RoadNews for new roads

The WIRTGEN GROUP User Magazine for India // № 02

WIRTGEN VÖGELE HAMM KLEEMANN BENNINGHOVEN

Expansion of India's motorway network using WIRTGEN machines:

Excellence in concrete

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Dear Reader,

The National Highways in India constitute 2% of the total road network of the country, yet carry 40% of the traffic volume. In the last 3 years, heavy investments in strengthening and expanding the road network are underway and a big portion of these investments are for concrete roads. For instance, in Punjab, when expanding National Highway 73 to a four-lane concrete road, the contractor selected advanced machinery from the WIRTGEN GROUP. The concrete was paved using an SP 94 slipform paver and a TCM 180 texture curing machine from WIRTGEN.

Our engineering skill and the resultant innovations make all the difference to operators and users – as a mobile jaw crusher from KLEEMANN has once again proven. Combining a low diesel consumption with high productivity, the MOBICAT MC 110 Z EVO is extremely efficient to operate. Meanwhile, VÖGELE pavers demonstrate how technologies for automating processes can boost not just efficiency, but quality, too. The AutoSet Plus option enables users to create paving programs for asphalt paving – so that past results can be reproduced, over and over again when the paver has been relocated.

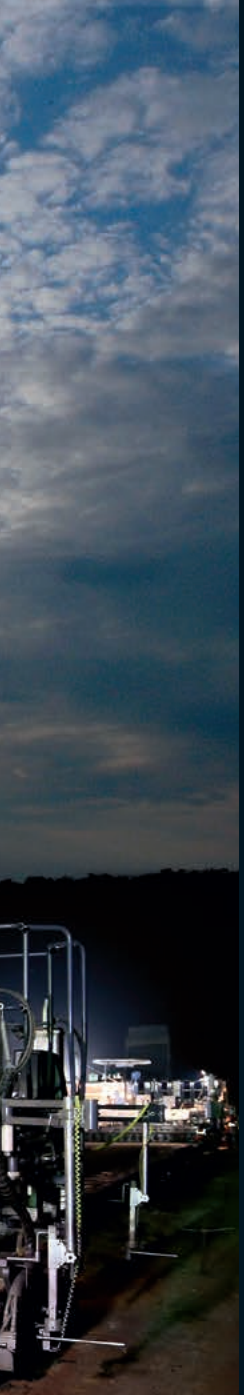
HAMM are currently celebrating a very special anniversary: 35 years of oscillation. This technology compacts surfaces particularly gently and efficiently, producing top quality results. Rapidly increasing the degree of density, it ensures an optimized process with fewer passes – just one of many reasons it continues to occupy the cutting edge.

We hope you enjoy reading this second edition of RoadNews India.

Best wishes,

Ramesh Palagiri
Managing Director & CEO
WIRTGEN INDIA Pvt. Ltd.

Night shift in India: due to the high daytime temperatures, a large part of the road widening work in Punjab took place during the night.



Precision concrete paving over a length of

30km

An SP 94 slipform paver and a TCM 180 texture curing machine from WIRTGEN were deployed to widen National Highway 73 between the towns of Barnala and Moga near the border with Pakistan.

India // Punjab

The traffic policy for the maintenance and development of the countrywide infrastructure has been leading to a large number of infrastructure projects. Mobility is, after all, absolutely essential for India to sustain its explosive economic growth. Innovative and high-performance machine technologies, in addition to efficient construction methods, are playing a crucial role in ensuring the long-term functionality of the road infrastructure. »»

Economical concrete paving

Concrete construction has been booming in India over recent years, being preferred to asphalt in the majority of road projects. Concrete is a very resilient material that is traditionally used on areas with high volumes of traffic and heavy trucks as well as areas exposed to high spot loads, such as airports and container terminals. The highest performance slipform pavers from WIRTGEN assure the economical production of high quality concrete pavements.

Client builds on WIRTGEN technologies

The responsibility for the operation and expansion of the road network lies with the National Highways Authority of India (NHAI), acting on behalf of the government. Although these National Highways account for only 2% of India's roads, they handle some 40% of its total traffic. This made it all the more urgent to widen the section of road on the new NH 703 between Barnala and Moga from two to four lanes. The contract for this work was awarded to VRC Constructions (I) Pvt. Ltd.

Once an excavator has distributed the fresh concrete roughly, the spreader plough of the SP 94 ensures that the material is distributed evenly over the entire pave width.

Climatic challenge

During the 18-month project the WIRTGEN SP 94 precisely paved the two new concrete lanes over a length of 30km. In the extremely hot summer months, a large part of the work was performed in the milder temperatures of the night, since excessive heat has a negative impact on the concrete paving operation and can affect the quality and durability of the pavement. To prevent the concrete from drying out too quickly and then cracking under stress, it was also vital to cure the fresh concrete immediately afterwards. For this reason the TCM 180, also from WIRTGEN, followed directly after the slipform paver, applying the curing compound, while at the same time texturing the paved surface, by means of its automatic spraying and texturing system.

Powerful SP 94

The SP 94 was perfectly at ease in paving these new concrete surfaces, 9m wide and 30cm thick. With pave widths between 2 and 9.5m, the mid-size inset paver can optionally pave crowns, too. Its powerful 224kW engine guarantees the ability to run a wide array of options while maintaining the highest fuel efficiency and the lowest noise levels, thanks to the ECO mode feature that automatically adjusts engine output to the current performance. The WIRTGEN concrete paver was equipped with the automatic Dowel Bar Inserter (DBI). The smooth dowel bars are placed where later the joints will be sawed to induce the controlled cracking and have the function of load transferring between slabs while allowing them to move longitudinally but not to be displaced vertically. By contrast, the corrugated bars inserted automatically by the Tie Bar Inserter tie the two lanes together and prevent them from moving apart. »»

SP 94 concrete equipment

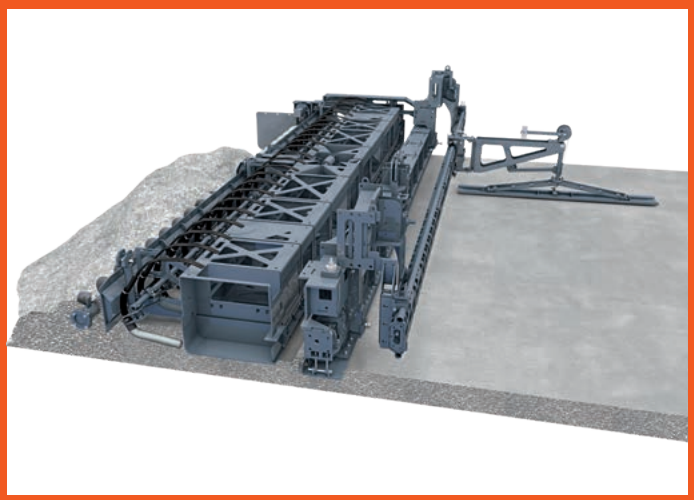
The fully modular SP 94 inset paver offers a wide and varied selection of concrete equipment that differs according to the application and requirement.

Inserted automatically, the longitudinal joint bars prevent adjacent pavement slabs from moving apart.

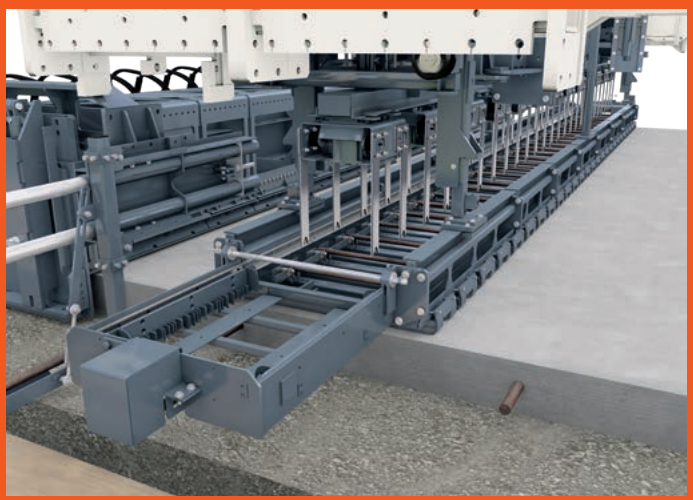
High smoothness

To achieve optimum evenness of the new concrete surface, the transversely Oscillating Correcting Beam (OCB) of the SP 94 first corrects the irregularities produced by the insertion of dowels and tie bars. Then the final finish – before the TCM 180 carries out the texturing and curing of the new surface – is provided by the Super Smoother. Its ski, floating on the concrete, generates surface evenness by a combination of longitudinal and lateral movement. »»

The TCM 180 follows immediately behind the SP 94, ensuring that the paved concrete is textured and cured properly.



The super smoother ensures a smooth surface by a combination of longitudinal and lateral movement.



The expandable dowel bar inserter is integrated into the machine frame.

The interplay between the SP 94 and the TCM 180 was simply perfect. You can always rely on the technologies from WIRTGEN.

Mr S. P. Singh, Project Manager VRC Constructions (I) Pvt. Ltd.

