydraulically telescoping lifting columns.

## Water tank

The water tank offers a capacity of up to 475 l of water to clean the slipform paver by means of a high-pressure cleaner. A second water tank is available as an equipment option.

## Paving mould for offset concrete profiles

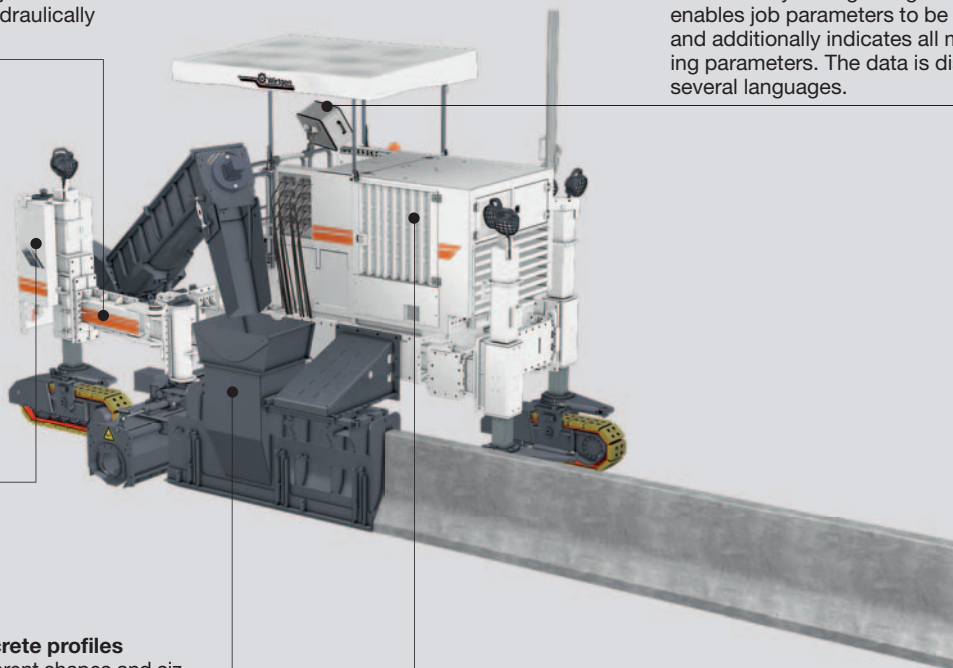
A wide variety of moulds in different shapes and sizes is available for the paving of concrete profiles. The range extends from moulds for slipforming curbs all the way to moulds for slipforming traffic barriers of up to 2.2 m in height. The moulds can be mounted on the left or right side of the slipform paver.

## Control panel

The convenient, swivelling and lockable control panel is fitted with practical, language-neutral buttons and switches. The centrally arranged digital LC screen enables job parameters to be keyed in, and additionally indicates all major operating parameters. The data is displayed in several languages.

## Power unit

The SP 500 is equipped with a powerful, water-cooled, specially soundproofed 6-cylinder diesel engine.



## Offset and inset paving combined in a single machine

**//** In addition to paving concrete slabs, the SP 500 can also be used to pave high-quality concrete profiles in offset application. Whether standardized or customized concrete profiles need to be produced – most diverse profile moulds are on offer for traffic barriers, curbs, curb and gutter profiles, canals, water gutters and narrow paths. The range of applications is broadened further by options such

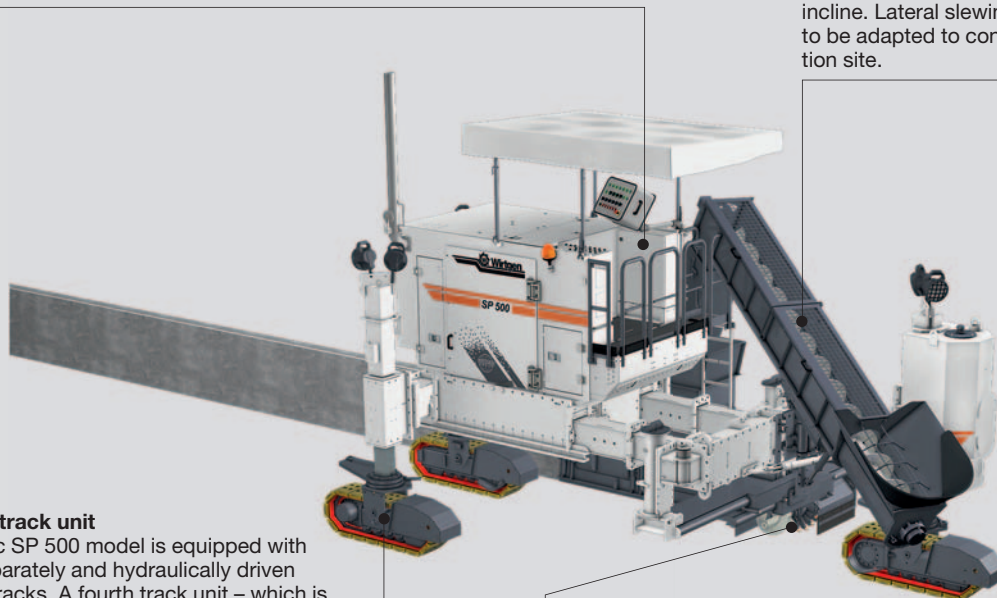
as a trimmer, concrete feeding via belt conveyor or auger conveyor, and three-track or four-track design. It goes without saying that the paver's modular design takes account of customer requirements also in offset paving: additional components can simply be retrofitted in a subsequent step. It is this very flexibility that makes the SP 500 such an economically efficient machine.

