

BERGKAMP

PAVEMENT PRESERVATION SOLUTIONS



Slurry Seal & Micro Surfacing Equipment

Improve your pavement maintenance capabilities
while minimizing your operating costs.

(785) 825-1375 • www.bergkampinc.com

The Bergkamp Advantage

M Series Slurry Seal & Micro Surfacing Equipment

Throughout the world, Bergkamp's M Series of slurry seal and micro surfacing equipment has a strong reputation for delivering high-quality asphalt pavement resurfacing of highways, roads, parking lots and other pavement surfaces. For more than 35 years, Bergkamp has manufactured tough, reliable and high-quality pavement maintenance equipment that combines the latest in technology with the efficiency that contractors need to deliver great results at a reasonable cost.

Working closely with customers, Bergkamp has invested in research and development to continually improve the quality and reliability of its products while keeping costs low to provide superior value. Equipment is consistently tested in a variety of conditions and applications to ensure long-term reliability. Such attention to performance helps explain why many of our original machines are still in operation today throughout the world.

We put 100% of our efforts into manufacturing quality equipment and working with our customers. We help contractors successfully enter the slurry seal and micro surfacing business. Each piece of equipment is backed by experienced technical support, extensive parts supplies and startup services—including calibration and maintenance training, comprehensive parts and operator manuals, and ongoing safety and operator training. At Bergkamp, we take a different approach to help jumpstart your business. We typically come to your job sites and train your whole crew. Once you are comfortable with your equipment, we are only a phone call away if you have questions.

Bergkamp Quick Facts

- 35+ years of experience engineering & manufacturing pavement maintenance equipment.
- The majority of ISSA contractor members are Bergkamp customers.
- Extensive service & equipment training available.
- Can custom design equipment for specific applications.

Our Role in the Slurry Seal & Micro Surfacing Industry

Bergkamp has been part of the slurry seal and micro surfacing industry for many years. We have been highly involved members of the International Slurry Surfacing Association (ISSA) since the early 1980s. We sponsor and participate in numerous domestic and international industry events, and hold service schools to assist users in the operation and maintenance of our equipment. For more information, visit the Bergkamp (www.bergkampinc.com) or ISSA (www.slurry.org) websites.

Proud Members of:



Courtesy of MachineMarket

Equipment For Successful Asphalt Preventive Maintenance

M1 Series—Continuous Pavers

The M1 and M1E are the only full-size continuous pavers manufactured in the world. These self-propelled slurry seal and micro surfacing pavers optimize efficiency and reduce the number of construction joints, creating a smooth driving surface. They receive a constant supply of material from dedicated mobile support units while moving—making them ideal for all jobs, including those with strict quality requirements.



M2 Series—Truck- & Trailer-Mounted Pavers

Our well-known M2 Series offers unique features not found on other slurry seal and micro surfacing pavers. Available in truck- and trailer-mounted versions, these proven units are best suited for state roads and residential and collector streets. Our most popular model, the truck-mounted M210, is one of the easiest pavers in the industry to use and maintain—providing satisfied customers with successful road maintenance for years.



M310 Truck-Mounted Paver

The M310, our most advanced paver, includes an electronic control system that simplifies calibration and allows you to monitor and adjust production easily. Built-in diagnostics reduce troubleshooting time, while an end-of-day material usage printout helps you manage your business better.



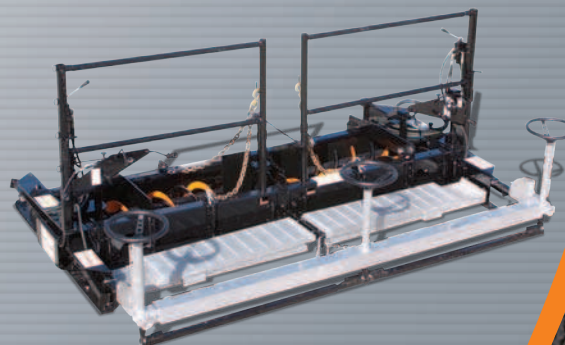
EMCAD System

The Electronic Mix Control and Diagnostic (EMCAD) System is one of the most advanced in the industry and easily allows operators to better manage calibration, mix control and project cost. It comes standard on the M1E and M310.