Precision even on bends

In addition to its excellent productivity, the SP 94 also offers a wide range of applications. The inset paver achieves the latter partly due to its four steerable and pivoting crawler units, which not only make transport easier but also mean the machine is faster to manœuvre and set up on site. The ability to adjust the steering angles of all crawler tracks entirely automatically allows varying job site conditions to be handled easily. "The SP 94 is very manœuvrable and can precisely pave in all sections, including on the bends of the NH 703," explains Mr S.P. Singh, Project Manager of VRC Constructions. The computer-aided speed adjustment of every single crawler track paired with the most sophisticated elevation and levelling control meet the tightest pavement smoothness specifications. In accordance with the project requirements, the TCM 180 texture curing machine delivers the desired surface texture and applies the curing compound. For the latest model of the machine, WIRTGEN have expanded the spectrum of possible surface texturing options. The proven transverse brooming and spraying functions, for instance, have now been joined by longitudinal brooming and spraying, while a diagonal texturing and spraying pattern option has also been made available upon request. Furthermore, the TCM 180 can be fitted with mounts for a burlap or synthetic turf. The film unwinder (polyroll) also enables the concrete to be protected quickly and effectively against negative influences caused by the sudden onset of rain. ///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German technology for the Indian market:

W 195 W 205 W 215

Developed by experienced WIRTGEN engineers, the new large milling machine series – with its models W 195, W 205 and W 215 – marks the launch of a new performance class on the Indian market.

W 195

Advanced – A cold milling machine for economical applications

The two-metre front loader in a tried-and-tested design was developed for efficient milling operations. Equipped with a 410kW diesel engine, the large milling machine delivers enormous engine power yet still consumes less fuel per cubic metre of milled asphalt. With a multitude of new and valuable features, it dovetails with the established WIRTGEN features to optimize the milling process, offer high flexibility in use and make operation of the milling machine considerably easier. The W 195 is suitable for all milling operations typical of the two-metre-class.

Maximum precision thanks to the levelling system

LEVEL PRO PLUS, the new levelling system developed by WIRTGEN, has been completely integrated into the machine's control system, where it ensures a precise, high-quality milled result thanks to its simple intuitive handling. The preset target milling depth is accurately controlled via robust displacement sensors located in the hydraulic cylinders which are mounted on the side plates. It is shown on the high-resolution LEVEL PRO PLUS colour display. The plug-and-play interface allows a large choice of additional sensors to be connected easily to the levelling system at any time.

Easy and economical operation

High daily production rates can be achieved thanks to an exceptionally simple and reliable operating concept. For example, the robust, easy-to-handle controls are arranged in a clear pattern and in line with application requirements. The weatherproof control screen provides clear information on all relevant data and operational parameters.

Optimized weight and advanced machine technology ensure high flexibility in operation. The reduced machine weight for ease of transport combined with high engine performance leads to an efficient weight-to-performance ratio of the W 195. Furthermore, the new WIRTGEN milling machine is exceptionally cost-effective thanks to low diesel consumption and tool use. »»

ADVANCED

1. Multifunctional joystick
Ergonomically designed multifunctional joystick for driving, steering, selecting the operating mode, raising the machine and switching off conveyor features.

2. Clearly arranged controls
The robust easy-to-handle controls are arranged in a clear pattern and in line with application requirements. The weatherproof control screen provides clear information on all relevant data and operational parameters.

3. Fully integrated levelling system
Full integration of the LEVEL PRO PLUS levelling system into the machine management system provides for a high degree of automation.

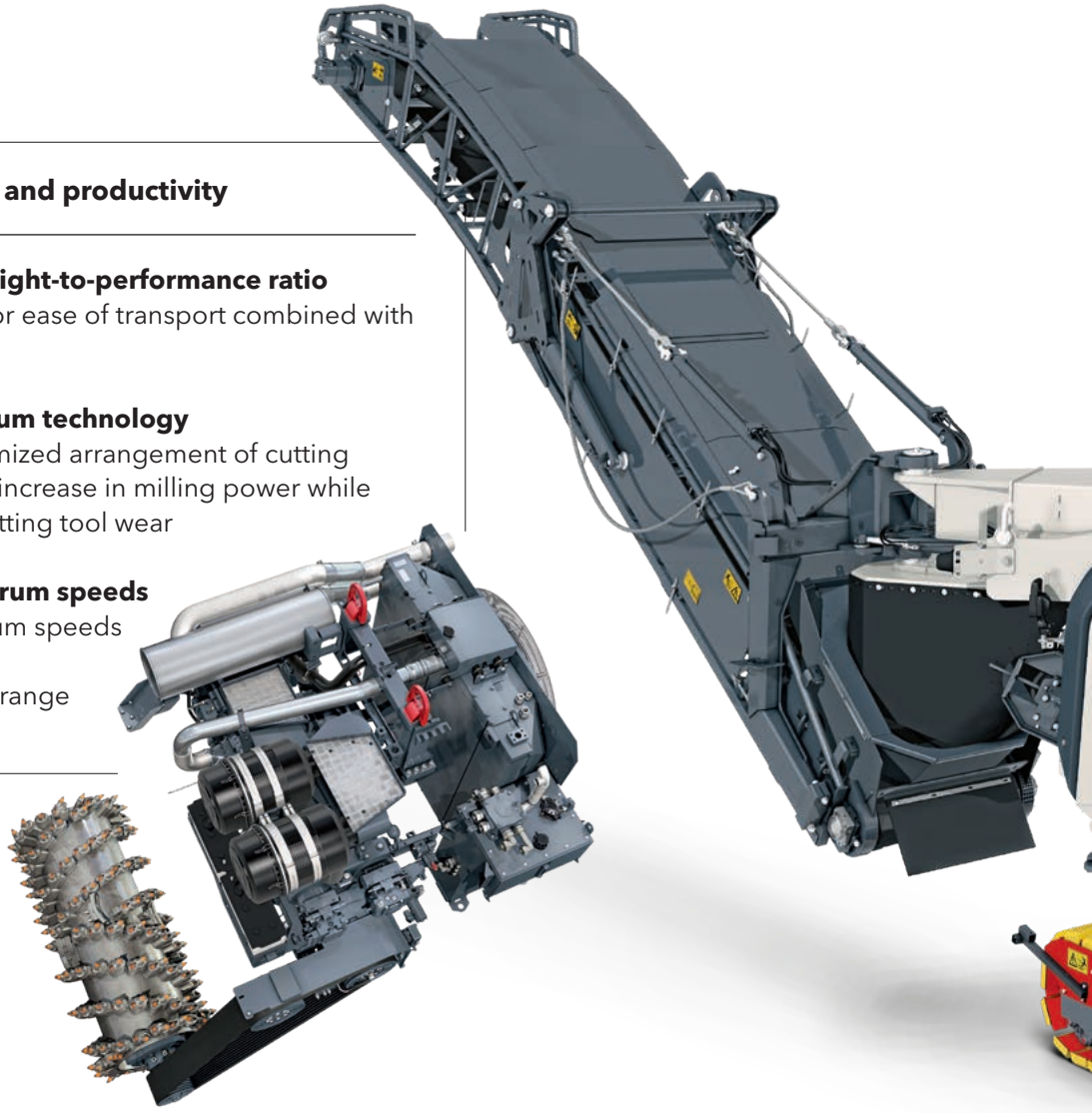
4. Intuitive levelling
The new LEVEL PRO PLUS levelling system offers intuitive, easy operation.

5. Hydraulic cylinders integrated in side plates
The reference line is scanned by high-precision displacement sensors integrated in the hydraulic side plate cylinders and then displayed on the high-resolution LEVEL PRO PLUS control screen.

6. High-precision levelling system
The new LEVEL PRO PLUS levelling system achieves unprecedented evenness values.

Highlights in performance and productivity

- **Exceptionally efficient weight-to-performance ratio**
  Reduced machine weight for ease of transport combined with high engine performance
- **New "Delta18" milling drum technology**
  The newly developed, optimized arrangement of cutting tools results in a significant increase in milling power while simultaneously reducing cutting tool wear
- **Three selectable milling drum speeds**
  Three selectable milling drum speeds ensure an optimum milling performance across a wide range of applications



W 205

Performance – A cold milling machine for high milling power

The W 205 two-metre cold milling machine hits the mark with its high milling performance and professional supplementary equipment. This professional machine is equipped with a 455kW diesel engine and caters to a wide range of applications from surface course rehabilitation all the way to full pavement removal.

Flexible Cutter System Light: Maximum range of applications

The Flexible Cutter System Light, or FCS Light for short, allows the use of different milling drums to increase flexibility and machine utilization. High capacity utilization is a key factor for the economic operation of large milling machines. It can be achieved particularly effectively if the cold milling machine is operated with a variety of milling drums, provided, of course, that the milling drums can be replaced quickly and easily. With FCS Light, WIRTGEN offer the optimum solution: milling drums with various tool spacings can be replaced in a short space of time. That makes it possible to perform a wide range of milling operations with one and the

PERFORMANCE

same machine. As a result, the W 205 is extremely versatile to use, covering everything from standard applications through fine milling for the creation of new, level road surfaces (ideally with the multiplex levelling system) to the use of ECO cutters for a particularly high area performance at low cost. This increases the capacity utilization of the W 205, boosting its economic efficiency in the process.

Increasing milling performance

What is more, the new Delta 18 milling drum technology and three adjustable milling drum speeds also ensure high performance at low operating costs. With Delta 18, the W 205 achieves an even higher milling output due to the optimized arrangement of the cutting tools in the outer ring and the conveying and ejecting areas of the milling drum, while simultaneously reducing the cutting tool wear. The three selectable milling drum speeds lead to an optimum milling performance across a wide range of applications with milling widths of 2,000mm and milling depths up to 330mm. The high traction of WIRTGEN's large milling machine is ensured by the exceptionally robust track units fitted with large track pads. »»

THE ULTIMATE

W 215

The ultimate – A cold milling machine for professional applications

The W 215 is the top performer among the cold milling machines, delivering maximum milling performance and high productivity in a broad scope of applications. More power equals more output equals faster work. This equation adds up thanks to innovations that enable customers to respond optimally to the different requirements on job sites. With this large milling machine, they can call on an extra 25% of milling output. Equipped with a 470kW diesel engine, the front loader delivers enormous engine power yet still consumes 15% less fuel per cubic metre of milled asphalt.

