Benninghoven | Hot-gas generator   
ensures compliance with stringent emissions limits

The leading recycling technology from Benninghoven allows for a high content of recycling material with low emissions in asphalt production

With the Benninghoven hot-gas generator, owners can produce asphalt from 100 % recycling material while complying with current stringent emissions standards such as the German TA-Luft regulation.

Gentle asphalt recycling reduces the carbon footprint

The hot-gas generator technology allows for maximum addition of recycling material in asphalt production with minimum emissions. This enables the plant owner to produce asphaltic mixtures from 100 % reclaimed asphalt while complying with the more stringent limits for air quality control, including the German TA-Luft regulation which requires a significant reduction in emissions. The total carbon emissions (Ctot), for example, must not exceed the limit of 50 mg/m3.

With the hot-gas generator, Benninghoven guarantees that the demands for a high recycling content can be met while low emission are achieved in continuous operation, with the appropriate measurements. This means that asphalt recycling with the Benninghoven hot-gas generator makes a significant contribution to reducing the carbon footprint. Using just 60 % reclaimed asphalt when producing new asphaltic mixtures saves 18 % CO2 in the entire road construction process chain.

Extremely sustainable and efficient hot-gas generator

Plant owners who turn reclaimed asphalt into fresh asphaltic mixtures not only work sustainably, but can also save money thanks to the hot-gas generator. That is because the costs for the recycling material are substantially lower compared to virgin mineral from a quarry. The main reason for this is that the reclaimed material already contains bitumen. The price of the most expensive ingredient for asphalt production has increased significantly in recent years and is also subject to strong fluctuations. As there are more roads being refurbished than new roads being built, many regions are increasingly focusing on re-using reclaimed asphalt.

With a maximum possible recycling content of 100 %, the hot-gas generator is a pioneering solution, also with respect to economic efficiency.

Hot-gas generator defines the state of the art in recycling technology

High recycling content along with low emissions can only be achieved using the principle of counterflow action in combination with a hot-gas generator. This process generates only low levels of Ctot because the recycling material is heated to only 160 °C. In the case of natural rock asphalt – in contrast to recycling material – harmful substances already evaporate at temperatures below 160 °C. The hot-gas generator, however, can reduce these substances to a level where they are no longer an issue.

For the counterflow action, the burner fires into the hot-gas generator and intensively heats the surrounding air in the recycling drum. This hot air then heats the recycling material in the downstream recycling drum in an indirect and gentle process. This already brings the recycling material up to the final temperature. “So we add only hot gas to the material in the recycling drum, because the recycling material with adhering bitumen would ‘burn’ upon direct flame contact,” Steven Mac Nelly, Head of Development & Engineering at Benninghoven, explains the principle.

Benninghoven hot-gas generator also available as a retrofit solution

When it comes to new asphalt mixing plants, the Benninghoven RPP plants are already configured for processing a high recycling content at the factory and are equipped with an integrated hot-gas generator. RPP stands for “recycling priority plant” – a plant that prioritises the recycling material flow. “This predestines RPP plants for maximum recycling while meeting complex requirements,” says Steven Mac Nelly,

Owners of existing plants can also use the modern technology by retrofitting a hot-gas generator. The leading asphalt recycling technology additionally contributes to maintaining the operating license in light of increasingly stringent requirements: “To secure the future of the site and to implement a higher recycling content, we can also install the hot-gas generator as a retrofit project,” explains Steven Mac Nelly.

Photos:

Ein Bild, das Himmel, draußen, Anhänger, Asphalt enthält.