Spreader Boxes for any Application

We are a leading manufacturer of spreader boxes to fit any slurry seal and micro surfacing application. We offer the widest selection, and all our spreader boxes provide consistency and maximum performance on preventive maintenance jobs.



The M1 Series: One Of A Kind

Optimize quality and efficiency on your jobs by reducing construction joints and increasing your tons-per-hour paved with the self-propelled Bergkamp M1 Series (includes the M1 and M1E) continuous slurry seal and micro surfacing pavers. These pavers receive a constant supply of material as they work. With the help of Mobile Support Units—which bring aggregate, asphalt emulsion and water to the paver—the M1 Series pavers continually produce and place the asphalt mix to increase paving rates and pavement quality.

They are the only full-size continuous slurry seal and micro surfacing pavers manufactured in the world, and have a proven history of reliability and performance from contractors. They are ideal for any size job—from residential streets to interstates—including those with strict quality requirements. These unique machines have been used by the majority of contractors receiving ISSA's prestigious President's Award since the award was introduced.

The M1 Series is specifically designed for ease of maintenance; all key components are easily accessible, and the asphalt emulsion, water and additive tanks can easily be removed. A front hydraulically adjustable axle raises and lowers each unit for ease of loading, improved maneuverability and greater access to maintenance points.

The M1E has taken the proven capabilities of the M1 and equipped it with its innovative EMCAD (Electronic Mix Control and Diagnostic) System. All major component clutches, chains and sprockets on the standard M1 have been replaced with direct-drive hydraulics to work with the EMCAD System, reducing the number of wear parts and maintenance points on the machine. The system electronically ties all material ratios together to help operators easily calibrate the machine, control production, print on-demand production reports and diagnose control system or engine problems.



Mobile Support Units

Bergkamp offers three different mobile support units that hold aggregate, asphalt emulsion and water. Each provides a convenient platform to transport these materials into the M1 Series pavers for continuous operation. Our mobile support units feature a weight-saving design that allows maximum material capacity. Custom configurations are available.



Mobile Support Unit Capacities

	Aggregate*	Asphalt Emulsion	Water	Empty Weight
MS13	13 yd ³ (10.0 m ³)	560 gal. (2,120 L)	560 gal. (2,120 L)	6,800 lbs. (3,100 kg)
MS21	21 yd ³ (16.2 m ³)	1,000 gal. (3,785 L)	1,000 gal. (3,785 L)	Dependent upon axle configuration.

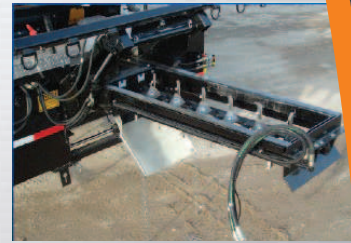
*Level struck load capacity

Features Of The M1 Series

Front Driver Stations – Dual-driver stations and detailed instrument panels provide the ability to drive from either side to ensure straight paving lines.



Slide-Out Pugmill – The slide-out feature facilitates easy cleaning because the bottom bowls stay in the paver, and the excess material falls out of the bottom. Hydraulics easily disconnect for safety.



Material Regulation – Water, cement, asphalt emulsion and additive ratios are regulated before they enter the pugmill to be mixed with the aggregate—which is delivered by a belt-over-chain-fed conveyor to eliminate slippage.



Hopper – Steep walls minimize bridging problems, and a sensor behind the hopper automatically shuts down the unit if it runs out of aggregate.



Operator Console – Simple-to-use controls are conveniently located, allowing the operator to easily see the spreader box and material being placed.



Optional Equipment

- Wide front aggregate hopper
- Hydraulically driven generator and nighttime lighting package
- Stainless steel water and asphalt emulsion tanks
- Blower
- Electronic monitoring system (M1 only)
- Hardened pugmill paddle tips



The M2 Series: Proven Design Yields Quality Results

The Bergkamp M2 Series consists of multiple models to fit the needs of all slurry seal and micro surfacing paving customers. We have a machine for everyone: from our smallest version, the M206 that has a shorter wheelbase and provides more maneuverability, to our largest model, the M216 that has a large material capacity and is ideal for highway and large preventive maintenance jobs. Our customers appreciate how easy the equipment is to run and maintain, and look forward to its years of reliability.