Furthermore, the W 215 boasts a comprehensive range of equipment including the VCS Vacuum Cutting System for good visibility and optimum working conditions, a camera system, LED lights, a milling drum turning device and, last but not least, a set of levelling equipment.

LEVEL PRO PLUS

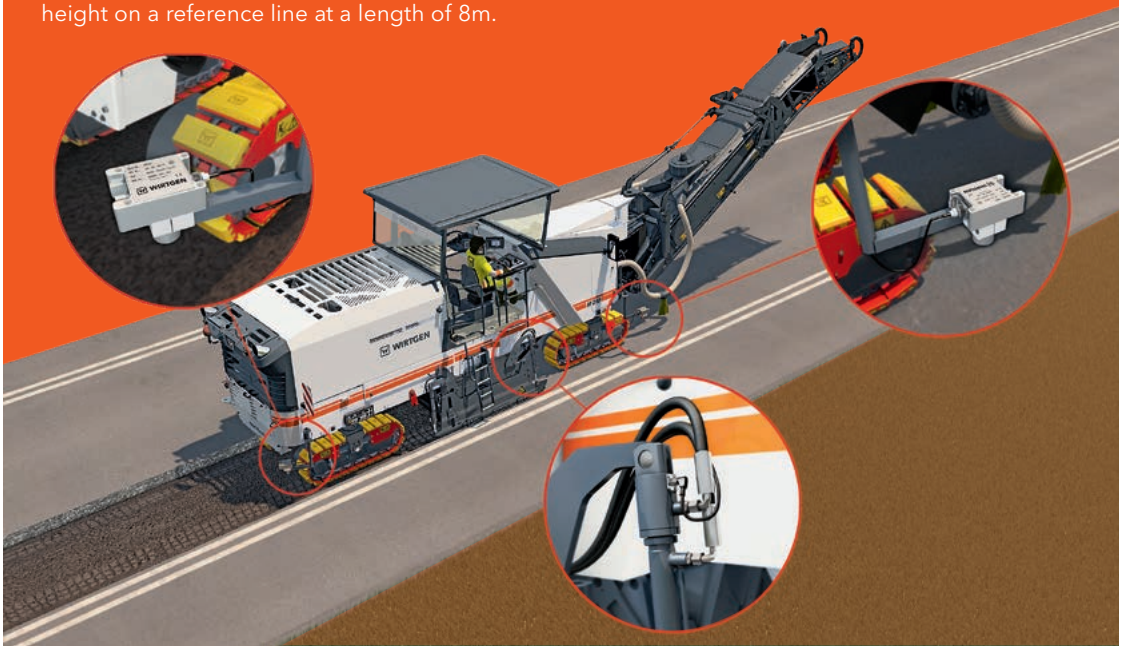
Large choice of sensors

The new LEVEL PRO PLUS enables a wide range of sensors to be used as standard equipment. Mechanical surface scanning, a cross slope sensor, sonic sensors or the Multiplex system ensure high-precision levelling for a wide variety of different milling applications.

In the multiplex system, for instance, three sensors on each side of the machine scan the height. The automatic levelling system factors all three measurements into its analysis so that the preset target milling depth is met exactly, but any unevenness in the road surface is not copied. This is a highly effective way of levelling out longitudinal undulations. What is more, defined surface profiles can be created, such as specified cross slopes on race tracks or crowns. This allows the entire road structure to be rehabilitated if necessary. ///

Levelling with multiplex systems

Multiplex systems are used to measure sustained, elongated unevenness and combine multiple sensors on both machine sides. To ensure maximum surface evenness, the three sensors scan the height on a reference line at a length of 8m.

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Half a metre, all the versatility

The new W 50 H/W 55 H: The ideal complement to WIRTGEN's range of small milling machines.

The WIRTGEN W 50 H and W 55 H machines are cost-efficient all-round machines for all standard small milling tasks. The spacious operator's stand, the intuitively operated control panels and the unobscured view of the edge being milled all add up to a cleverly designed workplace that is tailored to the operator. A large locking angle to either side and a maximum speed of 8km/h allow the machine to be relocated quickly and easily on the job site. All-wheel drive and a four-wheeled chassis deliver the best possible traction and stability on the road. The 82kW diesel engine of the half-metre small milling machines ensures powerful and efficient processing of the surface to be milled. Both machines can achieve a maximum milling depth of 180mm at a working width of 500mm. To make them even more versatile, a variety of milling drums is available. ///

Positioning of the small milling machine W 50 H/W 55 H

- High-powered, highly manœuvrable half-metre small milling machine for economical milling operations
- Large choice of milling drums for a tremendous range of applications
- Low diesel and tool consumption for increased cost efficiency
- State-of-the-art machine control also with integrated LEVEL PRO levelling system
- Compact machine also available in rear-loading design

With its loading conveyor, the WIRTGEN small milling machine W 55 H can transfer the milled material straight to a lorry.

The top-performing WR 250

The WR 250 is a high-performance machine with a 2,400mm working width designed to cater to particularly demanding applications. Its tremendous milling and mixing performance enables the WR 250 to tackle even the toughest jobs in soil stabilization and pulverize hard asphalt layers. With a host of advantages to recommend it, the WR 250 represents the yardstick when it comes to handling the greatest challenges in soil stabilization and cold recycling.

The fantastic three

The finely calibrated WIRTGEN WR series has the right product for every requirement in soil stabilization and cold recycling.

The multipurpose WR 240

The WR 240 is the all-rounder in the WIRTGEN fleet with a 2,400mm working width. It offers maximum flexibility for all applications in soil stabilization and cold recycling thanks to its large working width and working depth paired with high milling and mixing performance.

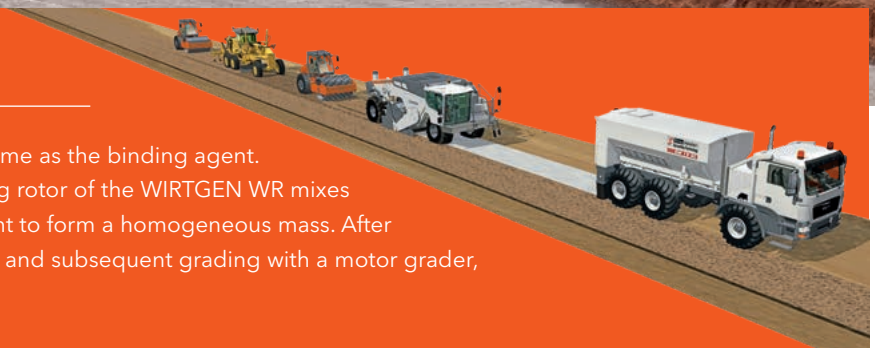
The compact WR 200

The WR 200 is easy to transport thanks to its compact design and low weight. The machine is suitable for a wide range of applications in both soil stabilization and cold recycling.

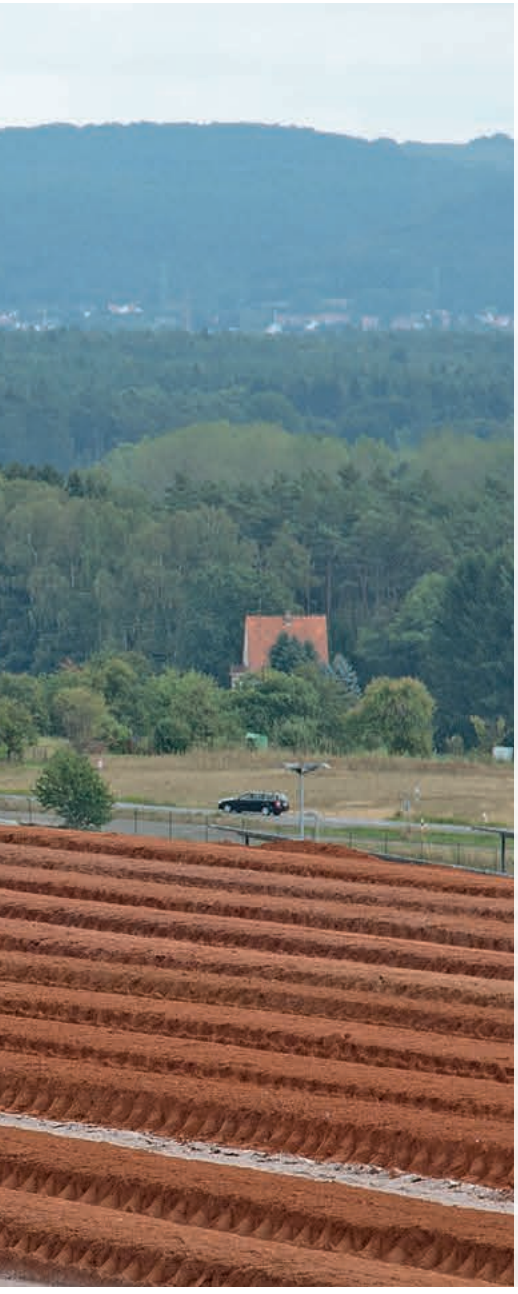
The wheeled recyclers and soil stabilizers are suitable for efficiently stabilizing soils with insufficient load-bearing capacity over a large area and are equally proficient at rehabilitating damaged asphalt surfaces.

More quality in earthworks: Soil stabilization with the WR series

Soil stabilization with lime



The binding agent spreader distributes lime as the binding agent. Behind it, the powerful milling and mixing rotor of the WIRTGEN WR mixes the soil with the pre-spread binding agent to form a homogeneous mass. After precompaction with a HAMM compactor and subsequent grading with a motor grader, HAMM rollers compact the soil.



Stability for soils with insufficient load-bearing capacity

Heavy, boggy soil makes life hard for road-builders, because roads need a reliable base. That is why the load-bearing capacity of the soil must be assured before every road construction project. Soil stabilizers transform soils with insufficient load-bearing capacity into ground with ideal properties for paving and compacting.

