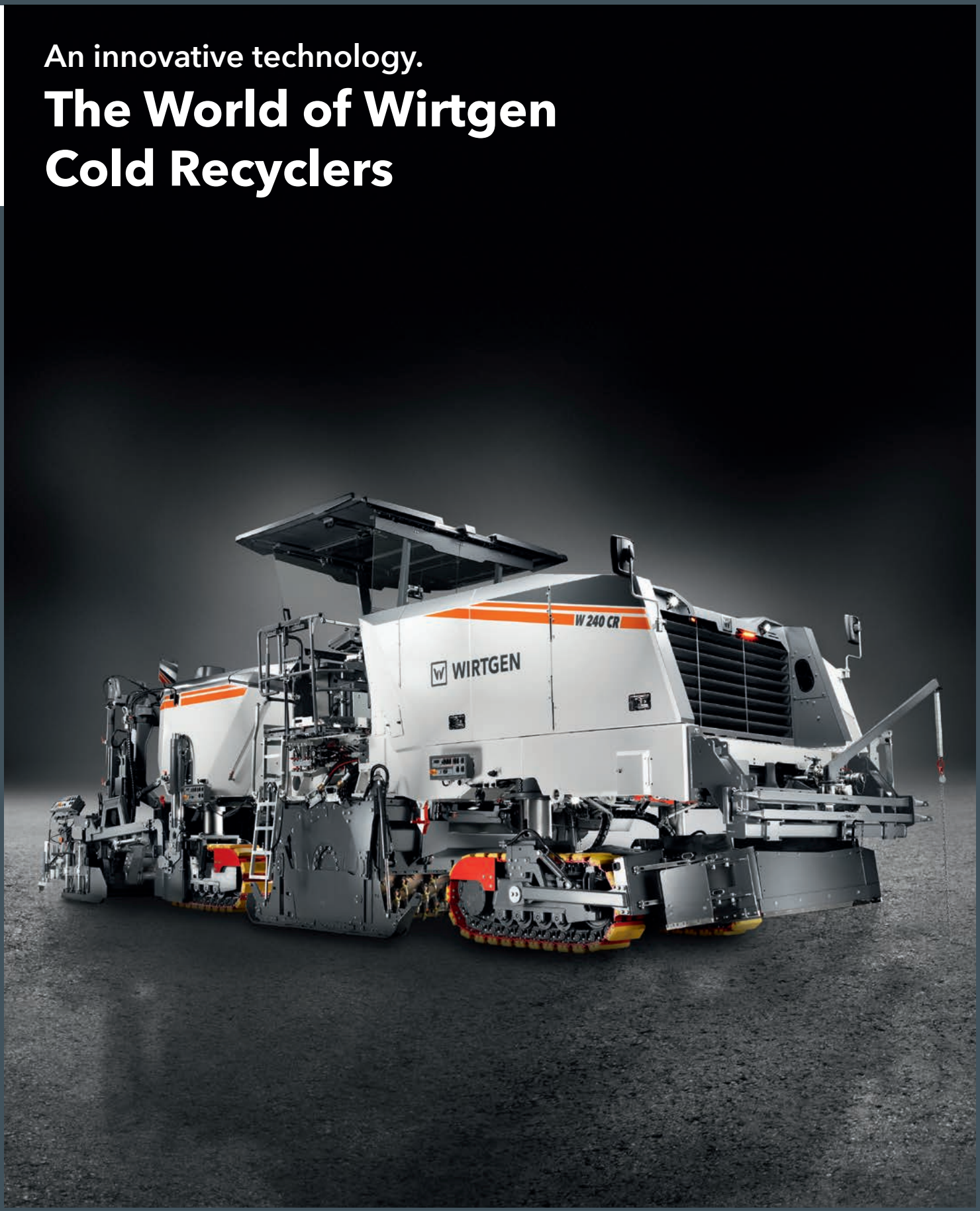
A WIRTGEN GROUP COMPANY

WIRTGEN

An innovative technology.

# The World of Wirtgen Cold Recyclers



Roads frequently have damage in their lower layers. This is where cold recycling technology comes in – the process repairs the entire road structure and permanently increases its bearing capacity. As a pioneer in cold recycling, WIRTGEN is passionate about environmentally friendly and cost-effective processes. The technological leadership we have acquired in this complex field enables us to maintain the functional properties of roads over the long term.


# For maintaining and expanding the road infrastructure.

# Cold Recycling Guarantees Success in Road Rehabilitation

**PROCESSING DAMAGED LAYERS AND PAVING IN A SINGLE OPERATION**

In cold recycling, damaged asphalt layers are milled and crushed, rebound through the addition of binding agents, compacted, and repaved. Cement, water, bitumen emulsion, and foamed bitumen can be used as additives or binding agents.

WIRTGEN's cold recyclers are suitable for use in all performance classes – from recycling thin asphalt layers on secondary roads with little traffic to recycling thick asphalt layers on highly frequented highways that must withstand significant loads.

When it comes to cold recycling, sustainability is a particularly important aspect in addition to the quality of the result. Directly paving the recycled material on the spot reduces the amount that needs to be transported by up to 90 percent, which also significantly reduces $CO_2$ emissions.

The WIRTGEN product range also includes the KMA 240(i) mobile cold recycling mixing plant. It is positioned in the immediate vicinity of the job site and produces cold mixes for road construction by adding various binding agents.

1 | *Cold recycling is not only more environmentally friendly, but is often also the most cost-effective process.*


2 | *The W 240 CR(i) can be equipped with a variable paving screed from VÖGELE.*

3 | *During cold in-plant recycling, the material is mixed with binding agents and recycled in a KMA.*

4 | *Cold in-situ recycling with the WR series of wheeled recyclers.*



In many cases, cold recycling is both the most environmentally friendly and cost-effective method of road rehabilitation and is becoming increasingly popular across the globe for a good reason.

**BENEFITS OF COLD RECYCLING AT A GLANCE:**

> Reduces material disposal costs by up to 100%

> Reduces transport volumes by up to 90%

> Reduces resource consumption by up to 90%

> Reduces $CO_2$ emissions by up to 60%

> Reduces the use of binding agents by up to 50%

> Reduces total costs by up to 50%

> Reduces construction time by up to 50%

# A Groundbreaking Technology on the Path to Success

## 1986

The 2000 VCR cold recycler is released with crawler units and a working depth of 20 cm.

## 1991

With its built-in paving screed, the 1000 CR paves the recycled material during the recycling process.

## 1995

With its eye-catching lifting column design, the WR 2500 is WIRTGEN's first real soil stabilizer.

## 1996

An injection system to produce foamed bitumen is developed.

## 2003

The WR 4200 is introduced with a variable working width and twin-shaft continuous mixer.

## 2004

The easy-to-transport WR 2000 and the universal WR 2400 come onto the market.

## 2012

The new generation of the WR series offers maximum quality in every application.

## 2013

The 3800 CR "Rear Load" mixes milled material with binding agent and conveys the material directly to a road paver.

## 1993

The CR 4500 is the first high-performance recycler for the seamless processing of full-width road surfaces.

## 1998

The KMA 150 mobile cold recycling mixing plant, with its own electrical power supply, is installed on a flatbed truck.

## 2006

WIRTGEN introduces the WS 2200 and WS 2500 tractor-towed stabilizers for small-scale stabilization.

## 2019

The W 380 CR(i) and the W 240 CR(i) perform high-quality in-situ recycling.

### A PERMANENT SUCCESS STORY

From the modified road milling machine to the highly specialized cold recycling train – this summarizes the impressive history of the development of cold recycling technology at WIRTGEN. We have been fascinated by the tremendous potential of cold recycling since the very beginning – in the mid-1980s – and have played a key role in its development as a recognized technology leader ever since.

As such, it goes without saying that we have paved the road to success with many innovative milestones. For example, we pioneered the use of foamed bitumen as a binding agent and have been working with this innovative binding agent as the industry's technology leader since the 1990s. The comprehensive assistance we provide to contractors during construction projects has always been extremely important to us and a decisive factor in the method's breakthrough.

# Cold In-Situ Recycling

In cold in-situ recycling, a cold recycler granulates the damaged pavement and homogeneously mixes in foamed bitumen or bitumen emulsion and, depending on the requirements, cement and water as well. This creates a new construction material mixture in a single operation that can be paved on the spot. This primarily results in a significant reduction in the quantity of material that needs to be transported, and with it, the associated CO2 emissions. But the cold recycling process also has a number of financial advantages, because fewer m aterial transports also mean lower overall costs. Furthermore, it can also reduce the construction time.

The cold recyclers designed for in-situ processing are equipped with an efficient milling and mixing rotor as well as an injection system. The CR series has an optional built-in screed for paving and precompaction of the new mix.

## COST-EFFECTIVE RECYCLING WITH FOAMED BITUMEN

In principle, all unbound building materials – as well as reclaimed asphalt pavement – can be processed using foamed bitumen. WIRTGEN recyclers granulate both the asphalt layer and the underlying layer and then mix the material with foamed bitumen in-situ in a single operation. The result is a high-quality bituminous base layer that, after compaction, is capable of withstanding exceptionally high traffic loads. Foamed bitumen is extremely cost-effective and available all over the world, as it is produced from standard bitumen.

1 | *In the recycling train, a paver traveling behind the cold recycler is loaded with the recycled material via a belt conveyor.*

2 | *The environmentally friendly cold recycling process can reduce $CO_2$ emissions by up to 60%.*

3 | *In contrast to a cold milling machine, the W 380 CRi's belt conveyor is located behind the machine in order to be able to load the paver.*

4 | *The W 240 CRi can be equipped with a built-in paving screed.*

5 | *The W 240 CRi's paving screed makes it easy to pave the material true to line and level.*






6 | *The WR effortlessly pushes water and bitumen tank trucks forward as it works.*

7 | *Homogeneous mix behind the WR.*

# Cold In-Plant Recycling

During cold in-plant recycling, milled material is transported to the mobile cold mixing plant (KMA) located near the job site. Here the milled material is homogeneously processed together with foamed bitumen or bitumen emulsion and, if required, additional cement and water to form a new cold mix that is ready for immediate paving. Depending on the type of binding agent used, it can then either be immediately paved or stockpiled for later paving.

The KMA is mounted on a flatbed semitrailer and has its own engine unit. This mobile design allows the system to be quickly moved to different locations and set up rapidly.