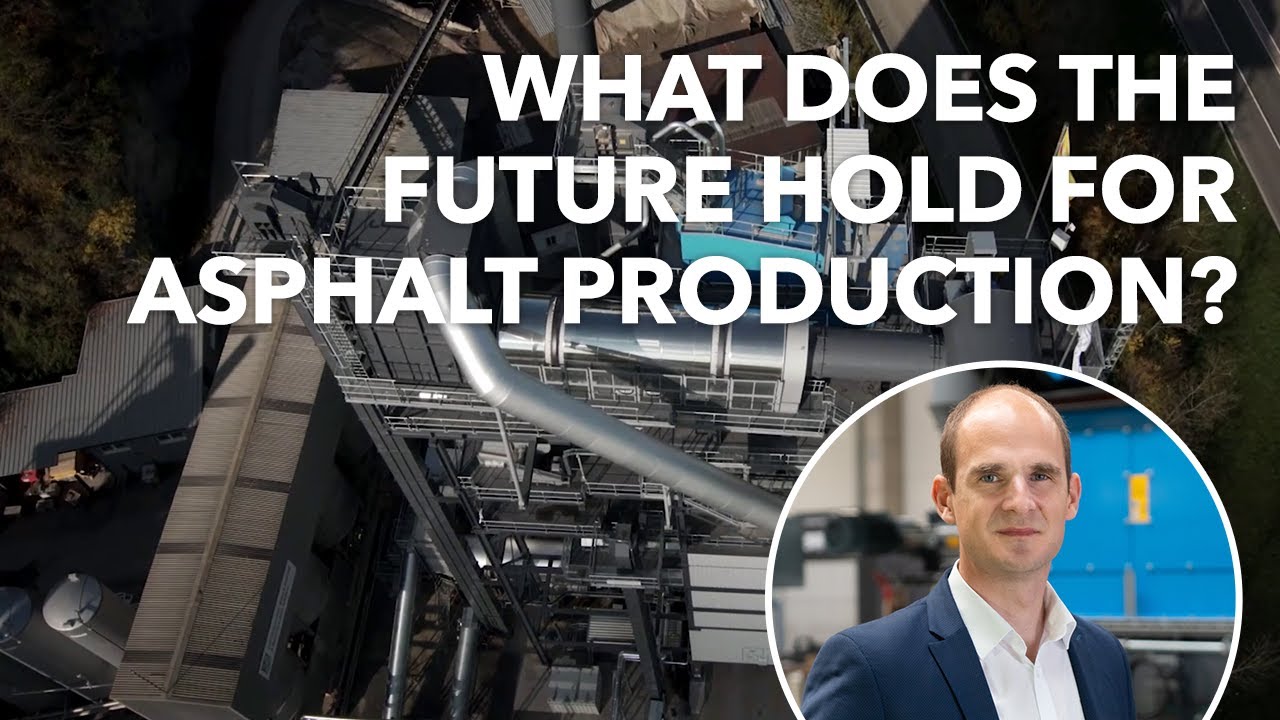
Automatisch generierte Beschreibung  
BENNINGHOVEN\_hot gas generator\_01

With the hot-gas generator from Benninghoven, asphaltic mixtures can be produced from up to 100 % reclaimed asphalt while meeting all requirements for lower emissions.

Ein Bild, das Handkarren enthält.

Automatisch generierte Beschreibung  
BENNINGHOVEN\_hot gas generator\_02

Indirect and therefore gentle heating: Unlike the virgin mineral in the dryer drum, the recycling material is heated indirectly with hot gas.



BENNINGHOVEN\_hot gas generator\_03\_EN

The Benninghoven hot-gas generator, explained in the video by Steven Mac Nelly, Head of Development & Engineering:

<https://www.youtube.com/watch?v=JdDRhhQJ84g>

Note: These photos are intended for preview only. For printing photos in the publications, please use the photos with a resolution of 300 dpi available to download from the Wirtgen Group web pages.

More information is available from:

WIRTGEN GROUP

Public Relations

Reinhard-Wirtgen-Straße 2

53578 Windhagen

Germany

Phone: +49 2645 131 - 1966

Fax: +49 2645 131 - 499

Email: PR@wirtgen-group.comPR@wirtgen-group.com

www.wirtgen-group.com