Delivering high performance at low cost

Soil stabilization is a far superior option to soil exchange as it requires fewer lorry transports, results in shorter construction times, saves resources and reduces CO_2 emissions. When operating as a soil stabilizer, the WR uses its powerful milling and mixing rotor to mix pre-spread binding agents, such as lime or cement, into the existing, insufficiently stable soil at working depths of up to 560mm to convert it into a construction material of high quality in an in-situ process. The resulting homogeneous soil-binder mixture offers high comprehensive strength and shear strength values as well as long term water resistance, frost resistance and volume stability. Typical applications include the construction of path, roads, motorways, foundations, parking lots, sports grounds, industrial parks or facilities, airports, embankments, backfills or landfills.

Its perfect ergonomic design and visibility concept, high performance and excellent mixing quality, maximum all-terrain mobility, automated features and numerous other highlights make the WR a pioneer on all soil stabilization sites in terms of delivering high performance at low cost. »»

More quality in road construction: Recycling with the WR series

When used for recycling, a WR machine mills and granulates asphalt pavements, injects binding agents and water in precisely metered quantities and mixes everything together – all in a single operation. Lime, cement, water, bitumen emulsion and foamed bitumen can be used as additives and binding agents. The thorough mixing of the milled material with binding agent and water and the ease and simplicity of operation together with precise levelling ensure optimum work results – from recycling thin asphalt layers on minor roads to recycling asphalt courses up to 250mm thick on highly frequented, heavily trafficked motorways.

Recycling with cement slurry and foamed bitumen

A bitumen tanker and WIRTGEN WM 1000 slurry mixer supply the WIRTGEN wheeled recycler with binding agents. The powerful milling and mixing rotor of the recycler granulates the damaged layers. At the same time, foamed bitumen and a water-cement slurry is injected by two microprocessor-controlled injection bars. Once the prepared material has been finish-graded, it is compacted by a variety of HAMM rollers.

DURAFORCE – A rotor for every requirement

Demanding and varying field conditions constantly bring new challenges for cutting tools used in cold recycling and soil stabilization. For its WR series, WIRTGEN has developed a solution that is more than a match for even the most extreme requirements in both applications: the new DURAFORCE milling and mixing rotor. This development marks the end of unprofitable tool changing times, maximizing lucrative operating times instead.

Milling and mixing rotor components form one unit

The optimal interplay of rotor, holder base, quick-change toolholder system and point-attack tools is essential if the milling and mixing capacity is to remain high in the long term. The use of high-grade materials and the intelligent geometry of the components ensure that the milling and mixing rotor has a long service life even in tough applications – such as stabilizing soil containing larger stones, stabilizing very abrasive material or granulating.

Optimum mixing results

The tool spacing and arrangement of the cutting tools on the milling and mixing rotor are tailored to the individual machine capacity, so that a high-quality mix is produced in a smooth, quiet milling and mixing process. The ingenious geometry of the holder base and the large diameter of the DURAFORCE rotor combine to produce a mixing chamber whose size varies according to the milling depth, ensuring that materials are mixed homogeneously. ///

The DURAFORCE milling and mixing rotor is hallmarked by a high wear, impact and fracture resistance. The unique geometry of the holder bases combined with the intelligent distribution of material allows the forces that are generated to be distributed optimally – particularly peak loads due to transverse forces.

AutoSet

and the paver thinks for itself

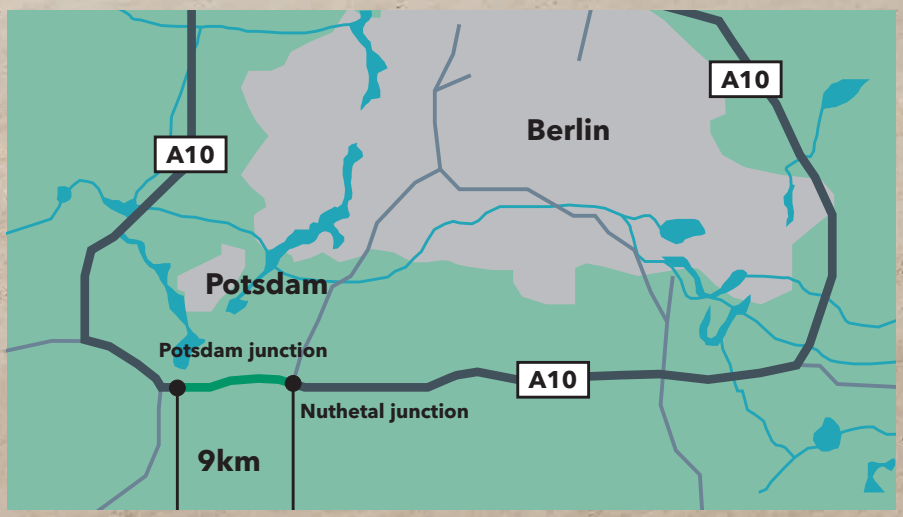
Widening of a trans-European motorway: AutoSet Plus, the automatic functions of the SUPER pavers, made it a lot easier for the paving team to move between the many small job-site sections.

Plus-

Deployment on the Berlin ring road: on the motorway job site at Potsdam, the AutoSet Plus Paving Programs function helped the paving team to ensure they were always working with the correct machine settings.

Berlin // Germany

A construction project with many small, scattered sections: for the paving team from contractor Johann Bunte Bauunternehmung GmbH & Co. KG, the widening of the A10 motorway around Berlin was fraught with challenges. After all, if the work cannot be done all in one go, important machine settings have to be constantly re-entered. That takes time, and is also a potential source of errors. And this is why the motorway job site impressively highlighted the benefits of the AutoSet Plus paving programs: the automatic functions for SUPER pavers ensure paving quality at the press of a button. »»



This is AutoSet Plus

The innovation for the SUPER pavers of the "Dash 3" generation allows procedures to be automated and make the paving process more efficient – and all at the press of a button on the paver operator's ErgoPlus 3 console. It is important to distinguish between two basic functions:

1. The Repositioning function

Automatic repositioning accelerates the resumption of work after the paver has been moved on the job site or when there is a change of work shifts, for instance. Paving-related paver settings are stored for later retrieval.

2. The paving programs

When paving programs are created, all the settings and paving parameters of relevance for a particular job site are saved. This ensures that the data will be available for comparable projects in the future and can be called up at the press of a button.

This article explores these AutoSet Plus paving programs.

› The construction project: Widening of the main traffic artery towards eastern Europe

At 196km, the A10 motorway – known as the Berlin ring road – is the longest motorway orbiting a European metropolis. A large proportion of the heavy goods and passenger traffic to and from Poland and other eastern European countries uses it to bypass Berlin, and it is additionally used by many commuters. One of the most heavily used sections lies between the Potsdam and Nuthetal junctions southwest of the German capital. It is predicted that the volume of traffic on this 9km stretch will rise from 90,000 to 126,000 vehicles a day by 2025, around a quarter of them lorries, which is why the A10 is being widened to eight lanes over this stretch. Until the project is completed in 2020, traffic around the job site will continue to run on six lanes. The work will proceed as follows: the first phase of the process is the complete removal of the three existing westbound lanes. Next, four new lanes will be built from scratch. The same procedure will then be applied for the eastbound carriageway. The width of the carriageway will increase to 18.5m in each direction.

Strip 1:
SUPER 2100-3i with Navitronic Plus

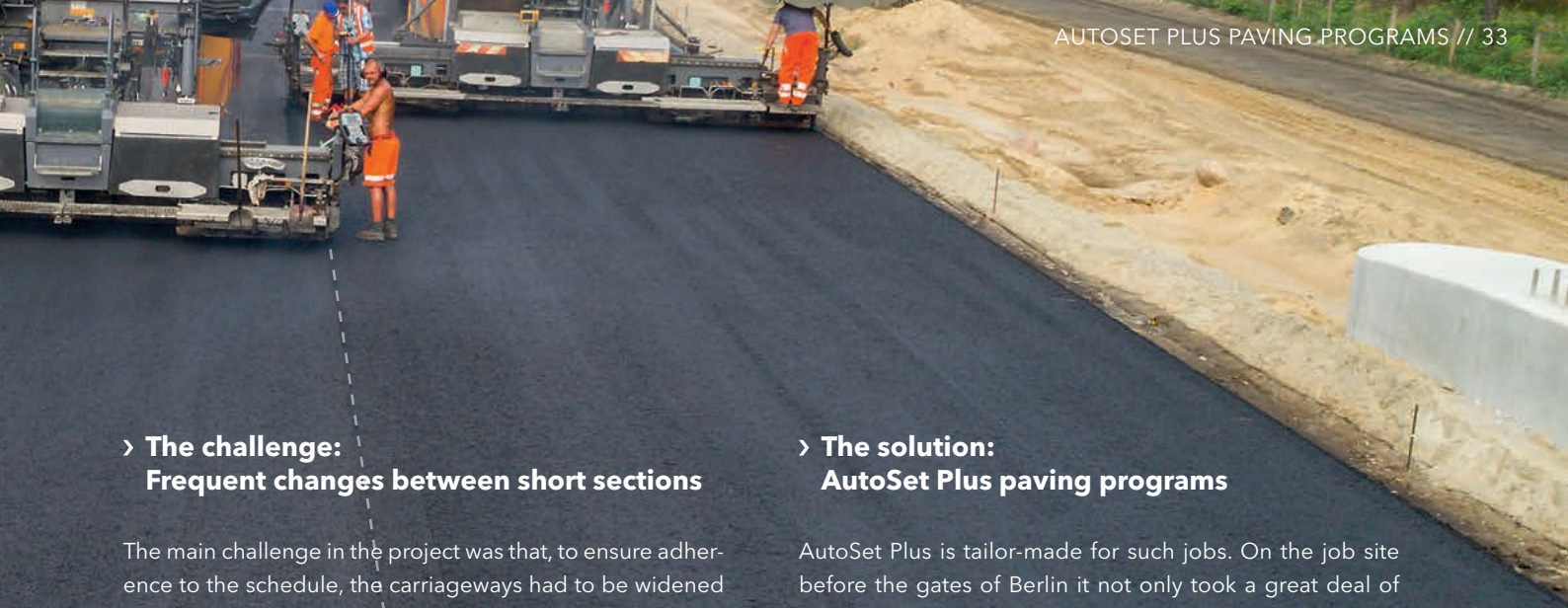
Strip 3:
SUPER 1900-3i scanning on both sides with multi-cell sonic sensors (“hot to hot”)

Paving scheme for maximum precision

Many small sections, one identical paving scheme: work began with the paving of one strip, with the other two strips then being laid by two pavers in parallel. The details of the procedure are as follows:

Strip 1: the first strip of the base courses was laid by the SUPER 2100-3i – true to line and level thanks to Navitronic Plus from VÖGELE.