The process is simple for all of our M2 Series pavers. The machine is filled with aggregate, asphalt emulsion and water from a stockpile site and then connected to a spreader box. The slurry seal or micro surfacing material is laid onto the pavement until the machine is empty. The spreader box is then disconnected, and the unit returns to the stockpile to refill.

Our M2 Series pavers have all of the features customers need to successfully complete preventive maintenance jobs. These include a remote sideshift control that lets the spreader box operator control the box from the ground, and a stainless steel additive tank. All tanks are bolted in rather than welded, adding extra durability and easy maintenance. The asphalt emulsion and water tanks are separate components, eliminating rust-through and cross-contamination of products. Our larger M2 Series models allow customers to add extra tag axles and/or pusher axles to better manage legal load requirements and the Federal Bridge law.

The 55-degree-angle hopper walls minimize bridging, and the hopper's polyethylene lining reduces friction. This eliminates the need for a vibrator, which decreases problems with loose bolts and damage to welds and components.



M2 Series Capacities

	Aggregate*	Asphalt Emulsion	Water
M206	6 yd ³ (4.5 m ³)	267 gal. (1,011 L)	267 gal. (1,011 L)
M210	10.5 yd ³ (8.0 m ³)	600 gal. (2,271 L)	600 gal. (2,271 L)
M212	12 yd ³ (9.2 m ³)	691 gal. (2,616 L)	691 gal. (2,616 L)
M216	16 yd ³ (12.2 m ³)	1,500 gal. (5,678 L)	1,000 gal. (3,785 L)

*Level struck load capacity

Features Of The M2 Series

Asphalt Emulsion Ratio Regulation –

The large 3-inch gear pump regulates and delivers the asphalt emulsion into the pugmill—where it is mixed with the aggregate. The heat-jacketed gear-type emulsion pump turns on and off with the mix start switch to ensure the asphalt emulsion is not over pumped, and locks to the aggregate belt to assure constant proportioning.



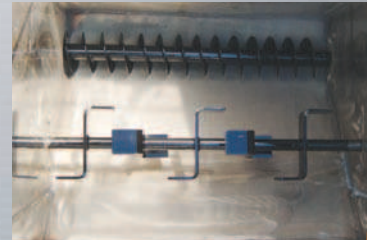
Machine Controls –

Conveniently grouped for easy access and operation on the full-width platform, the position of the controls allow the operator to easily see the spreader box and material being placed.



Fines Feeder –

The hydraulically driven feeder varies feed rate with production rate to keep the percentage constant.



Pugmill – The variable-speed, dual-shaft, 36-paddle pugmill has a dual hydraulic drive, which provides even mixture and coating of the aggregate. The paddles allow throughput of oversize material that tends to lock up competitive pugmills, and do not require constant realignment.



Optional Equipment

- Emulsion load pump
- Water load pump
- Stainless steel water and asphalt emulsion tanks
- Corrosion resistant additive system
- Hardened pugmill paddle tips
- Electronic monitoring system
- Spreader box skew bar
- Spare parts packages
- Tag axle(s)
- Tarp system



The M310: Most Advanced Paver In The Industry

Bergkamp's M310 slurry seal and micro surfacing paver takes pavement maintenance to a whole new level. It is the most advanced truck-mounted paver in the industry, using the EMCAD System to help the operator easily monitor production rates and reduce material waste.

The EMCAD System helps simplify material calibration, and displays current and average material ratios, total material used, and material rates. The attached printer provides a printout on demand to help better track costs and production. It allows operators to quickly evaluate and make adjustments during production to more efficiently run the machine and manage the bottom line. The system ties material ratios of aggregate, asphalt emulsion and fines together with an electronic signal, and automatically maintains the ratios with feedback loops that correspond to the aggregate. Material ratios are set at the operator interface console by the operator, rather than by reading a graph and determining an aggregate gate setting.