### Operator's platform

All controls in the operator's platform are arranged clearly and in accordance with ergonomic aspects. The operator's platform offers the machine operator a good overall view of the vital points of both the slipform paver and the construction site.

### Concrete feeding

For offset paving applications, the concrete is fed via a belt conveyor or a hydraulically driven auger conveyor. The conveying speeds are continuously adjustable, as are the angles of incline. Lateral slewing enables the conveyor to be adapted to conditions on the construction site.



### Crawler track unit

The basic SP 500 model is equipped with three separately and hydraulically driven crawler tracks. A fourth track unit – which is useful when paving wide slabs in inset application or using large moulds in offset paving – can be mounted quite easily. Paving and transport speeds are continuously adjustable in both forward and reverse travel. The track units can be positioned so as to enable the SP 500 to drive in transverse and longitudinal direction.

### Trimmer

The trimmer is used for preparation of the base, thus ensuring uniform concrete paving. It consists of a hydraulically height-adjustable trimmer base and a trimmer drum capable of processing the existing material to a depth of up to 100 mm. The unit has a basic width of 750 mm and can be extended in increments of 250, 300 or 350 mm to a maximum width of 1,650 mm.

- Experienced staff convert the slipform paver from inset paving to offset paving in no time at all right on the construction site.
- As the offset mould can be mounted on the left or right side, the concrete mixer truck always travels with the moving traffic.
- Ideal in restricted space conditions: compared with inset paving, the machine frame is turned about 90° in longitudinal direction for offset paving applications.
- Offset paving can be effected in transverse direction if, for instance, a heavy mould is used that is mounted far to one side of the main frame.

# 3D control for economical concrete paving

High productivity,  
high precision



▲ The total station uses sensors to track the prisms mounted on the SP 500, thus calculating the 3D position of the mould

SP 500 paving to maximum precision without using stringline ▶



▲ The concrete slab produced by the SP 500 and 3D technology precisely meets the specified requirements

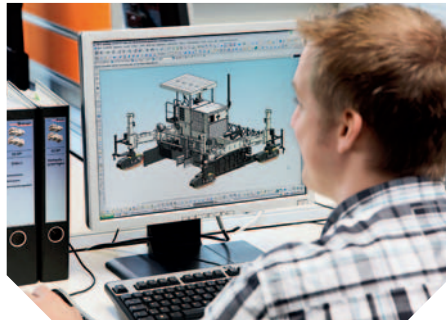
## Wirtgen – forging the way ahead in 3D technology

/// Wireless 3D control systems will drive the future of professional concrete paving. In addition to higher paving accuracy, it offers yet another major advantage: establishing the digital terrain models is much more cost-effective than the surveying and installing of stringlines. The SP 500 masters the state-of-the-art construction method with superior ease: in the course of the last decade, it has

successfully completed numerous projects, such as the first European railway track built using 3D technology. We have taken great care to test the SP 500's compatibility with the 3D control systems of leading suppliers, thus ensuring a high degree of operational reliability. In addition, our own experts are working on continuously improving and perfecting the 3D systems.

# Heavy-duty machines bearing the hallmark “Made in Germany”

Specialized engineers and technicians play a vital part in the engineering and design of the SP 500 ▶



Intelligent engineering and high-quality manufacturing

High-quality welding at the SP 500 machine frame ▼



Final assembly in the new assembly plant tailored to special-purpose machinery construction ▶



- ▶ At our German main production plant in Windhagen, we create the basis for a long and successful machine life.
- ▶ It is guaranteed by highly qualified staff and high manufacturing quality ensured by state-of-the-art, mostly computer-controlled manufacturing methods.
- ▶ In extensive testing procedures, our strict quality control attests only first-class workmanship “made in Germany”.
- ▶ Wirtgen applications specialists are present on the job sites of customers around the world to ensure that their requirements are incorporated in the SP 500’s further development.