Strips 2 and 3: after repositioning, the SUPER 2100-3i also laid the outer strip with Navitronic Plus, working in a team with the SUPER 1900-3i – in a “hot to hot” process.



› The challenge: Frequent changes between short sections

The main challenge in the project was that, to ensure adherence to the schedule, the carriageways had to be widened with interruptions, because the bridges and underpasses had to be widened or likewise built from scratch simultaneously with the construction of the road. That meant that the paving team of the contractor Johann Bunte Bauunternehmung GmbH & Co. KG frequently had to move from one strip to the next or between the sections while also paving a variety of mixes – sometimes within the same work shift.

› The solution: AutoSet Plus paving programs

AutoSet Plus is tailor-made for such jobs. On the job site before the gates of Berlin it not only took a great deal of strain off the Bunte workers, but also played a key role in ensuring quality. AutoSet Plus is easily and intuitively operated from the paver operator's ErgoPlus 3 console. The Paving Programs function enables AutoSet Plus to automate the work processes – not only saving time, but also improving the paving quality. The function was used on the Berlin ring road because it allows all settings and paving parameters to be saved and then retrieved as required. This made the processes on the job site, with its numerous separate sections, significantly more efficient and convenient. »»

Strip 2:
SUPER 2100-3i with Navitronic Plus
("hot to hot")

The SUPER 1900-3i used multi-cell sonic sensors from VÖGELE for grade and slope control, as the precisely paved strips on the right and left of this paver could be used as a reference.

Fully focussed on the paving work: Navitronic Plus, VÖGELE's 3D machine control system, takes care of the steering, while controlling the grade and slope as well as the screed's position.

We've delivered first-class work on the A10. We were greatly helped not only by AutoSet Plus, but also other cutting-edge technology from VÖGELE – especially RoadScan and Navitronic Plus.

Jürgen Schimang, Asphalt Coordinator
Johann Bunte Bauunternehmung GmbH & Co. KG

3D control with Navitronic Plus, temperature control with RoadScan

The use of AutoSet Plus was not the only innovative aspect of the paving work, though: to ensure the pavement was true to line and level exactly as specified in the planning data, the SUPER 2100-3i was equipped with Navitronic Plus from VÖGELE. The 3D control system takes over the grade and slope control – automatic control of the grade and crossfall – while also controlling the screed's position. But that's not all: Navitronic Plus handles the steering of VÖGELE tracked pavers as well – a benefit that only VÖGELE offer their customers. To provide a virtual reference, an mmGPS system from TopCon (3D zone laser and GPS) was used on the Berlin ring road. This ensured maximum precision in truth to line and level – likewise automatically. The documentation of the paving results, too, was cutting edge – both SUPER pavers were equipped with the VÖGELE temperature-measurement system, RoadScan. »»

Project broken up by construction of new bridges

The construction project was also a typical job for AutoSet Plus: the motorway section is being widened to 18.5m in each direction, but the existing bridges are not configured for this width and likewise have to be replaced and widened. As a result, the job site is split into many different sections of relatively short length over which the entire asphalt package has to be laid. The asphalt package consists of a mortar base on which the asphalt layers comprising base, binder and surface course are placed. For noise abatement purposes, this has to be largely porous asphalt.

AutoSet Plus eliminates manual input of paving parameters

"Normally we have to set all the paving parameters again every time we reposition the paver," explains Henry Moser, Paving Foreman at Johann Bunte Bauunternehmung GmbH & Co. KG. "The same applies for every new layer if a different mix is to be paved with a different thickness and paving speed." In a construction project such as the widening of the A10, the settings for the 2 VÖGELE SUPER 1900-3i and SUPER 2100-3i pavers would have to be re-entered again and again. "And when there's time pressure as well, it goes without saying that mistakes can arise," Moser adds. "That's why we were glad of the assistance AutoSet Plus provided on the job site."

Error-free work at just the press of a button

The critical factor on the motorway job site was that each mix for the various asphalt layers had to be paved with identical parameters. To achieve this, both paver operators saved the settings after each layer as a paving program whenever this layer was laid for the first time. This was quick and easy to do, because most of the settings can be taken over automatically by AutoSet Plus.

After laying the asphalt pavement on one of the sections, Bunte transported the 2 VÖGELE Highway Class pavers to the next one – and the operators were able to continue working with identical settings at the press of a button. "That enables us to ensure that every asphalt layer is laid and precompacted in the same way on each section," adds Jürgen Schimang, Asphalt Coordinator at Bunte. "So AutoSet Plus gives a high degree of security: to the paving team, because there is one less potential cause of errors; to us, because we have more process reliability; and to the client, because they can be sure that every metre of every layer is paved identically." »»

Combination of pavement construction and rehabilitation: VÖGELE pavers are widening the A10 motorway before the gates of Berlin.

The Berlin ring road (A10) in figures:

- Complete orbital bypass around Berlin
- At 196km, the longest motorway ring road in Europe
- Projected traffic: increase from today's 90,000 to 126,000 vehicles/day by 2025
- Proportion of heavy goods traffic: 25%
- The only motorway that already had six-lane sections back when it was part of East Germany
- Huge importance for national and international traffic to and from Berlin, for commuters from the region and for trans-European heavy goods traffic

The actual AutoSet Plus paving programs for the Berlin motorway job site, taking the base course as an example

Thinking for itself at the press of a button: when the first base course strip had been laid, the Bunte workers saved all the machine settings using AutoSet Plus. To do that, the paving team saved just six parameters manually in the "AC22T-10cm-06m" paving program, because AutoSet Plus automatically took over all the rest of the data from the machine settings. The name of the paving program is generally composed of the parameters entered: in this case "AC" for the type of mix (Asphaltic Concrete), "22" for the maximum grain size in millimetres and "T" for base course (which is *Tragschicht* in German). The "10cm" addition denotes the layer thickness and "6m" the pave width. The large number of parameters stored indicates just how much time can be saved using the AutoSet Plus paving programs: at the start of a work shift or another construction project, the paver operator or paving foreman can select the program from the memory and activate it by pressing a button. The Bunte paving team has also created paving programs for the binder and surface courses – allowing them to increase its productivity further.

A real bonus on many jobs: The AutoSet Plus paving programs

Use:

The AutoSet Plus Paving Programs function allows operators to save detailed paving parameters and retrieve them in the future at the press of a button – either on the same job site or on a different one with comparable paving conditions.

Saving a paving program:

The user presses the M2 key to go to the AutoSet Plus paving programs menu and the F6 key to go to the menu for saving a new paving program.
All of the relevant parameters from a paving program can be collated and saved.
A distinction must be made between six settings that always have to be entered manually, and many others that can be taken over automatically from the machine settings currently selected.

Settings to be entered manually:

- Type of layer
- Type of mix
- Grain size
- Pave width
- Layer thickness
- Tamper stroke

Settings taken over automatically:

- Crown profile
- Pave speed
- Tamper speed
- Pressure for the pressure bars
- Height adjustment of the auger
- Screed Freeze or Screed Assist
- Max. speed of the two conveyors
- Height adjustment of the tow point rams

Once a name has been entered for the paving program, the user can save the program by pressing the F8 key.

Retrieving a paving program:

The saved program can be retrieved from the AutoSet Plus program memory and activated at any time.

With AutoSet Plus the paving quality achieved on one job can be reproduced time and again. That's because the paver and screed settings can be saved as a paving program. Quality assurance couldn't get any easier.

André Felchner,
Head of Applications Technology
VÖGELE

Green light for perfect communication

Continuous transfer of mix on the B271: in the vicinity of a motorway exit on the B271 federal highway, a SUPER 1800-3i with PaveDock Assistant – one of VÖGELE's innovations for the current "Dash 3" generation that simplifies communication between paver operator and the driver of the feed vehicle – ensured uninterrupted paving.