The M310 carries 10 yd³ (7.7 m³) of aggregate in a level struck load and 630 gallons (2,385 L) of both asphalt emulsion and water. It is based on a proven design with many features that make Bergkamp's equipment well respected in the industry. It is engineered with convenient control locations and good operator visibility. Like the M2 Series, optional tag and pusher axles can be added to better manage legal weight requirements for load capacity. The onboard engine is located near the front of the paver, on the passenger's side, in an enclosed engine compartment that reduces noise for the driver and crew. Aggregate is delivered to the pugmill by a 24-inch-wide belt-over-chain conveyor, which eliminates slippage, while the steep hopper walls minimize bridging. All liquid tanks are separate and removable for easy loading and maintenance and to eliminate cross-contamination.



The EMCAD System Adds to the Bottom Line

Bergkamp's EMCAD System helps manage material costs, and provides owners the information needed to calculate profits more accurately. The system simplifies calibration—reducing the amount of time it takes to prepare the paver. And since there are no graphs to read, less experienced operators can also perform this function.

When paving, the production rate can be adjusted with one dial, making it more efficient and reducing material waste. The amount of material being used is monitored throughout the day, and can be printed to help calculate material costs for each part of the job, or the entire job.

The end result is a more efficient and cost-effective slurry seal and micro surfacing paving crew. Give us a call today to see how the M310 or M1E can increase the earning potential of your operation with the EMCAD System. **See the inside back cover for additional details and a simple diagram of how it works.**

Features Of The M310

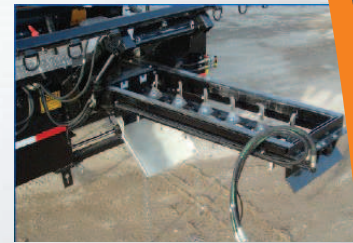
EMCAD System –

Allows for simple calibration and adjustments because the mix design is automatically maintained as production rates change; onboard diagnostics constantly monitor the equipment and provide easy-to-understand performance feedback.



Slide-Out Pugmill –

The slide-out feature facilitates easy cleaning because the bottom bowls stay in the paver, and the excess material falls out of the bottom. Hydraulics easily disconnect for safety.



Asphalt Emulsion System –

A Tri-Rotor pump, three-way valve and inline strainer allow trouble-free loading of asphalt emulsion onto the truck. New material can be loaded at full rate without affecting the production settings.



Operator Interface Console –

Joystick and push-button controls are simple to use and easily slide to either side, providing the operator with the best visibility.



Hydraulic System –

A simple system with an independently dedicated Sauer-Danfoss pump for production and auxiliary functions. The hydraulics include industry-proven pulse width modulation valves.



Optional Equipment

- Stainless steel water and asphalt emulsion tanks
- Pugmill gate/Steel diverter
- Tag axle(s)
- Tarp system
- Spare parts packages
- Hardened pugmill paddle tips

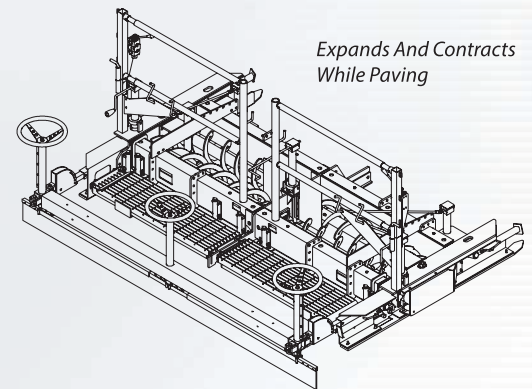


World-Class Spreader Boxes

Bergkamp is also an industry leader in the design and manufacture of spreader boxes for slurry seal and micro surfacing equipment. We offer a wide selection of spreader boxes to fit any application.