Wheel loaders feed two different fractions of unbound raw materials into the KMA's hopper via vibrating grates. Silos or tank trucks supply the plant with binding agents such as cement, bitumen emulsion, or hot bitumen to produce foamed bitumen. A microprocessor-controlled plant control system monitors the addition of raw materials and binding agents to the mixing chamber for high-precision dosing. Here, a heavy-duty twin-shaft continuous mixer produces a high-quality, homogeneous mix. Finally, the finished mix is smoothly loaded onto the belt conveyor that can swing in both directions, which makes it possible to evenly fill the truck beds.

1 | *Maximum mixing performance in minimum space – the KMA produces the highest quality mix with an extremely small footprint, helping to keep transport costs low.*

2 | *The W 380 CR i can also be used as a cold milling machine for up-cut applications.*

3 | *Using WIRTGEN laboratory equipment, the mix is first tested in the lab.*

4 | *A wheel loader fills the KMA with milled asphalt material.*

5 | *User-friendly and state-of-the-art controls make it easier for the machine operator to operate the machines.*





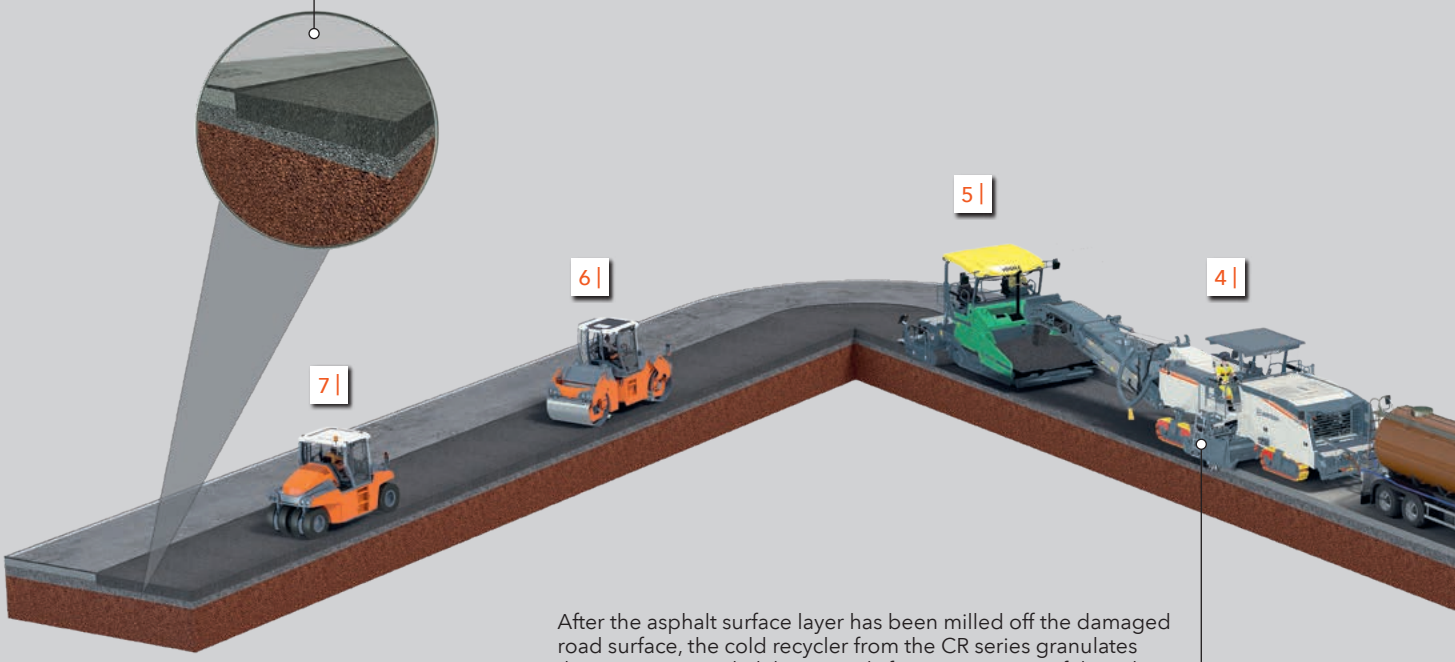

6 | *Continuous production is ideal for depositing the mix in stockpiles.*

7 | *A VÖGELE asphalt paver then repaves the recycled material.*

## W 380 CR(i) with Rear Loading

# Cold In-Situ Recycling with Bitumen and Cement


Finally, the asphalt surface layer is paved over the recycled asphalt layer using a VÖGELE paver.




After the asphalt surface layer has been milled off the damaged road surface, the cold recycler from the CR series granulates the remaining asphalt layers and, if necessary, part of the sub-base down to a depth of up to 30 cm, while mixing in bitumen.

**THE RECYCLING TRAIN WHEN PAVING A BITUMINOUS BASE LAYER (BSM)**

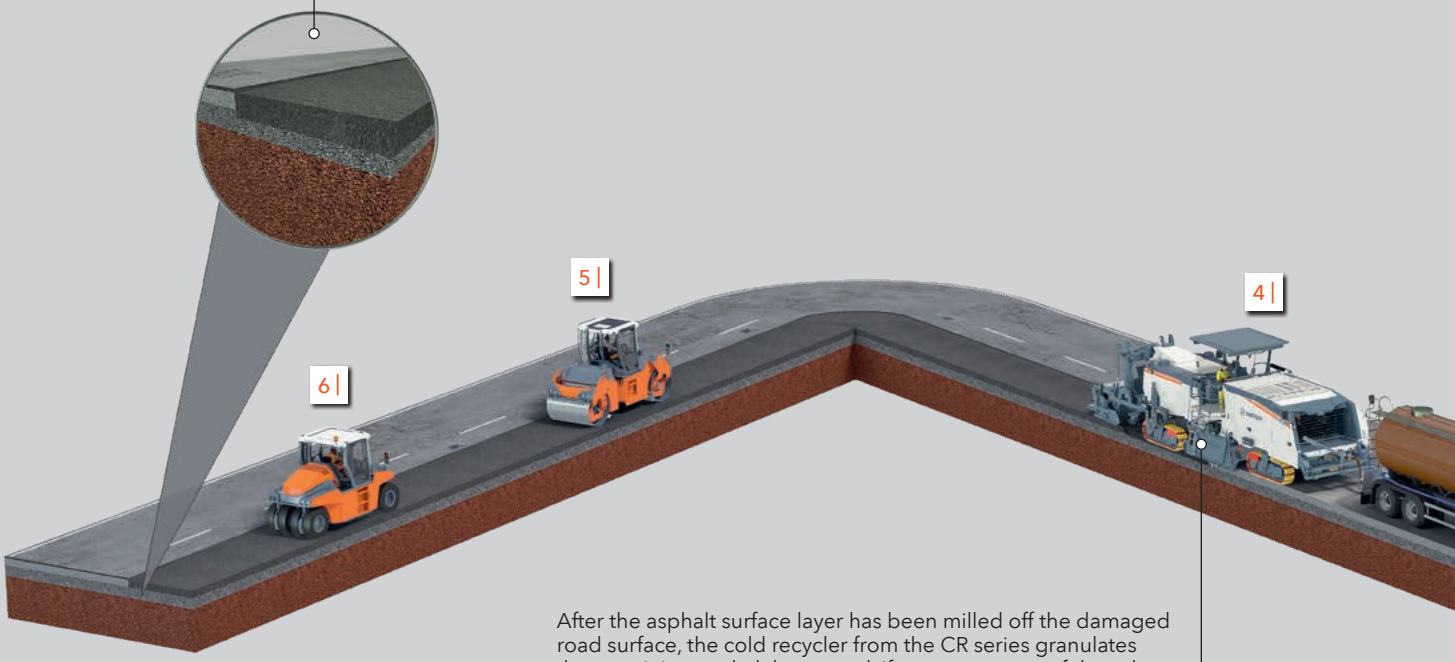
If necessary, a STREUMASTER binding agent spreader pre-spreads the cement, followed by a water tank truck and a bitumen tanker. During cold recycling with rear loading, the milling and mixing rotor granulates the asphalt layers to a depth of up to 30 cm using the down-cut method. At the same time, the pre-spread cement is mixed in and water and bitumen emulsion or foamed bitumen are sprayed into the mixing chamber via injection bars. The recycled mix is conveyed via the conveyor unit directly into the VÖGELE asphalt paver's material hopper, which then paves it true to line and level. Finally, HAMM rollers carry out the final compaction.

1 | STREUMASTER binding agent spreader
2 | Water tank truck
3 | Bitumen tank truck
4 | WIRTGEN W 380 CR(i) cold recycler
5 | VÖGELE paver
6 | HAMM tandem roller
7 | HAMM pneumatic tire roller

## W 240 CR(i) with Built-in Paving Screed

# Cold In-Situ Recycling with Bitumen and Cement


Finally, the asphalt surface layer is paved over the recycled asphalt layer using a VÖGELE paver.




After the asphalt surface layer has been milled off the damaged road surface, the cold recycler from the CR series granulates the remaining asphalt layers and, if necessary, part of the sub-base down to a depth of up to 20 cm, while mixing in bitumen.