Germany // Bad Dürkheim

Even in conventional paving there are some challenges to overcome. Working without interruptions, for instance, and avoiding the jolts caused by the feed lorries as they dock. Both of these criteria can now be met perfectly thanks to a current VÖGELE innovation: PaveDock Assistant. This is VÖGELE's name for one of the options offered for their "Dash 3" paver generation – operating on the principle of a signal light, it improves communication on the job site and actively supports the lorry driver when docking. The system excelled in every respect when paving the surface course for the modification of an exit on the B271 federal highway. »»

To see just how smoothly PaveDock Assistant works in practice, watch a video on the job site in Bad Dürkheim – go to:
www.voegele.info/pavedock_b271

Job site details

Roadworks at the Bad Dürkheim/Seebach exit on the B271 federal highway, Germany

Working parameters

Pave width:	2 x 4–4.5m
Pave speed:	3m/min
Required accuracy:	± 3mm
Layer thickness	
Surface course:	3.5cm

Material

Stone mastic asphalt	SMA 85 25/55/55

Equipment

2 SUPER 1800-3i pavers
with AB 600 TV Extending Screed
1 SUPER 800-3i paver
with AB 220 TV Extending Screed
1 HAMM HD 12 tandem roller
1 HAMM HD+ 90 tandem roller
with oscillation drum
1 HAMM GRW 280 pneumatic-tyre roller

Milestone for greater process reliability during transfer of the mix

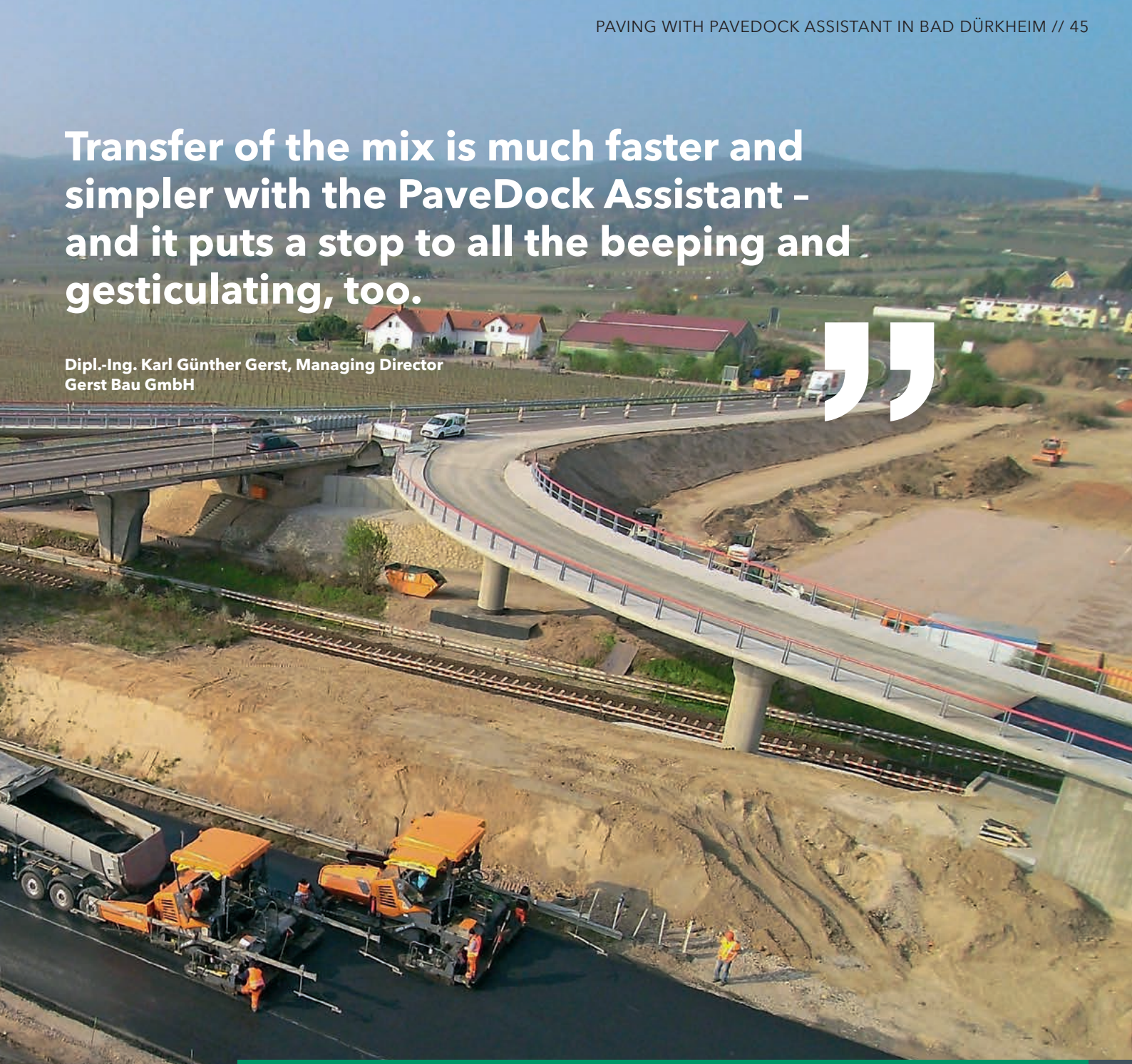
In practice, the procedure on the Bad Dürkheim job site was as follows: the SUPER 1800-3i used two signal lights to indicate clearly whether the feed lorry was to reverse, stop, dump mix or drive off again. The signal lights are positioned high up on the hardtop of the machine, where they are easily visible to the lorry driver at all times. One of the key advantages is that the PaveDock Assistant eliminates the need to use horns in job site traffic. This wide-spread practice is not only unreliable – particularly when paving with multiple pavers – but also annoys local residents and confuses vehicle drivers.

Easy handling from the paver operator's ErgoPlus 3 console

For the paver operator, changing signals to pass on instructions to the lorry driver is a simple and intuitive process from his ErgoPlus 3 console (see the information box). All functions of the SUPER pavers are integrated into the innovative, easy-to-learn operating concept from VÖGELE. Thanks to the PaveDock Assistant, docking feed lorries did not cause a single jolt on the B271 job site. Jolts are dreaded, because they affect the screed and can leave imprints on the freshly paved asphalt course. ///

Transfer of the mix is much faster and simpler with the PaveDock Assistant – and it puts a stop to all the beeping and gesticulating, too.

Dipl.-Ing. Karl Günther Gerst, Managing Director
Gerst Bau GmbH



PaveDock Assistant – the signal light system for lorry drivers – works as follows:

1. Dock: This signal is activated on the paver operator's ErgoPlus 3 console for as long as the feed lorry is to reverse.
2. Stop: As soon as the lorry docks onto the push-rollers, the driver is given the signal to stop.
3. The up arrow means "Raise dump box". The mix can be transferred to the paver's material hopper.
4. The down arrow means "Lower dump box". The mix has been unloaded.
5. The lorry can leave the job site and drive back to the asphalt mixing plant.

Perfect interaction for maximum quality: the MT 3000-2i Offset PowerFeeders supply the SUPER pavers with mix and prevent interruptions to paving work as well as jolts from feed vehicles.

Germany // Weinsberg

Decoupled material transfer from the feed vehicle to the road paver is one of the major drivers in road construction. After all, this process is a critical factor with a considerable impact on the quality of asphalt paving projects. Material feeders are consequently gaining ground around the world – also because the machines simultaneously enhance productivity. The advanced MT 3000-2i Offset PowerFeeder, for instance, has a conveying capacity of 4,000t per work shift. Equipped with a pivoting conveyor for transferring the mix – as indicated by the Offset in the name – the VÖGELE machines are particularly flexible in use. Just how flexibly this innovation enables paving teams to meet the requirements of major projects is demonstrated by a job site at the Weinsberg intersection between the A6 and A81 motorways, a route which carries 100,000 vehicles every day. »»

Discover the VÖGELE MT 3000-2i Offset PowerFeeder in the big web special at:
www.voegele.info/webspecial/powerfeeder

Innovative technology pays off

First job for two MT 3000-2i Offset PowerFeeders fresh out of the factory: the VÖGELE PowerFeeders supported the 3 SUPER pavers rehabilitating the carriageways at the Weinsberg motorway intersection. The advanced machines ensured a consistently high flow of mix for a continuous paving process.

Non-contacting and with no danger of collision: 3 laser sensors continually measure the distance between PowerFeeder and paver. The system stops the paver automatically as soon as the distance falls below the preset minimum.

You can watch a video of the job site here:
www.voegele.info/weinsberg

The PowerFeeder delivers just what we so urgently require in today's competitive climate: highly efficient and highly productive work in superb quality.

Michael Weber, Technical Director
Wolff & Müller Tief- und Straßenbau

Two PowerFeeders – A doubly perfect solution for the supply of mix

When rehabilitating the carriageways of the A6 motorway, the aim was to make the paving process continuous, i.e. to avoid any interruptions to paving. Thanks to a huge total storage capacity of 45t and a peak conveying capacity of 1,200t/h, the 2 new MT 3000-2i Offset PowerFeeders met requirements in full – and still had some capacity to spare. When material feeders are used, the transfer of material is decoupled, which means that the lorries dump the mix into the receiving hopper of the feeder. This prevents the lorries from passing jolts to the paver, which could have a detrimental effect on the paving result. In this way, the non-contacting transfer of mix improves the pavement quality. A safe and reliable transfer of mix is another hallmark of VÖGELE machines: collisions are prevented by the automatic distance control with anti-collision protection. These are benefits that only VÖGELE machine technology offers. These attributes clinched it for the contractor, Wolff & Müller.