Variable-Width Spreader Box

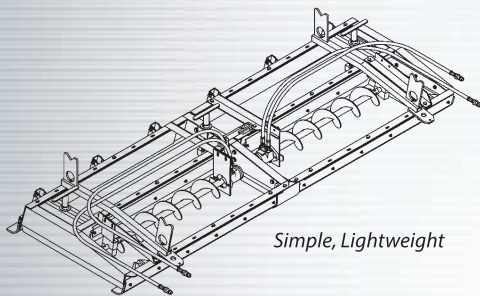
The Bergkamp Variable-Width Spreader Box is designed for micro surfacing applications. The width is adjustable on-the-fly while paving, via hydraulic cylinders within the frame that are actuated by valves located on the spreader box. The hydraulically driven ribbon augers are fully expandable and feature a 12-inch pitch. Both the primary and secondary strikeoffs feature a patented design that allows them to slide within a guide tube as the box expands or contracts while paving. It also features inboard runners to provide clean longitudinal joints.



Expands And Contracts While Paving

Widths Available

VS813	Adjustable from 8 to 13 feet (2.4 to 4.0 m)
VS813	Adjustable from 9 to 14 feet (2.7 to 4.3 m)
VS1015	Adjustable from 10 to 15 feet (3.0 to 4.6 m)



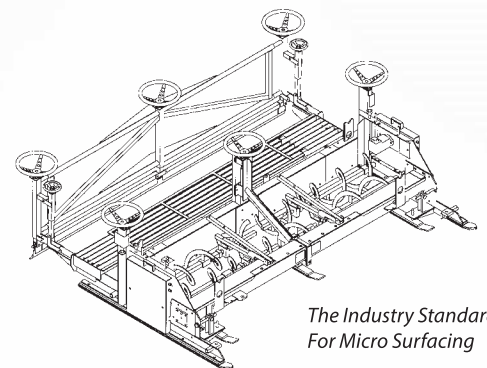
Simple, Lightweight

Slurry Seal Box

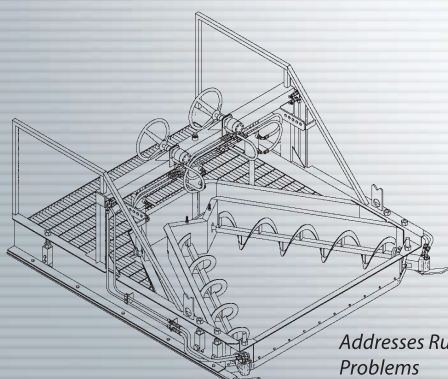
The Slurry Seal Box is available with or without augers for typical slurry seal applications. The width is adjustable from 9 to 14 feet (2.7 to 4.3 m) in 6-inch (15 cm) increments. Widths up to 16 feet (4.9m) are available by special order. The Slurry Seal Box is available without augers, with single augers or with double augers.

Hydraulic Spreader Box

The Hydraulic Spreader Box is designed specifically for micro surfacing and quick-set slurry seal mixes. Widths are hydraulically adjustable from 8 to 14 feet (2.4 to 4.3 m) in 6-inch (15 cm) increments. The primary and secondary strikeoff heights are adjustable at three points. Ribbon-design augers are 10 inches in diameter, and are hydraulically driven. The auger bearings are polyethylene, providing low maintenance and economical replacement. Inboard runners produce clean longitudinal joints. Widths up to 16 feet (4.9 m) are available by special order. An adjustable pitch rear strikeoff is available (shown).