**THE RECYCLING TRAIN WHEN PAVING A BITUMINOUS BASE LAYER (BSM)**

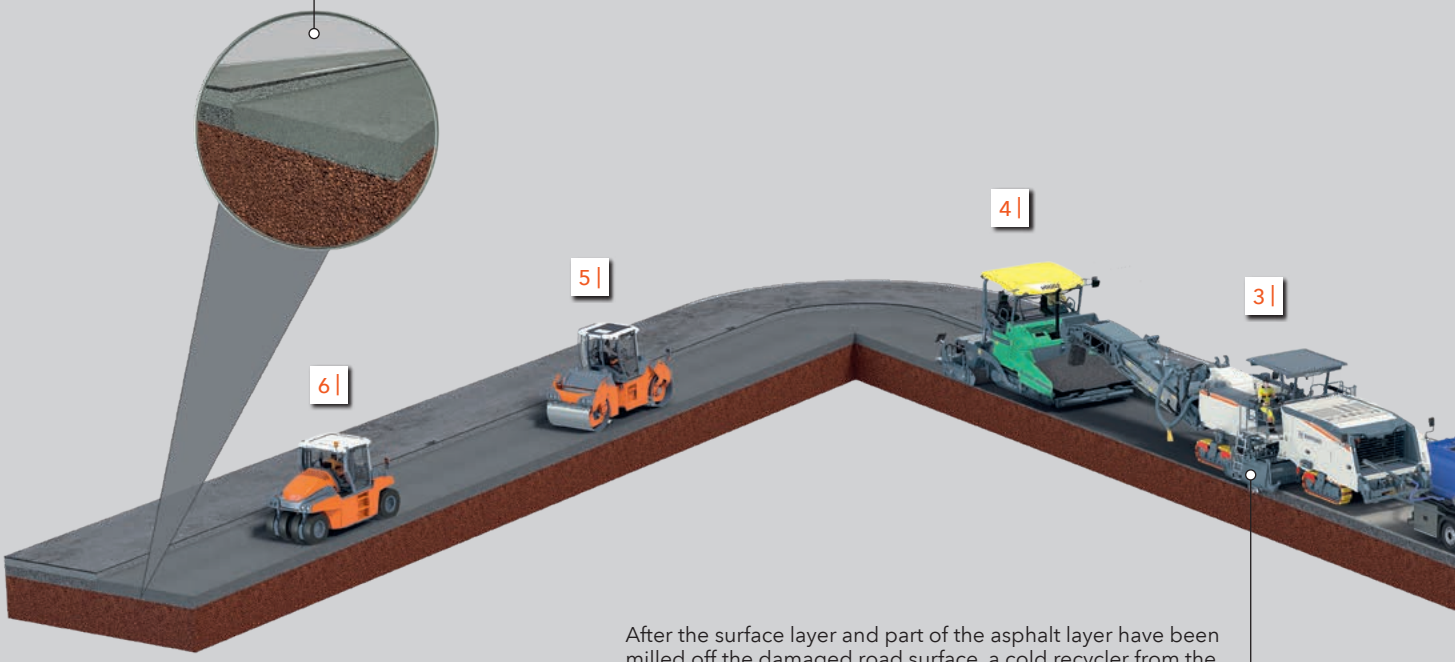
If necessary, a STREUMASTER binding agent spreader pre-spreads the cement, followed by a water tank truck and a bitumen tanker. During cold recycling with a built-in paving screed, the milling and mixing rotor of the W 240 CR(i) granulates the asphalt layers to a depth of up to 20 cm using the down-cut method. At the same time, the cement is mixed in, and water and bitumen emulsion or foamed bitumen are sprayed into the mixing chamber via spray injection bars. The VÖGELE paving screen with spreading auger integrated into the cold recycler ensures that the recycled mix is paved true to line and level. Finally, HAMM rollers carry out the final compaction.

1 | STREUMASTER binding agent spreader
2 | Water tank truck
3 | Bitumen tank truck
4 | WIRTGEN W 240 CR(i) cold recycler
5 | HAMM tandem roller
6 | HAMM pneumatic tire roller

## W 380 CR(i) with Rear Loading

# Cold In-Situ Recycling with Cement


Finally, the new asphalt layers are paved over the recycled layer using a VÖGELE paver.




After the surface layer and part of the asphalt layer have been milled off the damaged road surface, a cold recycler from the CR series granulates part of the remaining asphalt layers and the sub-base to a depth of up to 30 cm. In this process, the material is reinforced through the addition of cement.

## THE RECYCLING TRAIN WHEN PAVING WITH A CEMENT REINFORCEMENT

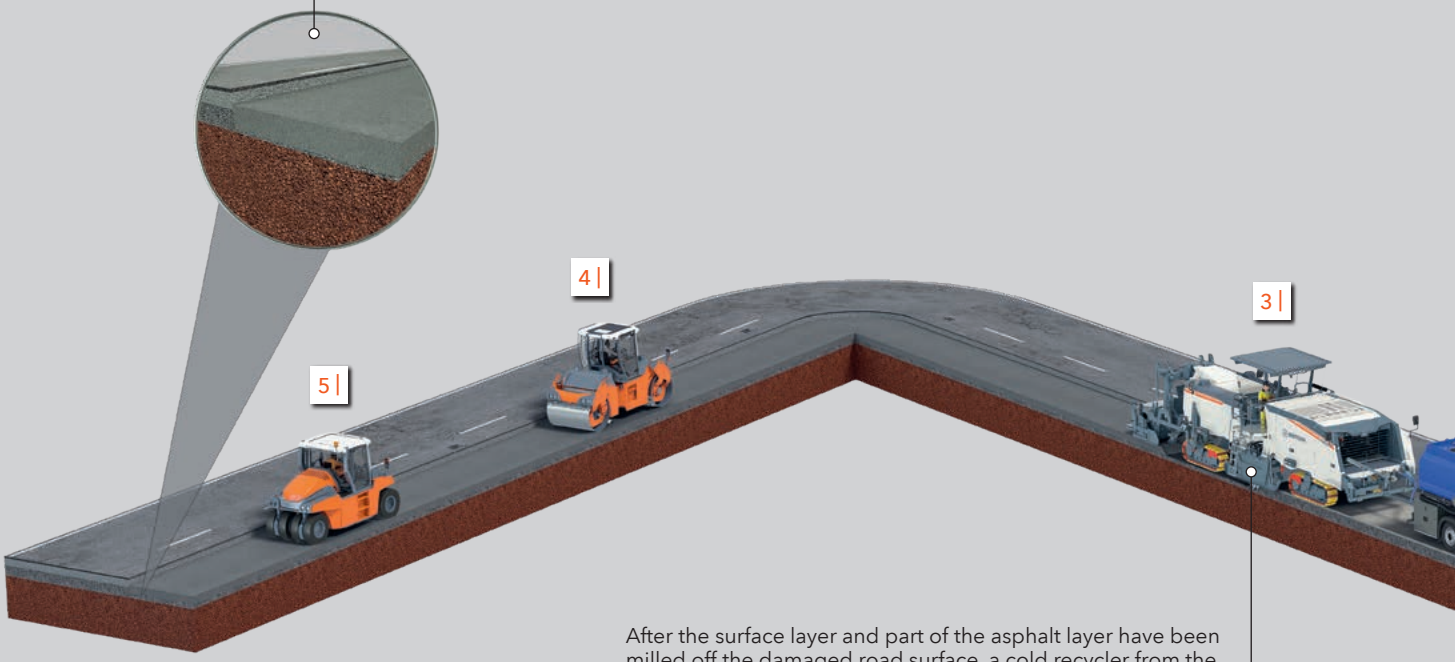
A STREUMASTER binding agent spreader lays cement ahead of the other machines, followed by a water tanker. During cold recycling with rear loading, the milling and mixing rotor granulates the asphalt layers to a depth of up to 30 cm using the down-cut method. At the same time, the cement is mixed in and water is sprayed into the mixing chamber via the injection bar. The recycled mix is conveyed via the conveyor unit directly into the VÖGELE asphalt paver's material hopper, which then paves it true to line and level. Finally, HAMM rollers carry out the final compaction.

1 | STREUMASTER binding agent spreader
2 | Water tank truck
3 | WIRTGEN W 380 CR(i) cold recycler
4 | VÖGELE paver
5 | HAMM tandem roller
6 | HAMM pneumatic tire roller

## W 240 CR(i) with built-in paving screed

# Cold In-Situ Recycling with Cement


Finally, the new asphalt layers are paved over the recycled layer using a VÖGELE paver.




After the surface layer and part of the asphalt layer have been milled off the damaged road surface, a cold recycler from the CR series granulates part of the remaining asphalt layers and the sub-base to a depth of up to 20 cm. In this process, the material is reinforced through the addition of cement.

**THE RECYCLING TRAIN WHEN PAVING WITH A CEMENT REINFORCEMENT**

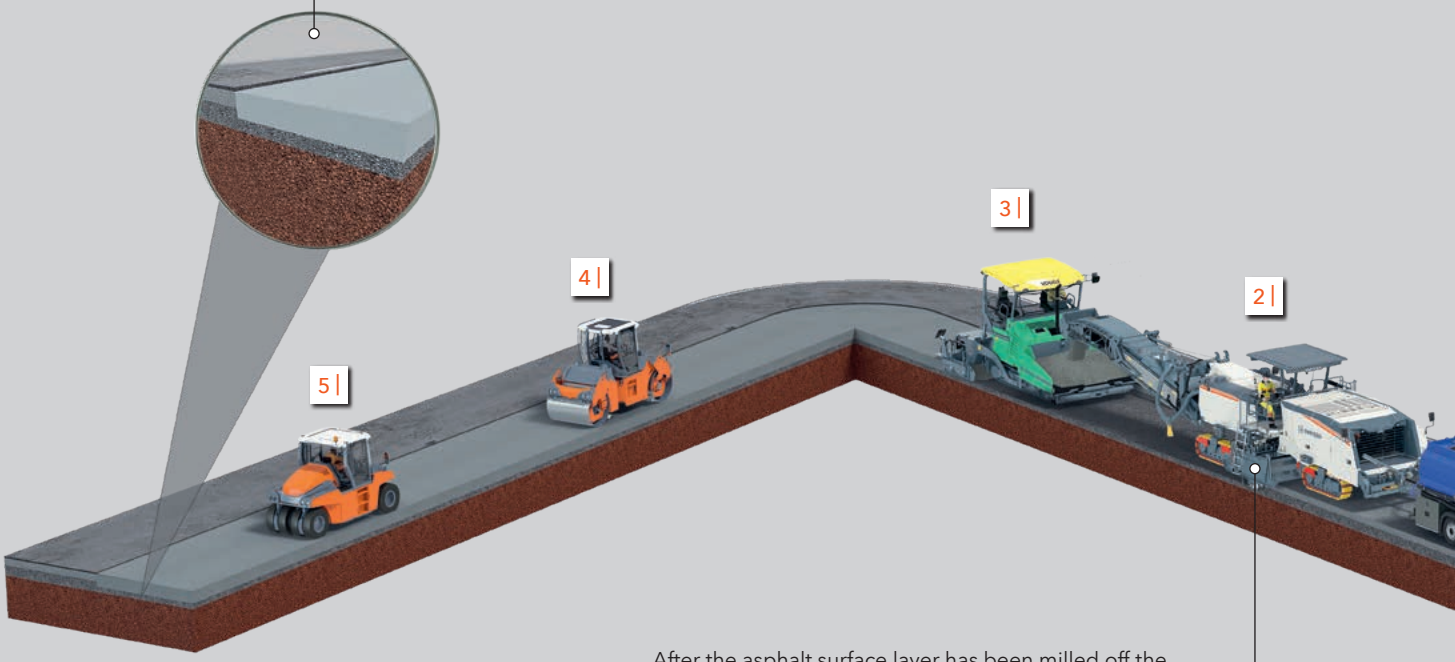
A STREUMASTER binding agent spreader lays cement ahead of the other machines, followed by a water tanker. During cold recycling with a built-in paving screed, the milling and mixing rotor of the W 240 CR(i) granulates the asphalt layers to a depth of up to 20 cm using the down-cut method. At the same time, the cement is mixed in and water is sprayed into the mixing chamber via the injection bar. The VÖGELE paving screed with spreading auger ensures that the recycled mix is paved true to line and level. Finally, HAMM rollers carry out the final compaction.