Continuous paving thanks to large mix storage capacity

"On motorway job sites, a lot of feed vehicles have to unload paving material within a very short space of time. And such a critical process can't be rushed. Our new VÖGELE PowerFeeders provided valuable support with this, right from the first metre," explained Lars-Peter Schwarzer, Asphalt Construction Manager for Wolff & Müller. With the MT 3000-2i Offset PowerFeeder, 25t of mix can be transferred in the space of just 60 seconds. The material slides down into the material feeder's large receiving hopper in which conical augers transverse to the direction of travel ensure that the material is withdrawn evenly. Together with the trough-shaped conveyor, this counteracts mechanical and thermal segregation. ///

Job site details

Rehabilitation project at the Weinsberg intersection of the A6 motorway, Germany

Length of section:	1.6km

Working parameters

Pave width:	6.5–8.5m
Pave speed:	5.5m/min.
Layer thickness	
Surface course:	4.5cm
Binder course 1:	6.5–8.5cm
Binder course 2:	11.5cm

Material

Surface course:	porous asphalt
Binder course 1:	AC 22 BS 25/55/55
Binder course 2:	AC 16 BS 25/55/55

Equipment

2 VÖGELE MT 3000-2i Offset PowerFeeders
1 VÖGELE SUPER 1900-3i paver
with AB 500 TP2 Extending Screed
1 VÖGELE SUPER 1900-3i paver
with AB 600 TP1 Extending Screed
1 VÖGELE SUPER 2100-3i IP paver
with AB 600 TP2 Plus Extending Screed

HAMM Oscillation:

Successful in asphalt construction and earthworks for the last 35 years

Over 35 years ago, HAMM were the first roller manufacturer to introduce a drum with oscillation technology. Today this technology is an integral part of the HAMM product portfolio: one in four new HAMM tandem rollers is equipped with an oscillation drum. One reason behind HAMM's success is their broad range of products, including oscillation rollers in all weight classes and for all markets. The other reasons: with oscillation rollers from HAMM, you can complete high-quality compaction jobs quickly and cost-efficiently, and the range of applications is enormous. »»

35 YEARS

Oscillation from HAMM – The video

Watch it now at

www.hamm.eu/oscillation

Oscillation from HAMM

Did you know that…

…HAMM is the pioneer of oscillation?

…HAMM has manufactured over 7,000 rollers with oscillation?

…today one in four HAMM rollers is ordered with oscillation?

Find out more about HAMM oscillation in the video – at

www.hamm.eu/oscillation

Oscillation from HAMM – The original

Product portfolio with over 35 oscillation rollers: apart from tandem rollers from 7–14t, HAMM is the only supplier worldwide to also manufacture oscillation rollers in the compact class (2.5–4.5t) and soil compactors with VIO drum that additionally support oscillation compaction.

35 YEARS

Fast, cost-efficient, high-quality

Tandem rollers from HAMM with one oscillation and one vibrating roller drum achieve at least the same degree of density as a double vibrating drum roller, but with fewer passes. At the same time, they emit significantly lower levels of vibration to the surrounding area. Another plus: oscillation rollers can begin dynamic compaction right behind the paver. What is more, they can handle the main compaction work. Even when asphalt temperatures are low at the end of the process, oscillation makes it possible to increase the degree of compaction without grain destruction. Overall, the time available for compaction is considerably longer with oscillation than with vibratory rollers.

Use in earthworks and asphalt construction

Oscillation rollers can be used for all layers encountered in earthworks and road construction. In earthworks applications, they are in demand wherever the upper layers need to be reliably prevented from re-loosening, for instance on landscaping jobs. Another important application is compacting surfaces in vibration-sensitive areas, such as above pipelines or in the vicinity of railway tracks. In asphalt construction, oscillation rollers reliably compact all base, binder and surface courses. They are particularly effective in compacting generally hard-to-compact asphalts, such as SMA or polymer-modified material mixes. This is because, in contrast to vibration compaction, the effective direction of the vibrations during oscillation promotes the desired redistribution of long-chain binding agents.

Demanding job sites

Other applications include work on thin layers (surface courses, thin overlay) in vibration-sensitive areas (bridges, confined urban spaces, buildings or parking decks) and anywhere where mix cools quickly (thin overlay, windy or cold environments). The compaction of joints is another important application: here, oscillation rollers compact hot asphalt without damaging the adjacent cold asphalt. »»

HAMM – A pioneer of oscillation

- HAMM were the first to introduce oscillation rollers to the market and have since continuously advanced the technology.
- Today, HAMM have over 30 models equipped with oscillation technology in their range.
- HAMM are the only manufacturer worldwide to engineer rollers in the compact class and soil compactors with oscillation technology.
- HAMM offer oscillation rollers that meet different exhaust emissions standards (Tier 3 and Tier 4).

Rollers with an oscillation and vibrating roller drum compact faster and achieve higher degrees of density than double vibrating drum rollers.

Advantages of oscillation

Oscillation has a positive impact
on the efficiency and quality of compaction.

Advantage 1: High compaction performance – High efficiency

Oscillation rollers compact very rapidly. Put another way: their compaction performance is extremely high, thanks to the combination of dynamic shear forces and continuous static load resulting from the net weight of the machine. Significantly fewer passes are required as a result, particularly when compacting large surface areas. Therefore, using oscillation is very cost-efficient on many major projects, because thanks to the rapid increase in the degree of density, fewer rollers are required for an optimized process.

Advantage 2: Easy operation

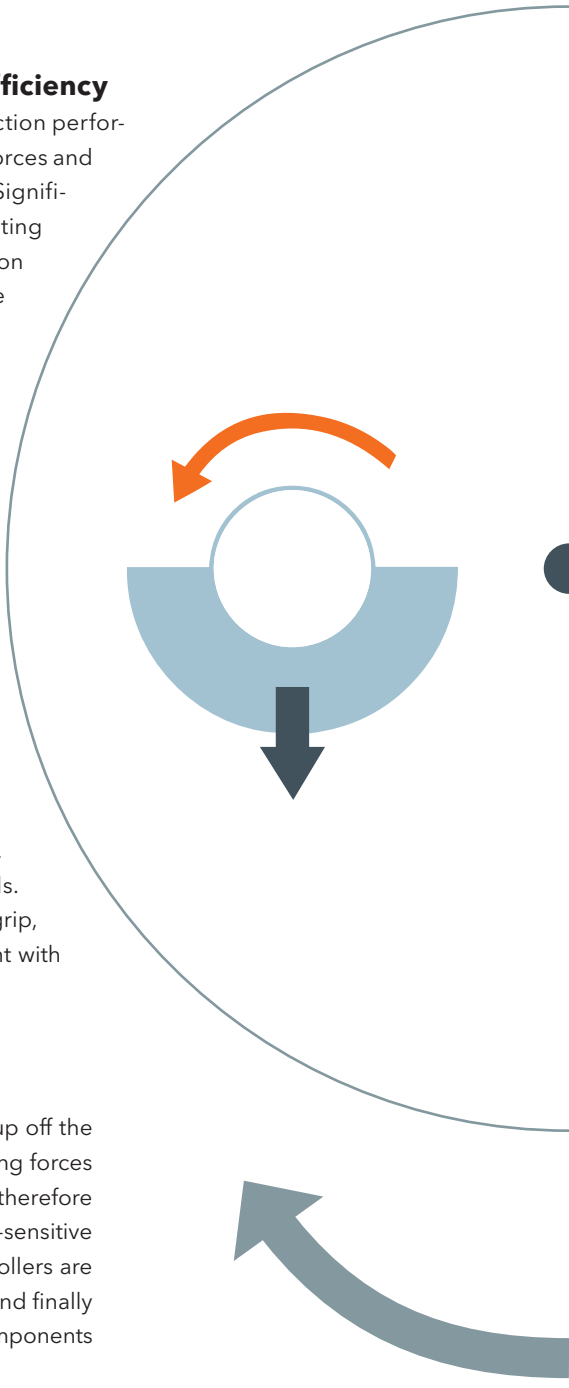
To generate vibration, HAMM harness the laws of physics in such a way that oscillation rollers are extremely easy to operate. Just switch on the machine and it automatically sets the right amplitude based on the rigidity of the material to be compacted. And it adjusts so quickly that compaction is at the optimal setting at all times, even when the type of ground varies. This way, HAMM also prevent operating errors caused by choosing the wrong settings.

Advantage 3: Level, non-skid surfaces

Oscillation rollers produce surfaces with outstanding longitudinal evenness, because the drum is in continuous contact with the ground. What is more, no undulations result, even at high operating speeds. Asphalt compaction with oscillation also produces an excellent initial grip, because the drum abrades the bitumen on the surface of the pavement with its oscillating motion.

Advantage 4: Low vibration load

In comparison with vibration technology, oscillation drums do not rise up off the ground during compaction and therefore only about 15% of the vibrating forces are conducted into the ground around the roller. Oscillation rollers can therefore easily be used for dynamic compaction in the direct vicinity of vibration-sensitive buildings or systems. Because they generate less vibration, oscillation rollers are also considerably quieter and contribute to environmental protection. And finally but importantly, low-vibration compaction is easier on all the machine components and relieves some of the stress on the roller operator.



The principle of oscillation

With vibration technology, a single eccentric shaft is responsible for the up and down motion of the drum. It hits the ground at high frequency. In contrast, two eccentric shafts rotate synchronously in the oscillation rollers, driven by a toothed belt. The eccentric shafts are mounted at an offset of 180°, which causes the drum to execute a rapidly alternating forward-backward rotation.

This motion conducts the compaction power, in the form of tangential shear forces into the ground towards the front and back. Unlike with vibrating roller drums, the compaction power acts continuously on the ground, because the drum is in continuous contact with it. Oscillation rollers thus compact dynamically but also statically at all times on account of their machine weight.

Advantage 5: Compaction does not damage the paving material

In vibration compaction, above a certain rigidity level, you risk destroying the material structure or destroying the grain. This is not the case with oscillation, which ensures non-destructive redistribution of the grain. In other words, oscillation avoids grain destruction or over-compaction. What is more, oscillation compaction produces dense, durable joints without damaging the cold asphalt.

Advantage 6: Wider temperature window

With oscillation, you widen the temperature window in which compaction is possible, because non-destructive compaction is possible for oscillation rollers even at relatively low temperatures. Oscillation is therefore particularly suitable for compacting thin overlay or on rapidly cooling surfaces, like bridge decks. Furthermore, this characteristic enhances the flexibility of the construction process. »»

Clients worldwide are choosing oscillation

Building authorities and private clients know that dynamic compaction with oscillation improves quality in road construction. Not least because oscillation has proven its worth on major construction jobs. The rapid increase in the degree of density optimizes the process and fewer passes are required. It's no wonder then that using rollers with oscillation technology for compaction is an increasingly common requirement when rapid completion, quality and durability are of the essence. ///

Road construction site in Ithaca, New York: oscillation is as much in demand in the USA as it is in Europe and Asia.

