Kleemann Asphalt Recycling Power

The united power of a MOBISCREEN MSS 502 EVO scalper, a MOBIREX MR 100 NEO impact crusher and two MOBIBELT stackers

The smart combination of innovative machines and digital solutions in a powerful process chain enables efficient recycling of reclaimed asphalt in accordance with the relevant standards. A central role in this played by a Kleemann plant train, which enables precise, extremely effective and cost-efficient processing of the milled material. At the same time, users can benefit from the comprehensive, full-service package offered by the Wirtgen Group.

From Reclamation to a New Product

Comprised of a MOBISCREEN MSS 502 EVO scalper, a MOBIREX MR 100 NEO impact crusher and a MBT 20 stacker, the new Kleemann plant train enables the processing of homogeneous fractions – producing aggregates in line with the requirements of the relevant standards for the utilisation of reclaimed asphalt pavement (RAP) in the production of asphalt mixes. The plant train plays a key role in the cycle: The interlinked processes in asphalt recycling begin with selective milling. Surface layers, binder courses and base layers are removed selectively with Wirtgen milling machines, which increases the quality of the reclaimed asphalt pavement (RAP) material. After screening and crushing with the Kleemann plant train, the material is delivered to the asphalt mixing plant. Here, the processed material becomes a part of the new asphalt mix. Machines from Vögele and Hamm complete the full cycle with paving and compaction. This results in a coherent, efficient cycle from reclamation and processing to reuse.

The Kleemann plant train

Construction contractor Kutter in the Allgäu region near Memmingen works with the new plant train from Kleemann. In the first step, the reclaimed asphalt is fed to the scalper. Occasional large slabs of milled material with an edge length of > 500 mm resulting from concretion during stockpiling are first crushed to a manageable size. The overall process consists of a series of individual steps: Milled material with grain sizes of 0-120 mm are fed into the scalper. The MSS 502 EVO delivers an immediately usable final product containing the highest proportion of bitumen. The second product from the MSS 502 EVO bypasses the MR 100 NEO via the middle grain conveyor and the MBT 20 stacker and is mixed with the final product from the MR 100 NEO. The third product from the MSS 502 EVO, the oversize grain, is passed to the MR 100 NEO, which produces a further final product. The process produces a series of homogeneous final products that can be fed into the asphalt mixing plant with a maximized feed rate. A second MBT 24 stacker provides additional material stockpiling capacity.

Simone Eichiner, Asphalt Mixing Plant Manager at Kutter, is very satisfied with the performance of the plant train: ‘The crusher and the screens deliver a material that contains a lower proportion of fines and better fulfil the requirements of the desired grading curve. That’s important when it comes to the production of asphalt mixes in line with the relevant standards. On top of this, the low fuel consumption and simultaneously increased hourly output reduce the operating costs.’ As the company works at a number of different locations, it is also advantageous that the mobile Kleemann plants can be quickly relocated and adapted to the different conditions on the individual construction sites.

Impressive recycling performance

The Kleemann plant train processes up to 240 tonnes per hour. After crushing in the impact crusher, the material is separated into two specified final grain sizes: 0-11 mm for surface and binder courses and 0-22 mm for base layers and binder courses. Both fractions are delivered to the asphalt mixing plant and used there in the production of new asphalt mix

Crusher operator Thomas Guggenmoser particularly likes the handling of the machine and the Lock & Turn quick access function: ‘The system enables quick and safe opening of the crusher for maintenance and checking and has proved to be very useful in our daily operations. It reduces idle times to a minimum and saves us a lot of time and stress. All told, the access to the central service and maintenance points is really very good.’

SPECTIVE CONNECT has also proved to be a valuable asset on-site. The digital application provides real-time information on consumption, production performance, utilisation rates and possible faults. The precise fault localisation enables significantly faster remediation of interruptions in ongoing operations. It also allows Thomas Guggenmoser to visually check the plant status at any time. ‘That makes everything more efficient and avoids unnecessary service callouts and interruptions.’

The benefits of a comprehensive overview

Not only the performance of individual machines, but also the comprehensive overview of all processes from reclaiming the RAP material to the finished asphalt is decisive. The Wirtgen Group and its product brands – Wirtgen, Vögele, Hamm, Kleemann and Benninghoven – offer the complete portfolio of machines and plants from a single source. Kutter has above all come to appreciate the application consulting services provided by the individual brands. ‘This interaction optimises the overall process. The consultants also look outside the box. The focus is on the applications, not on the individual products. That has proved to be an enormous advantage’, says Simone Eichiner. ‘The technical support, the fast delivery of spare parts and the training courses for digital tools – everything meshes so well.”’

Facts and figures

* Feed material: Reclaimed asphalt pavement 0-120 mm (occasional slabs of milled material with edge lengths of up to 500 mm)
* Output: 0 -11 mm final grain, 0-22 mm final grain, from base layer 0-32 mm
* Plant train throughput: 240 t/h

**Photos:**

  
K\_pic\_MSS502EVO\_MR100NEO\_MBT20\_memmingen\_asphalt\_0001

The Kleemann plant train here consists of a MOBISCREEN MSS 502 EVO scalper, a MOBIREX MR 100 NEO impact crusher and two MOBIBELT stackers.

  
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K\_pic\_MSS502EVO\_MR100NEO\_MBT20\_memmingen\_asphalt\_0004  
The Kleemann plant train processes up to 240 tonnes of RAP material per hour.

Please note: The photographs shown here are only previews. If you wish to publish them in other media, please download the higher resolution (300 dpi) versions from the link provided here.

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