1 | STREUMASTER binding agent spreader
2 | Water tank truck
3 | WIRTGEN W 240 CR(i) cold recycler
4 | HAMM tandem roller
5 | HAMM pneumatic tire roller

## W 380 CR(i) with Rear Loading

# Granulation without the Addition of a Binding Agent


The asphalt surface layer is paved over the recycled asphalt layer during the third pass using a VÖGELE paver.

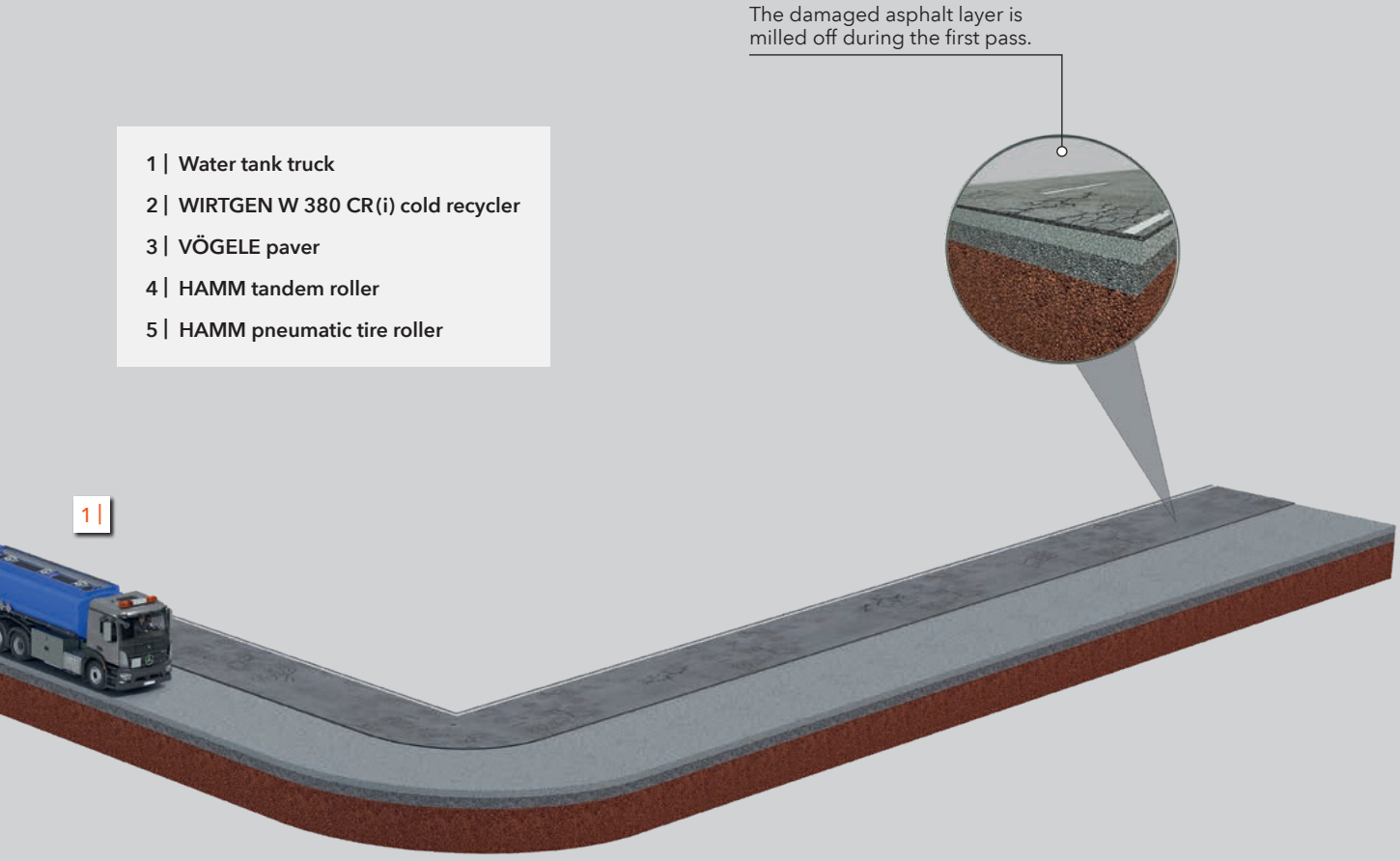



After the asphalt surface layer has been milled off the damaged road surface, the cold recycler from the CR series pulverizes the asphalt layer and part of the sub-base to a depth of up to 30 cm without adding any binding agents.

## GRANULATION AND RECOMPACTION WITH THE ADDITION OF WATER

During the pulverizing process, only a water tanker travels in front of the cold recycler. The milling and mixing rotor granulates the asphalt layers to a depth of up to 30 cm using the down-cut method. At the same time, water is sprayed into the mixing chamber via the injection bars. The processed material is conveyed via the conveyor unit directly into the VÖGELE asphalt paver's material hopper, which then paves it true to line and level. HAMM rollers then carry out the final compaction.

1 | Water tank truck
2 | WIRTGEN W 380 CR(i) cold recycler
3 | VÖGELE paver
4 | HAMM tandem roller
5 | HAMM pneumatic tire roller

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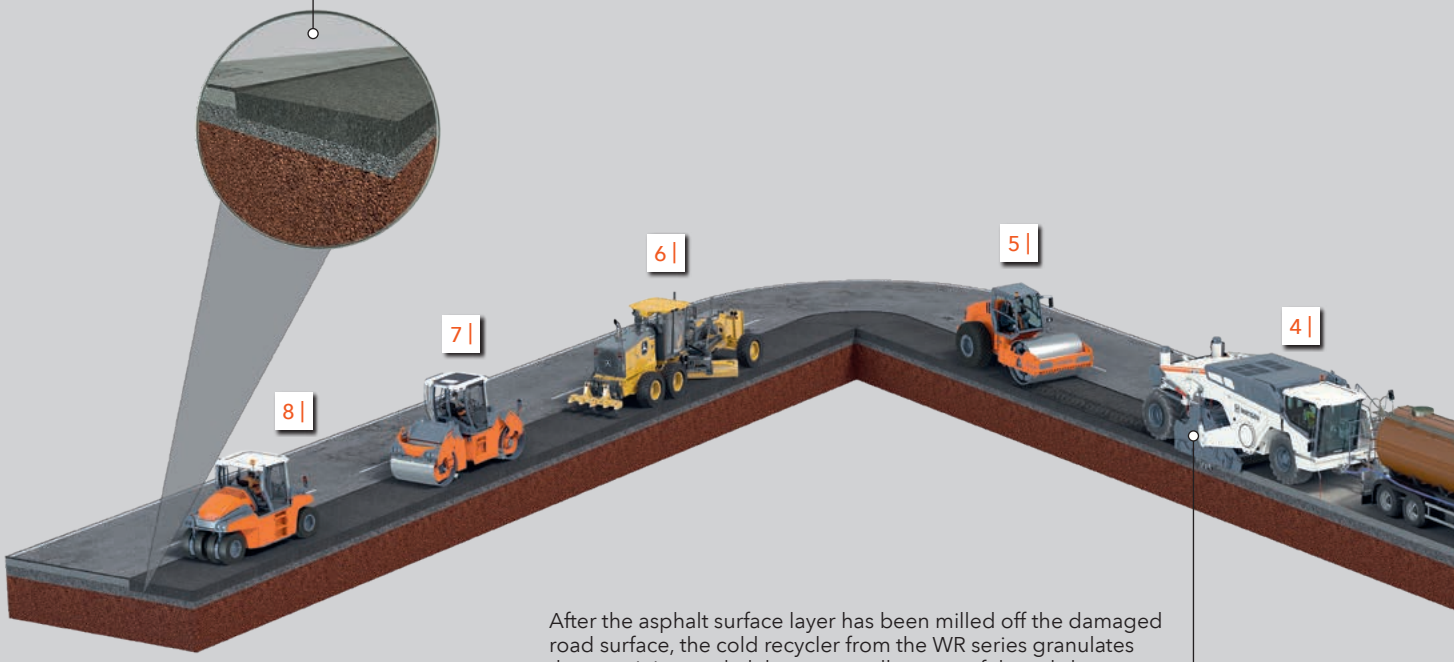
## WR Series

# Cold In-Situ Recycling with Bitumen and Cement


Finally, the asphalt surface layer is paved over the recycled asphalt layer using a VÖGELE paver.