Earthworks between railway tracks and historic buildings in Oberwesel, Germany: just one oscillation roller could deliver the required compaction here without damaging the half-timbered houses or the sensitive railway tracks.

Constructing the Formula 1 track in Baku, Azerbaijan: when building this city circuit, a premium-quality asphalt surface had to be produced despite confined conditions as well as underground parking decks and pipelines. Oscillation rollers were therefore mandatory on this job.

Construction of motorway section on the A61, Germany: oscillation rollers from HAMM achieved a high compacting performance and premium quality results.

Construction of the Hong Kong-Zhuhai-Macao bridge in southern China: oscillation rollers dynamically compacted the thin asphalt overlay on the 35km-long bridge. The resultant surface was of outstanding quality, thanks to HAMM technology.

Compacting the roadbase around existing installations (manhole covers etc.) in a new housing development in Münchberg, Germany: the compact HAMM H 7i VIO compactor is in its element on jobs like this. Thanks to the VIO drum, this compactor can operate with either oscillation or vibration.

Rehabilitation work along a railway line in Vienna, Austria: while replacing supply lines, the pavement of a main roadway had to be broken up, fresh asphalt was paved and compacted. Compact oscillation rollers from HAMM were used for this job.

Efficient crushing

with the MC 110 Z EVO

Compact dimensions and operational flexibility are key attributes of the MOBICAT MC 110 Z EVO mobile jaw crusher from KLEEMANN. It boasts low diesel consumption combined with high output, meaning it achieves particularly high-level efficiency.


KLEEMANN
EVO

Efficient use in the first crushing stage

The most impressive feature of the MOBICAT MC 110 Z EVO mobile jaw crusher is its flexibility. It can be used efficiently in the first crushing stage for both natural stone and recycling applications. With its compact dimensions, it is easy to transport to any job site and, once there, can also be quickly relocated. Thanks to integrated hopper walls and hydraulically folding side discharge conveyors, the plant can be up and running in no time at all. The MC 110 Z EVO is powered by an extremely economical diesel-direct drive that consumes up to 30% less than diesel-hydraulic drive systems. At the same time, it features an average feed capacity of 330t/h.

Double-deck prescreen supports high output

The MC 110 Z EVO is equipped with an independent double-deck prescreen that separates fines in the feed material. The mobile crusher jaw is extra-long to avoid material congestion. Should a blockage occur nonetheless, the crusher drive can be shifted into reverse by the optional crusher unblocking system. The crusher drive can be started in reverse with a full crusher jaw to loosen any jammed material. The plant is designed to be very easy for the operator to control and maintain, because all components can be easily and conveniently accessed for servicing.

Linked operation made easy

All EVO crushing plants can be perfectly interlinked. Linking the MOBICAT MC 110 Z EVO mobile jaw crusher with the MOBICONE MCO 9 S EVO cone crusher results in a highly productive configuration for natural stone processing. The plants are equipped with the Continuous Feed System (CFS), which ensures a constant flow of material through both crushing stages. The interlinked plants communicate with one another, meaning that the upstream crushing plant slows down or accelerates its material transport depending on capacity, and both plants are always fully utilized. »»

Innovative crusher unblocking system for extremely short downtimes

Efficient and powerful diesel-direct drive

The MOBICAT MC 110 Z EVO mobile jaw crusher boasts flexibility, high output and low diesel consumption.

Powerful and durable: Magnet and crusher discharge conveyor

Simple control with menu-guided touch panel

Technical data
MOBICAT MC 110 Z EVO

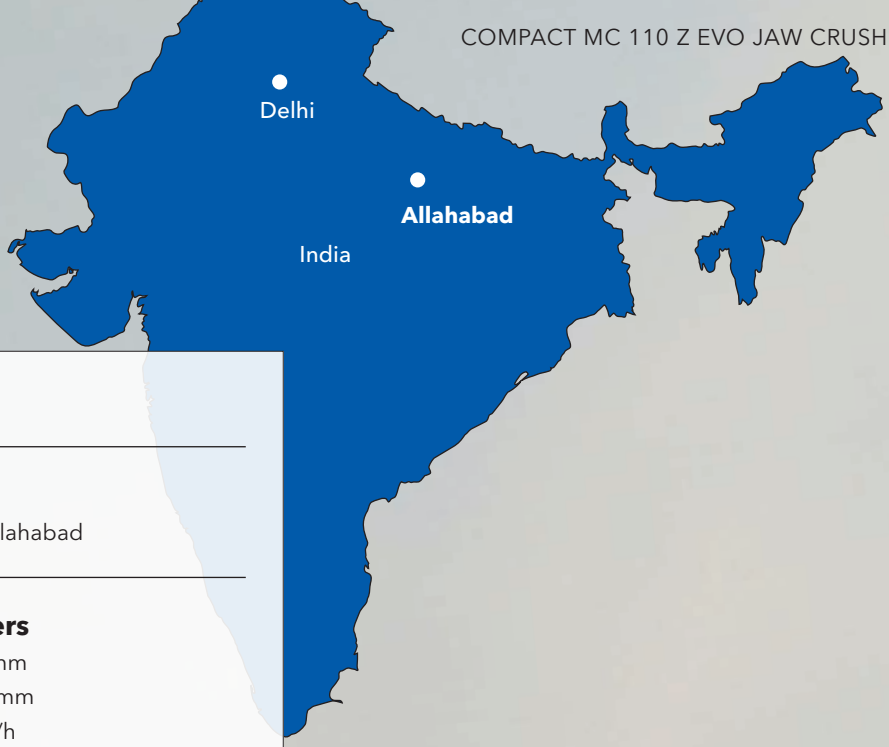
Feed capacity:	Up to 330t/h
Drive power:	248 kW
Transport weight:	39,500kg

Mission accomplished in Allahabad: Efficient granite processing

Dilip Buildcon Ltd. have been using their MOBICAT MC 110 Z EVO successfully for no less than 10,000 operating hours to process natural stone. The material fed to the plant is granite with a grain size of 600mm. With its independently vibrating prescreen, it effectively separates fines of 0–20mm. Because the final product is used to produce asphalt and in road base construction, the demands imposed on its quality are very high. To meet them, the pre-crushed material is further processed by a MOBICONE MCO 9 EVO mobile cone crusher and a MOBISCREEN MS 16 D classifying screen to precisely separate it into three fractions of 0–6mm, 6–12mm and 12–30mm.

High productivity thanks to Continuous Feed System

The integrated Continuous Feed System (CFS) ensures optimum utilization of the MC 110 Z EVO. It controls the conveying speed as a function of the crusher filling level – even across several linked EVO crushing plants. Dilip Buildcon are impressed with the combination of the MC 110 Z EVO and the MCO 9 EVO mobile cone crusher, which achieves an hourly output of 180t/h while delivering a high-quality final product. Both EVO crushing plants operate highly efficiently because they are equipped with an extremely economical diesel-direct drive. Another advantage is the ease of operation. The user controls all plant functions via a touch panel and remote control unit. The plant also can be serviced conveniently and safely, because all components are easily accessible from the ground or from work platforms. This greatly facilitates the replacement of wearing parts and other tasks. »»



Job site details

Granite processing in Allahabad

Working parameters

Feed material:	600mm
Prescreening:	0-20mm
Output:	180t/h
Final products:	0–6mm, 6–12mm, 12–30mm

Equipment

KLEEMANN MC 110 Z EVO jaw crusher
KLEEMANN MCO 9 EVO cone crusher
KLEEMANN MS 16 D classifying screen

High output and product quality thanks to prescreening

How users can boost the capacity and product quality of their crushing plants.

How can I achieve high screen efficiency?

MOBICAT jaw crushing plants control the layer of material and can be coordinated to ensure an optimum material layer thickness during transport to the crusher. This makes screening even more efficient and lowers wear in the crusher. Selecting the right screen media is key for efficient prescreening. The following options are available for the double-deck vibrating screen:

Upper deck with punched plate

- Most frequent application: recycling
- Variable tensioning possible
- Good separation

Lower deck with screen media

- Different tensioning sizes possible – depending on requirements
- Purifies the final product, for example unwanted fractions can be screened out
- If the feed material does not contain any unwanted fractions, a salable product can also be discharged via the side discharge conveyor

Upper deck with grating

- Most frequent application: natural stone
- Larger open screen surface
- Efficient screening of fines
- Effective in preventing caking

Lower deck with dummy cover

- If the feed material is free from unwanted or even hazardous fractions, the fines can be added to the final product via the bypass

Why use a prescreen?

To ensure efficient processing, excessively fine material should not pass through the entire crushing process. The jaw crushers of the MOBICAT range are aided in this respect by a double-deck prescreen. It prescreens the feed material so effectively that fines and also material with the specified final grain size are routed past the crushing chamber. This lowers wear on the plant and achieves a high throughput. Prescreening also removes impurities such as clay from the product. As the fines content is precisely controlled, operators achieve a higher-quality final product.

How does prescreening work and which types are there?

The material is fed onto the feeding unit of the MOBICAT. It is then conveyed from the vibrating feeder to the independently vibrating double-deck prescreen. Material that is larger than the openings on the upper deck passes to the crusher. Material that is small but still larger than the openings in the lower deck is routed to the final product via the bypass. Material that is smaller than the openings on the lower deck is fed to the side discharge conveyor. The material discharged from the side discharge conveyor can be further processed directly, depending on the quality. The medium grain that passes into the final product via the bypass also lowers strain on the crusher. ///

Fascinating play of light and shadow:
sunset behind the Rashtrapati Bhavan, Presidential Residence, New Delhi.

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