The Industry Standard For Micro Surfacing



Addresses Rutting Problems

Rut Box

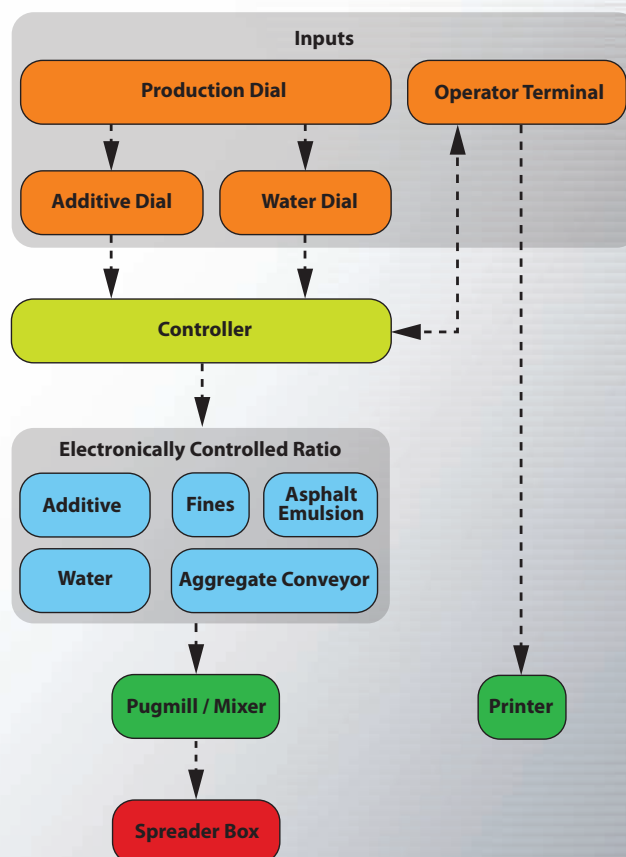
The Rut Box for micro surfacing applications is designed to fill wheel path ruts to the desired level without wasting material. Two V-shaped screeds channel the larger sized aggregate in the mix to the deeper part of the rut. The screeds are independently adjustable for optimal performance. Widths of 5 feet (1.5 m) or 6 feet (1.8 m) are available.

EMCAD System: Automatic Efficiency

Bergkamp's unique EMCAD (Electronic Mix Control And Diagnostic) System is an operator's best friend because it is efficient and saves time and money. Standard on the M1E and M310, the EMCAD System simplifies calibration by reducing the number of steps required and eliminating manual calculations. Using a fixed gate, calibration occurs at a single-gate setting, reducing your workload by up to two-thirds. Even less-experienced personnel can accurately produce a mix as designed with very little training, keeping costs to a minimum. You also have the capability to print production reports on demand that display actual materials used. This simplifies record keeping for daily reports and enhances management oversight by allowing you to monitor mixes.

As production rates vary, the EMCAD System automatically maintains mix design. You can increase or decrease paving rates due to changes in speed or box widths with a single adjustment of the mix production controls, so your crew can focus solely on paving. The controls are located at the rear console, allowing the operator to make production control changes without turning his or her back to the paving operation. Facing the spreader box enhances control and provides for consistent, high-quality performance.

Onboard diagnostics constantly monitor components in the production control system and will display an easy-to-understand error message at the first hint of a problem. This simplifies troubleshooting, as most problems can be diagnosed by any crew member by simply reading the message on the interface display. Proper diagnosis enables mechanics to speed up the repair process and get you back paving again.



Aftermarket Support You Can Count On

Bergkamp maintains an extensive, computer-managed parts inventory. We offer a complete list of replacement parts in our user manuals, and work one-on-one with each customer. Next-day delivery of most replacement parts is available within the United States. No matter where you are located in the world, our goal is to make sure you get what you need promptly to minimize costs and downtime. Bergkamp's proven support team can easily be reached by telephone, fax or email to keep your equipment operating at its peak productivity levels—no matter what brand of paver you use, including Young Slurry Seal, ScanRoad and Akzo Nobel.



BERGKAMP

PAVEMENT PRESERVATION SOLUTIONS

Providing Pavement Preservation Solutions Worldwide

Bergkamp Inc. has been an expert in pavement maintenance equipment for more than 35 years, and works with customers throughout the world. The company's success continues to grow through hands-on knowledge of the industry and its products, and the company's dedication to customer support.

Bergkamp is the only manufacturer in the industry to produce a full-size continuous slurry seal and micro surfacing paver. It also designs and manufactures a full line of truck- and trailer-mounted slurry seal and micro surfacing pavers and equipment. In addition, the company offers an all-in-one flameless pothole patcher and a series of spray injection pothole patchers for the market.

Contact Bergkamp today to find cost-effective solutions for extending the life of highways, roads and parking lots.

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M310 Paver



M2 Series Pavers



M216 Trailer-Mounted Paver



Spreader Boxes



M1 Series Continuous Pavers



MAXX Frictional/Mastic Surface Treatment Applicator



SP Series Spray Injection Pothole Patchers



Flameless Pothole Patcher