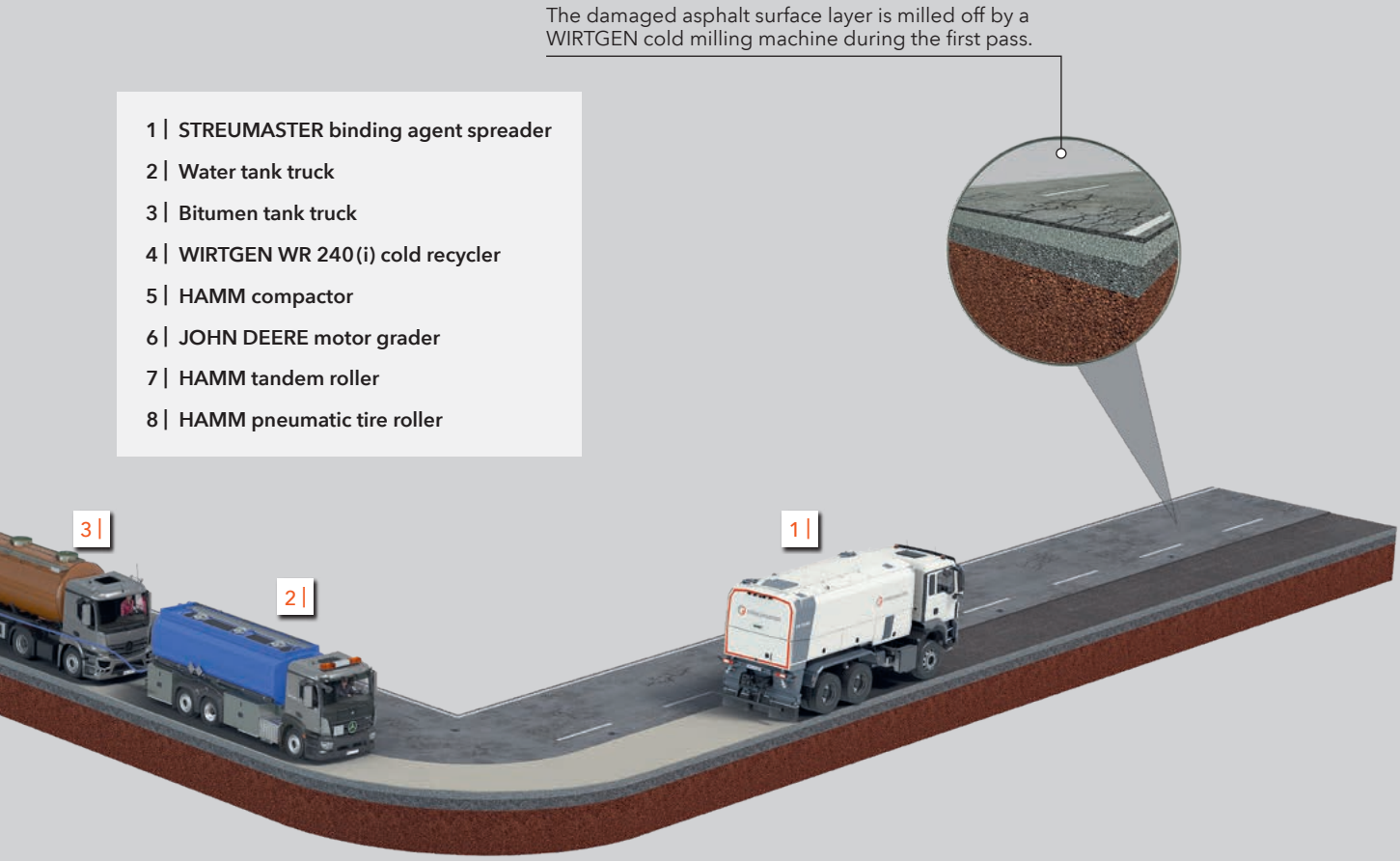



After the asphalt surface layer has been milled off the damaged road surface, the cold recycler from the WR series granulates the remaining asphalt layers as well as part of the sub-base down to a depth of up to 30 cm, while mixing in bitumen.

**RECYCLING WITH THE WR SERIES WHILE MIXING A BITUMINOUS BASE LAYER (BSM) WITH CEMENT AND FOAMED BITUMEN**

If necessary, a STREUMASTER binding agent spreader pre-spreads small quantities of cement, followed by a water tanker as well as a bitumen tank truck. The WR's powerful milling and mixing rotor granulates the damaged layers. At the same time, the pre-spread cement is mixed in. Two separate injection bars spray binding agent and water into the mixing chamber. After the JOHN DEERE motor grader finish-grades the homogenous BSM mix that has been produced, various HAMM rollers take care of the compaction process.

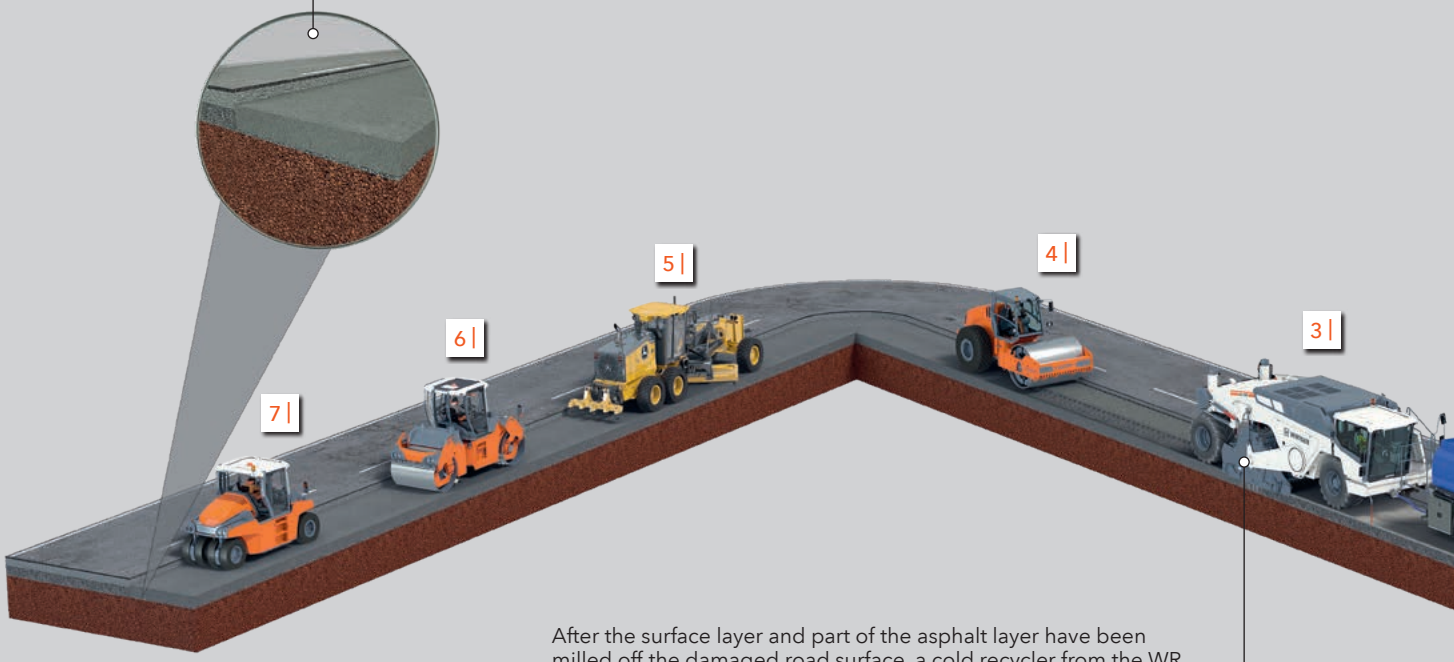
1 | STREUMASTER binding agent spreader
2 | Water tank truck
3 | Bitumen tank truck
4 | WIRTGEN WR 240 (i) cold recycler
5 | HAMM compactor
6 | JOHN DEERE motor grader
7 | HAMM tandem roller
8 | HAMM pneumatic tire roller



## WR Series

# Cold In-Situ Recycling with Cement


Finally, the other asphalt layers are paved over the recycled layer using a VÖGELE paver.




After the surface layer and part of the asphalt layer have been milled off the damaged road surface, a cold recycler from the WR series mixes part of the remaining asphalt layers and the sub-base to a depth of up to 30 cm. In this process, the material is reinforced through the addition of cement.

**RECYCLING WITH THE WR SERIES WHILE MIXING A CEMENT REINFORCEMENT WITH CEMENT AND WATER**

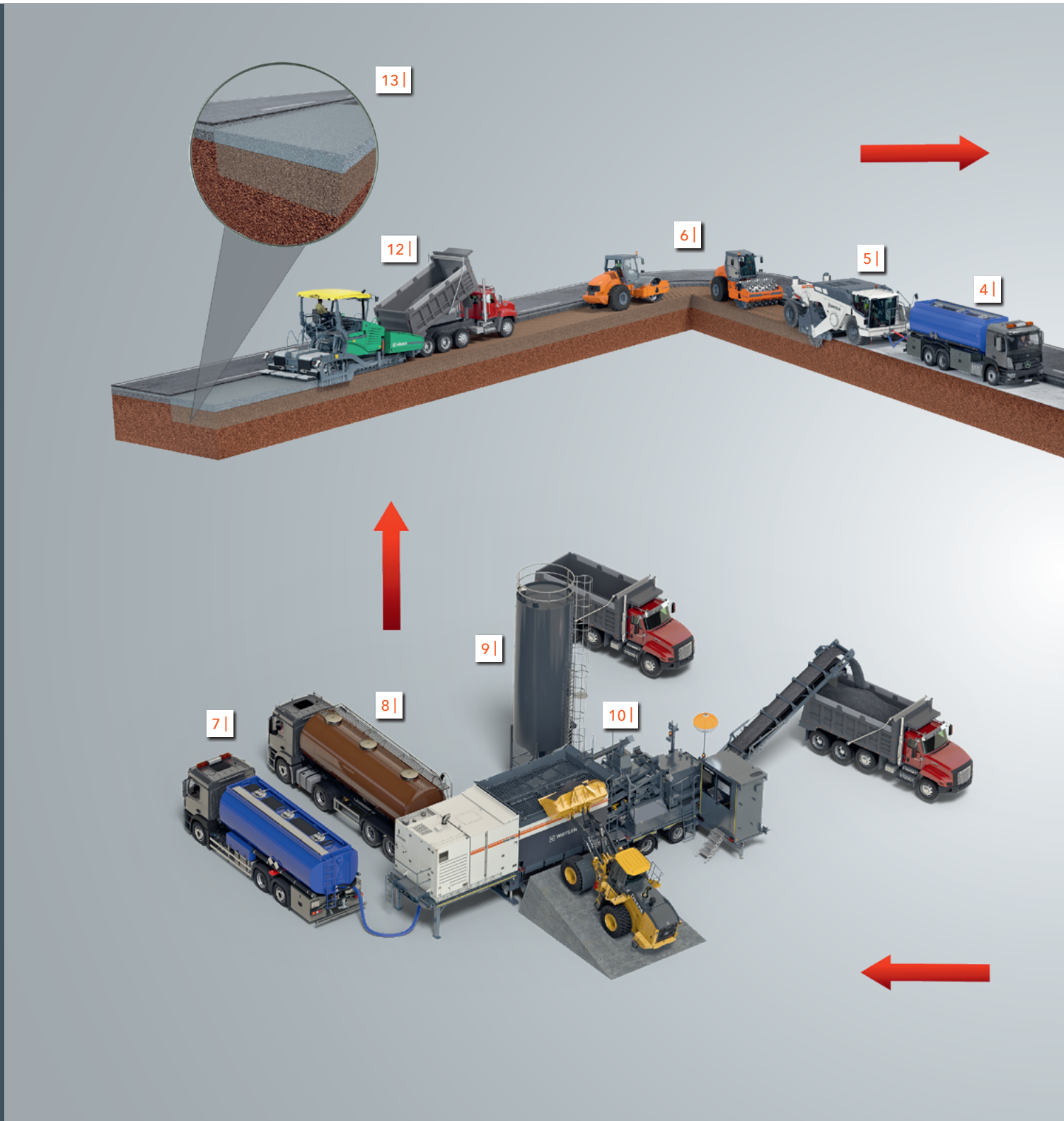
A STREUMASTER binding agent spreader lays the required amount of cement ahead of the other machines, followed by a water tanker. The WR's powerful milling and mixing rotor granulates the damaged layers. At the same time, the pre-spread cement is mixed in. Water is also sprayed into the mixing chamber via the injection bar. After the JOHN DEERE motor grader finish-grades the homogenous BSM mix that has been produced, various HAMM rollers take care of the compaction process.