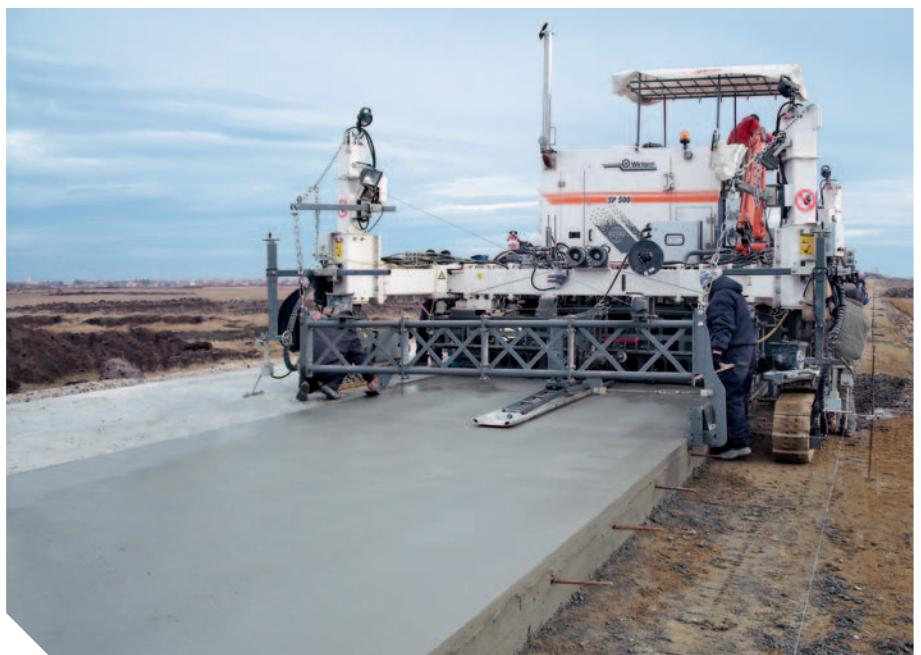
# Best-in-class quality: Concrete slabs

For durable  
concrete pavements



▲ Concrete spreading by means  
of a spreading auger in a country  
road project

The SP 500 is mastering its  
job with great ease: perfect  
concrete surface at an airport ▶



▲ Surface finish using a finishing  
beam and super smoother

## Wirtgen slipform pavers – in operation around the globe for thirty years

/// The SP 500 slipform paver is the ideal candidate for the fast and economically efficient production of all kinds of high-quality concrete slabs. Its modular design enables standard paving widths from 2.0 m to 6.0 m, as well as paving thicknesses of up to 400 mm. A spreading plough or spreading auger ensures homogeneous distribution of the concrete, while the sophisticated levelling

and steering control system guarantees accurate paving results. Dowel bars or tie bars are inserted in a fully automatic process, if required, without interrupting the paving process. The SP 500 thus offers everything it takes for the construction of traffic arteries with a high percentage of heavy traffic, airport runways, and highly stressed industrial surfaces.



# Profound experience: Tunnel construction

Machine setup adapted to restricted space conditions ▶

Zero-clearance paving in a tunnel near Madrid (Spain) ▼  
using wireless control



Crossing under the mountain at high speed



- ▶ Wirtgen has many years of experience in paving concrete tunnel floors under extremely restricted space conditions.
- ▶ Its modular concept enables the machine design of the SP 500 to be precisely customized to the application at hand.
- ▶ We have modified the design of, for instance, the concrete feeding system, paving mould or paving screed to precisely fit specific, challenging applications.
- ▶ A large number of successfully completed projects make the SP 500 a true specialist in underground concrete paving.

# A job for true experts: Slab track

Leading the way  
in development



◀ The “slab track” enables radii  
as well as steep slopes



▲ High-precision work for regional  
rail transport or high-speed trains

The precisely paved concrete  
profile enables train speeds in  
excess of 300 km/h ▶



## Master extremely low tolerances

Wirtgen has played a vital role right from the beginning in driving the development of the so-called “slab track”, which serves as a stable foundation, for example, for high-speed trains. The paving of slab track is very similar to the inset paving process. The SP 500 is capable of paving a “slab track” in any given shape. As high forces act on the rail structure, the rails are firmly embedded in

concrete rather than in “loose” ballast. A steel reinforcement is usually laid to strengthen the track, and the SP 500 then produces a concrete slab with a specific cross-section that needs to adhere to specifications with pinpoint accuracy. Arguments in favour of the ballastless type of construction are durability, suitability for heavy-duty operation, precise rail positioning and ease of maintenance.

# Huge range of applications: Concrete profiles



Covering all aspects  
of offset paving

Paving of a large  
V-shaped canal ▼

▲ Stable safety barriers of up  
to 2.2 m in height with or  
without steel reinforcement

Accurate paving of a curb  
and gutter profile ►



- Ease of transport and quick conversion enable the SP 500 to complete different jobs on different job sites in the course of a single working day.
- Curbs, curb and gutter profiles, small or high traffic barriers, canals of all kinds, rainwater gutters and narrow paths are paved with economic efficiency.

- Following conversion to an offset paver, the SP 500's narrow dimensions enable it to be used also on those sites where space is limited.
- The paving mould can be mounted on the left or right side depending on requirements – concrete is delivered via a belt or auger conveyor.



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