The damaged asphalt surface layer and part of the binder course are milled off by a WIRTGEN cold milling machine during the first pass.

1 | STREUMASTER binding agent spreader
2 | Water tank truck
3 | WIRTGEN WR 240 (i) cold recycler
4 | HAMM compactor
5 | JOHN DEERE motor grader
6 | HAMM tandem roller
7 | HAMM pneumatic tire roller

## KMA 240 (i)

# Cold In-Plant Recycling with Bitumen and Cement

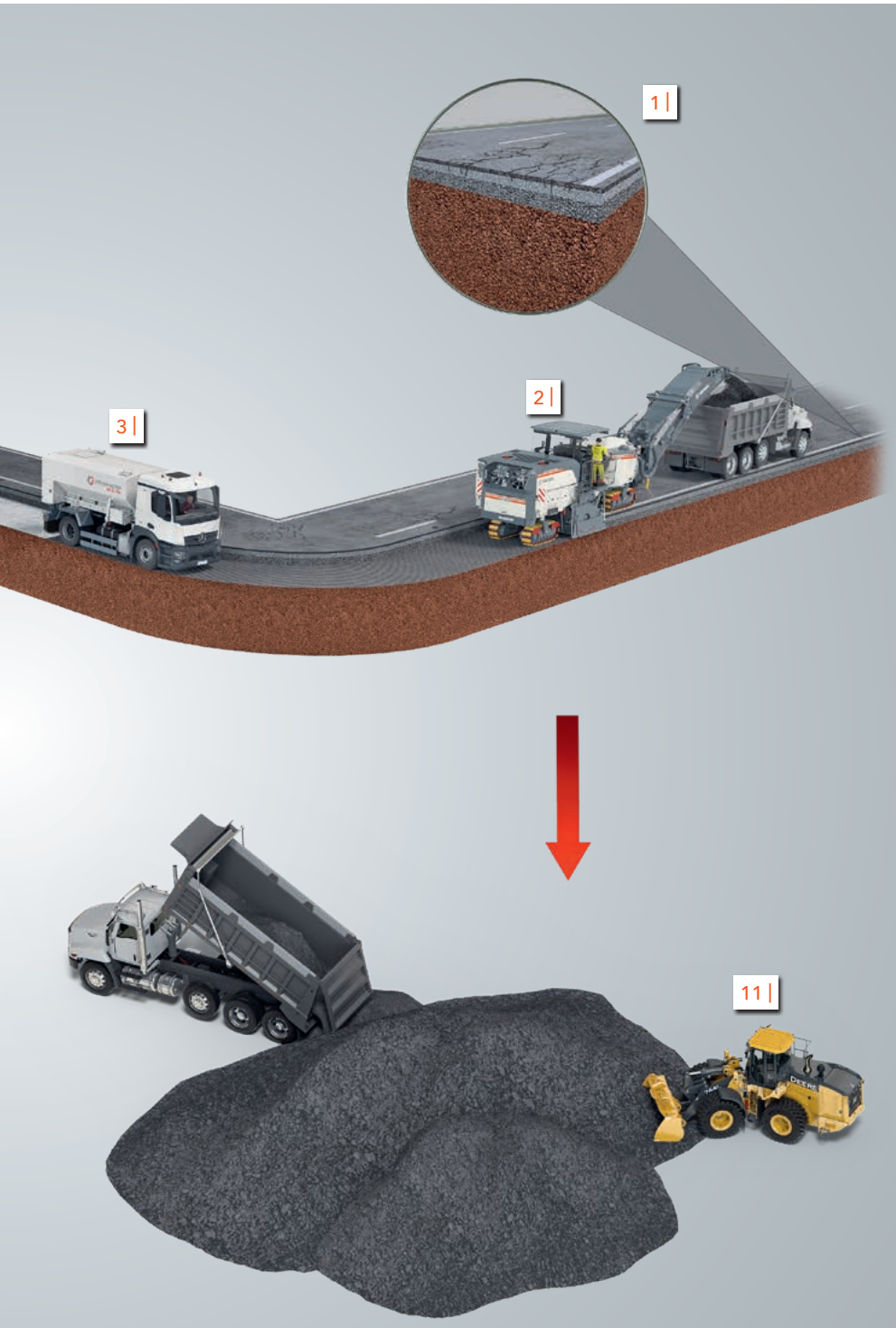


**PRODUCTION OF BSM* WITH THE KMA 240 i**

The KMA 240 (i) is mounted on a flatbed semitrailer and has its own engine unit. This ensures that the plant is quickly ready for operation and can easily be transported to the immediate vicinity of the job site. A WIRTGEN cold milling machine mills off the damaged upper layers. The milled material is transported by truck to the nearby KMA.

Wheel loaders load the milled material from the job site as well as a maximum of one additional additive fraction into the hopper via the vibrating grates. Silos or tank trucks supply the plant with water and binding agents such as cement, bitumen emulsion, or hot bitumen to produce foamed bitumen. High-precision dosing is carried out by a microprocessor-controlled plant control system that monitors the addition of raw materials and binding agents into the mixing chamber. Here, a heavy-duty twin-shaft continuous mixer produces a high-quality, homogeneous mix. Finally, the finished mix is smoothly loaded via a belt conveyor that can swing in both directions, which makes it possible to evenly fill the truck beds. The mix is then transported to the paving site.

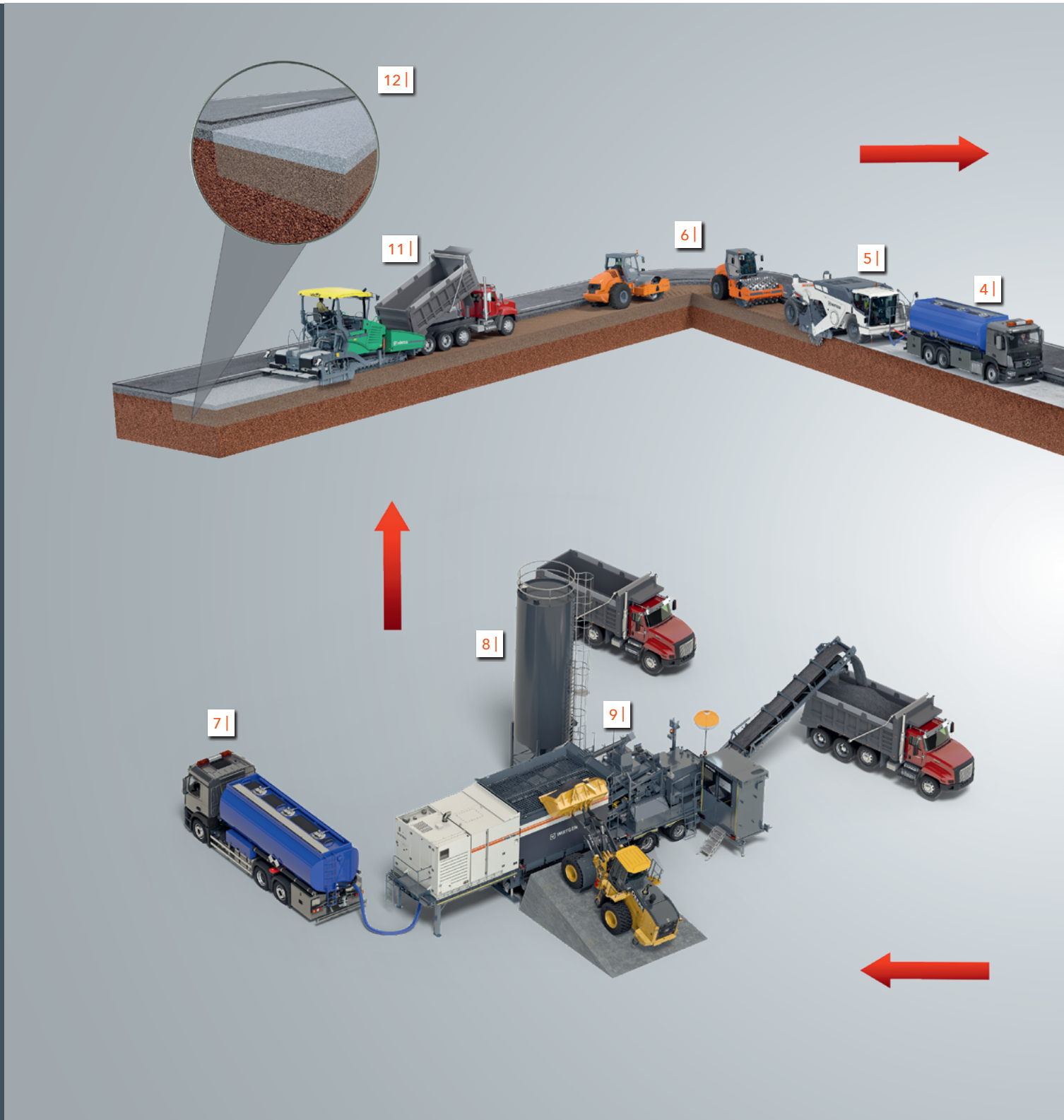
** BSM: asphalt milled material with foamed bitumen / emulsion*




1 | Damaged asphalt surface
2 | WIRTGEN cold milling machine
3 | STREUMASTER binding agent spreader
4 | Water tank truck
5 | WIRTGEN WR 240 (i) cold recycler
6 | HAMM compactor
7 | Water tank truck
8 | Bitumen tank truck
9 | Cement silo
10 | WIRTGEN KMA 240 (i) cold recycling mixing plant
11 | JOHN DEERE wheel loader
12 | VÖGELE paver
13 | Recycled asphalt layer

## KMA 240 (i)

# Cold In-Plant Recycling with Cement

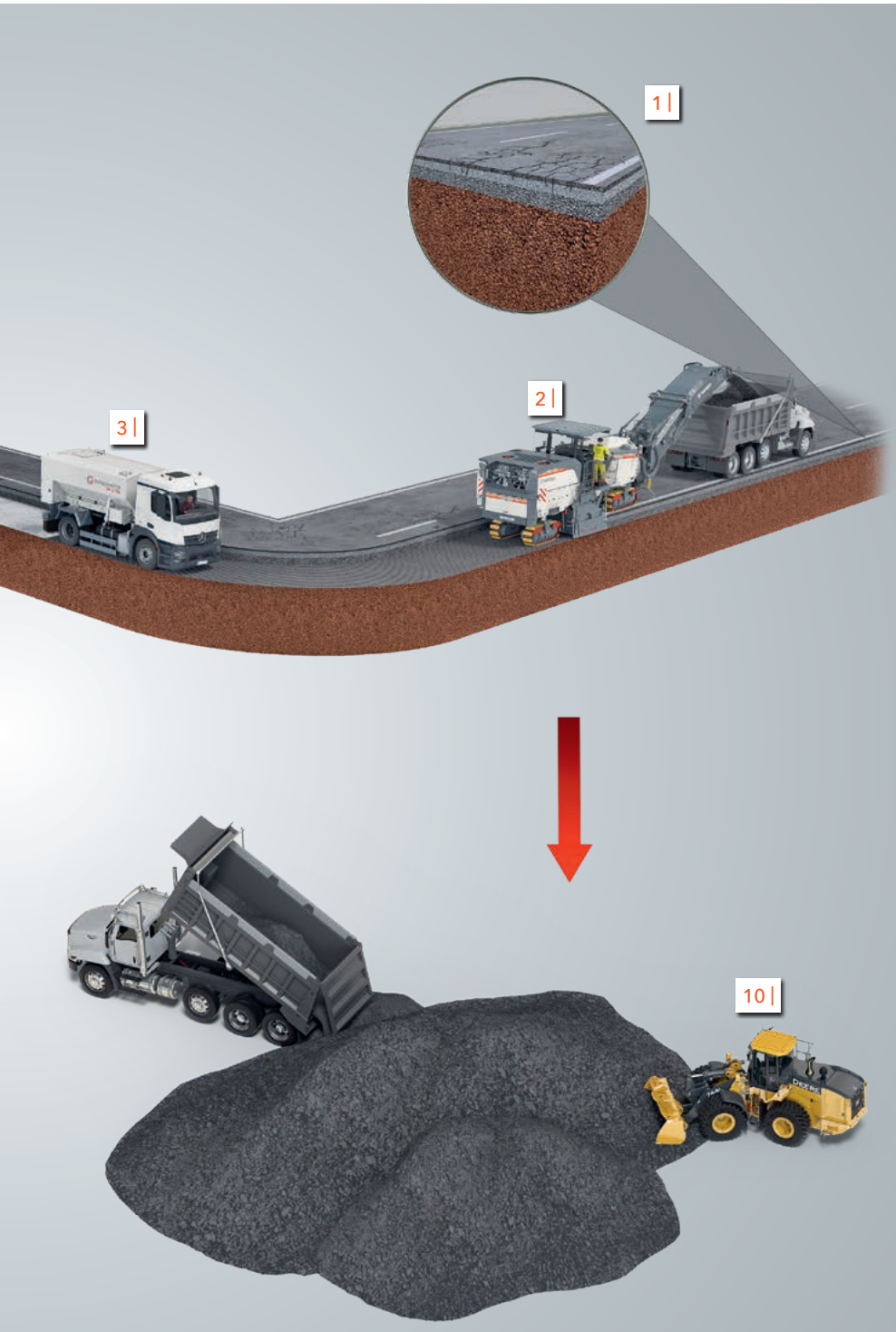


**PRODUCTION OF A CTB* WITH THE KMA 240 (i)**

The KMA 240 (i) is mounted on a flatbed semitrailer and has its own engine unit. This ensures that the plant is quickly ready for operation and can easily be transported to the immediate vicinity of the job site. A WIRTGEN cold milling machine mills off the damaged upper layers. The milled material is transported by truck to the nearby KMA.

Wheel loaders load the milled granulate from the job site as well as a maximum of one additional additive fraction into the hopper via the vibrating grates. Silos or tank trucks supply the plant with water and cement. High-precision dosing is carried out by a microprocessor-controlled plant control system that monitors the addition of raw materials and binding agents into the mixing chamber. Here, a heavy-duty twin-shaft continuous mixer produces a high-quality, homogeneous mix. Finally, the finished mix is smoothly loaded via a belt conveyor that can swing in both directions, which makes it possible to evenly fill the truck beds. The mix is then transported to the paving site.

** CTB: asphalt milled material with cement and water (cement-treated base layer)*




1 | Damaged asphalt surface
2 | WIRTGEN cold milling machine
3 | STREUMASTER binding agent spreader
4 | Water tank truck
5 | WIRTGEN WR 240 (i) cold recycler
6 | HAMM compactor
7 | Water tank truck
8 | Cement silo
9 | WIRTGEN KMA 240 (i) cold recycling mixing plant
10 | JOHN DEERE wheel loader
11 | VÖGELE paver
12 | Recycled asphalt layer

# Wirtgen Key Technology: Cutting Technology

**PROFESSIONAL EXPERTISE**
Decades of experience in the field of cutting technology in the cold milling sector enable us to equip our cold recyclers with technologies adapted specifically to the needs of mixing and cutting.

**SPECIFIC ROTORS AND CUTTING TOOLS**
The precise, optimized arrangement of the picks on the milling and mixing rotor, coupled with the powerful, mechanical milling drum drive, ensures the very best milling and mixing performance – a basic requirement for perfectly homogeneous mixes. In addition, a wear-resistant toolholder system ensures that the picks rotate optimally, are easy to change, and last for long periods of time.

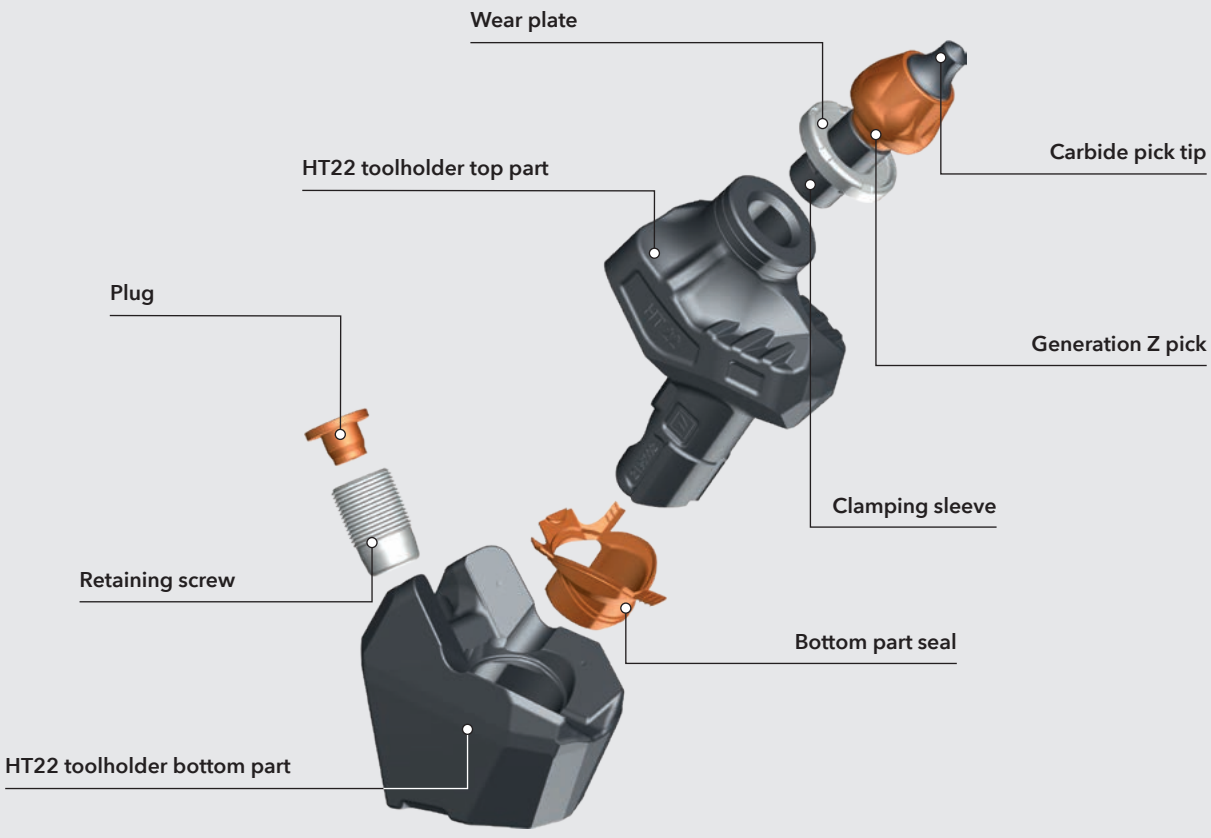
The Generation Z picks are the flexible solution for any cold recycling and soil stabilization application. Due to their optimized carbide tip geometry with reinforced carbide base and the adapted shaft design, the picks of this product series are designed for high impact loads and are therefore the ideal solution for applications in the fields of recycling and stabilization.

1 | *The* **DURA-FORCE** *milling and mixing rotor for the WR series stands out thanks to its outstanding wear resistance, impact resistance, and resistance to breakage.*


2 | *Generation Z's large steel body volume and reinforced wear plate ensure that the picks used in the WR series have the longest possible service life.*

3 | **HT22** *toolholder system in combination with Generation Z picks.*

3 |



# Wirtgen Key Technology: Mixing Processes

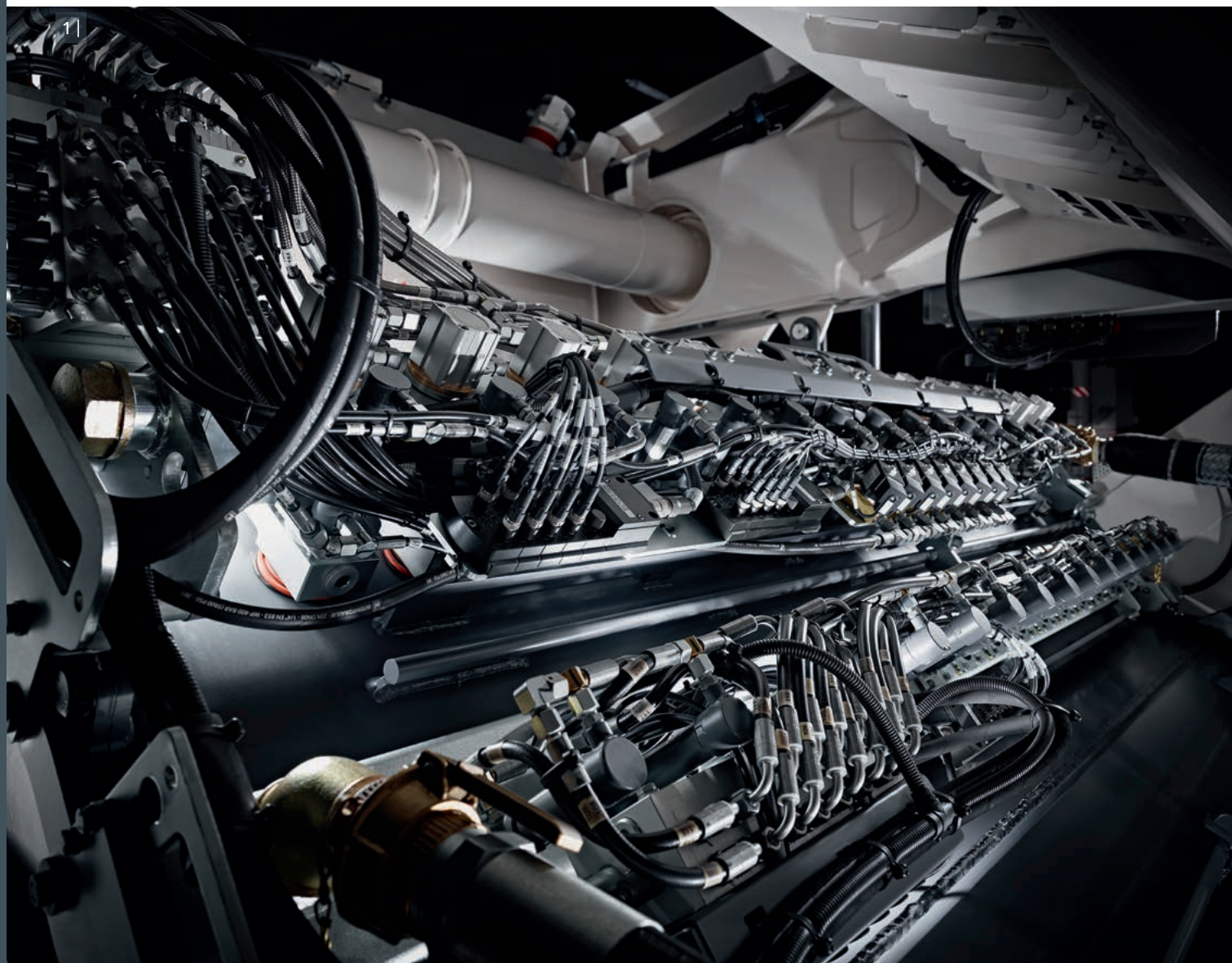
**ADVANCED TECHNOLOGY BUILT-IN**

WIRTGEN uses only high-tech elements for the injection of binding agents in cutting-edge cold recycling. After all, it's only possible to produce high-quality base layers with a wide variety of required properties with the help of precisely created mixtures of construction materials and binding agents. The foamed bitumen injection system, the eccentric pumps for the gentle delivery of the emulsion, the pulse-controlled cleaning of the nozzles, the flow meter with contactless measuring device, the microprocessor-controlled adjustment of the quantities to be added, and the convenient operation of all of these functions are high-tech components in a class of their own.

**COLD RECYCLING WITH FOAMED BITUMEN**

Foamed bitumen for the production of high-quality base layers is produced by precisely adding water and compressed air to hot bitumen at a temperature of 175 °C. The quality of the foamed bitumen can be directly checked via the built-in test nozzle. Compared to emulsion, foamed bitumen is a cost-effective and flexible alternative that is used in almost every country.

1 | *Controlled by a microprocessor and on the basis of the preset quantities, the injection system adds water, emulsion, or foamed bitumen to the mixing chamber.*




2 | *The milling and mixing unit can be used in both working directions.*

3 | *The KMA 240 i's rugged twin-shaft continuous mixer produces a high-quality, homogeneous mix.*

# Wirtgen Key Technology: Machine Control

**INNOVATIVE MAN-MACHINE INTERACTION**
Intuitive and flexible operation as well as reliable information systems are high on the list of priorities for performance-driven operators of construction machinery. That's why machines from WIRTGEN feature innovative and user-friendly assistance systems that make the operator's job easier. The intelligent machine control system in our cold recyclers ensures that the operator and machine can communicate with each other effectively.

Intelligent assistance systems guarantee the highest possible quality during cold recycling. Thanks to its automatic load detection, the CR can safely be operated using the down-cut method. This ensures that the material has the ideal particle size distribution.

The automatic end-of-cut system is another assistance system included in the WR series. It makes it possible to completely close the cut at the end of a pass. For this purpose, both the milling and mixing rotor and the front and rear rotor plates move to the preselected position before the WR lifts the rotor when reversing.

1 | *The controls on the KMA 240 i's clearly arranged control panel are positioned to match the flow of the material, making machine operation truly user-friendly.*

1 |


2 | *The control panels can be optimally positioned for different job requirements.*

3 | *The intuitive control panel simplifies machine operation.*

# Wirtgen Key Technology: Leveling

**PAVING TRUE TO LINE AND LEVEL**

WIRTGEN's intuitive **LEVEL PRO** leveling technology ensures that paving is performed at the specified paving height and cross slope with maximum precision. For this purpose, the system permanently compares the current height with the preset target value. If the system detects deviations, they are dynamically and proportionally corrected. To determine the paving height, mechanical or acoustic sensors such as the Sonic-Ski sensor scan the reference surface.

The high-tech leveling system developed in-house by WIRTGEN features software specially programmed for cold recyclers and is perfectly matched to the recycler's machine technology. For this purpose, the built-in **LEVEL PRO** leveling system is equipped with clear, optimally adjustable control screens.

The PTS automatic function ensures that the machine is aligned parallel to the road surface.

1 | *The screed control and leveling systems are operated right next to the paving process, allowing the operator to directly monitor the results.*


2 | *The tried-and-tested* **LEVEL PRO** *leveling system with control screens for the machine operator and ground crew features a wide variety of application-specific sensors, guaranteeing precise results.*

3 | *The built-in multiplex technology can be used to precisely level out longitudinal unevenness.*

# The largest range of machines worldwide.


**THE PERFECT SOLUTION FOR EVERY APPLICATION**

WIRTGEN offers the world's largest range of products for cold recycling. The series feature a variety of different models and cover all performance classes without any gaps, meeting every challenge in impressive fashion. In addition, the machines offer a unique variety of equipment options to individually meet specifications depending on the application or the construction contract being bid on. For example, all of WIRTGEN's cold recyclers can be equipped with our innovative foamed bitumen technology.

Exclusively available from WIRTGEN for a wide range of applications, various transportable laboratory units with special functions perfectly round out WIRTGEN's unique range of machines for cold recycling and soil stabilization. With a broad range of products, WIRTGEN offers the right machine for every cold recycling application.

W 240 CR

W 240 CRi

W 380 CR

W 380 CRi

**TRACKED RECYCLERS**

**Working width from 2,350 mm to 3,800 mm**

**Working depth from 0 mm to 350 mm**

WR 200

WR 200i

WR 200 XLi

WR 240

WR 240i

WR 250

**WHEELED RECYCLERS**

**Working width from 2,000 mm to 2,400 mm**

**Working depth from 0 mm to 560 mm**

WR 250i

KMA 240

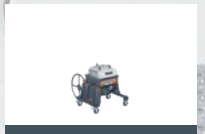
KMA 240i

**COLD RECYCLING MIXING PLANTS**

**Maximum mixing capacity of 240 t / h**

**Two-shaft continuous mixer**

WLB 10 S



WLM 30

WLV 1

**LABORATORY EQUIPMENT**

**WLB 10 S:** Bitumen temperature from 140 °C – 200 °C

**WLM 30:** Mixer capacity of 30 kg

**WLV 1:** Maximum impact energy of 23 J

# Tried and Tested around the Globe.

**FOUR POWERFUL ARGUMENTS IN FAVOR OF WIRTGEN COLD RECYCLERS**

> As a pioneer in cold recycling technology, WIRTGEN offers a product range that is second to none.

> WIRTGEN is the technology leader for mobile road construction machinery.

> WIRTGEN believes it has a responsibility to mainstream environmentally friendly recycling in every market around the world.

> We leverage our experience in the tried-and-tested cold milling process to perfect our cutting technology across all of our product lines.


Cost efficiency and environmental protection are not mutually exclusive – and our environmentally friendly machine technology and the resource-friendly application process of cold recycling are the proof. The process uses existing road construction materials, only mixing in additional binding agents. The removed, bound, and unbound road construction materials are completely reused. The formula for this is simple – cold recycling unlocks enormous savings potential in terms of the quantity of material that needs to be transported and the resources that need to be consumed. The result is a mix of financial and environmental benefits such as lower costs, shorter construction time, and reduced $CO_2$ emissions. In short, more and more markets around the world are benefiting from this environmentally friendly process.

# WE at WIRTGEN.


As the global market leader, here at WIRTGEN we strive to meet our own high standards each and every day. This is why we are particularly proud of the fact that all of our machines are fully developed and manufactured in-house. From the idea to the design and production through to sales and service, our products are supported exclusively by extremely well-trained WIRTGEN employees. In the process, our customers' opinions and interests play a particularly important role. This is because in addition to providing excellent after-sales service after the purchase of a machine, receiving feedback from customers – which we incorporate into the development of new products – is extremely important to us.

WIRTGEN

WIRTGEN GmbH
Reinhard-Wirtgen-Str. 2 · 53578 Windhagen · Germany
Phone: +49-2645-131-0 · Fax: +49-2645-131-392
Internet: www.wirtgen.de · E-mail: info@wirtgen.de