

SUSTAINABILITY



OUT OF
RESPECT
TO THE
ENVIRONMENT.



www.eka-asphalt.de



Our „green“ technology.

ASPHALT MIXTURE WITH ECOLOGICAL TECHNOLOGY

eka® repair asphalt is a cold applicable repair asphalt produced in a conventional hot process, consisting of selected mixtures of aggregates and a bituminous binder modified with **BIOROAD®**, as well as a specially for road maintenance developed formula of rubber additive (NFVU) and graphene.

PRODUCT DESCRIPTION

eka® repair asphalt is a patented bituminous mixture that is CE-certified in accordance with the specification UNE EN 13108-1 asphalt type AC11 35/50 D with a continuous granulometry and a maximum grain size of 11 millimeters. Furthermore and for smaller or flatter danger spots **eka® repair asphalt** is also available as a finer asphalt mixture type AC5 35/50 D, which is based on the same technology with continuous granulometry with a maximum grain size of 5mm. The repair asphalt is produced under a strict quality control in a conventional asphalt plant at temperatures between 120 - 130 °C and can be storage up to at least 36 months without losing any of its unique quality benefits considering a dry warehouse condition and a closed packaging (ECOBAG).

BIOROAD® is a polymerized additive made from recycled vegetable oils, graphene and other components, which on the one hand facilitates the handling on the construction site and on the other hand gives the installed asphalt its final stability. **eka® repair asphalt** can be used at ambient temperatures of -20 to +50 °C. The material cures through compaction and the subsequent dynamic load of the following traffic. In addition, **BIOROAD®** allows the asphalt production at a lower temperature up to 40 °C than a conventional other hot mix production, as it significantly improves the adhesive properties for coating the aggregates and the mixing in the production process itself, which final result is a significant CO₂-emission reduction as well a fuel saving up to 50%(!).

RARx Rubber Additive is a powder additive, consisting of 60% granulate of reused old tires (NFVU), 16% (± 3%) bitumen content, lime filler and 26% (± 5%) additives and is being mixed with the aggregates in the mixer before the bitumen will be added. The behavior of mixtures made with a high **RARx Rubber Additive** content is similar to that of bituminous mixes made with modified bitumen with a high viscosity.

The combination of **RARx Rubber Additive** and graphene contributes to a significant improvement of the mechanical characteristics of the bituminous mixture. In addition to the more elastic initial behavior during its application and the according resulting homogeneous structure of the final asphalt layer, subsequent load deformations caused by traffic are reduced and the crack resistance and resilience of the road surface are increased. Another further advantage is the reduced rolling noise caused by vehicle traffic.

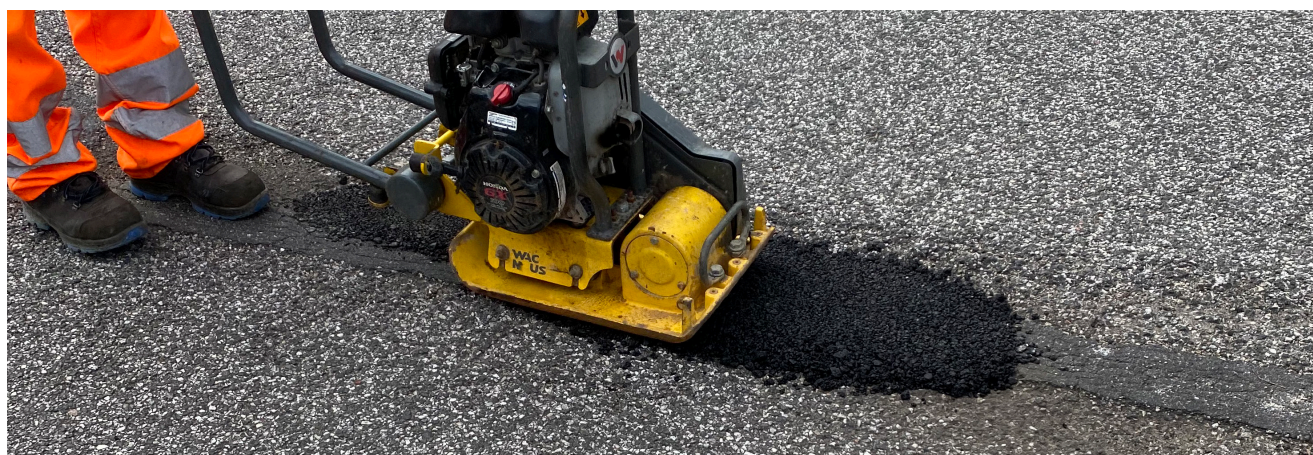




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PRODUCT DATA

Composition	Aggregates, RARx Rubber Additiv, BIOROAD®, Graphene
Packaging	15 kg ECO Bag
Colour	Black
Storage period	36 Month
Warehouse condition	Dry storage conditions. During the winter period the asphalt should be stored just before its application in a frozen-free area.
Density	Volume density Bulk Material: appr. 1.800 kg/m ³ (at 20°C) Density compacted condition: appr. 2.300 kg/m ³ (at 20°C)
Curing Time	By Comacting (Immediate Traffic Release)
Impermeability	96%
CE-Certificate	2249/CPR/MB.FT91
Packaging material	recycled plastic
CO2-Footprint	2,36 g CO2/ECO Bag
Ganulometry	AC-11 & AC-5
Productivity	25 kg per 1 m ² square and 1 cm depth
Additive	10 kg (+/-5%) RARx Rubber Additiv pro 1.000 kg and 15% (+/-5%) BIOROAD® with Graphene





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CHARACTERISTIC PROPERTIES & ADVANTAGES

- Environmental protection, as emulsifiers and solvents are not used at all.
- 10 (!) - times lower CO₂ footprint in the entire manufacturing process compared to others conventional hot asphalt mixtures
- 32 (!) -times lower CO₂ footprint for the packaging compared to plastic buckets from the competition. **eka® repair asphalt** ECOBags are made from recycled plastic.
- Sustainable product due to extremely long storage period (36 months) in dry storage and therefore no residual material costs and no environmental pollution through unnecessary special disposal of residual material.
- Ready to use material. There is no need at all for pre-treatments of the construction site (e.g. with primer).
- Easy to use, no heavy tools required.
- Can be used at extreme ambiental temperatures from -20 to 50 ° C and in all weather conditions (including rain and snow). The continuous sieve curve also squeezes out and stagnant water from the pothole during compaction, which then can't flow back.
- Significant reduction in frost damages due to the high impermeability of 96%.
- Immediate traffic release without putting sand or split on the repaired surface after compaction. The subsequent dynamic loads of the vehicles accelerate the hardening process and give **eka® repair asphalt** the final characteristic unique properties regarding hardness, compressive strength and impermeability.
- As a mixture of type AC-11, **eka® repair asphalt** has an ideal particle size for the repair of danger spots and potholes as well as for the resealing of any kind of road pits. As an AC-5 type mix, **eka® repair asphalt** is ideal for repairing shallower danger spots and chippings of the road surface.
- Patented and CE-certified repair asphalt according to specification UNE EN 13108-1.
- Noise reduction through reduced rolling noise from traffic

AREAS OF APPLICATION

- Permanent road maintenance works and repairs of potholes on roads, parking lots, entrances and exits, etc.
- Closing of road surface openings or pits for house connections, gas and electric lines
- Manhole cover renovation work, construction of signage, installation work of street lights etc.
- Repair work on channels and manholes, etc.
- Complete street and parking lot surfaces





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MANUAL INSTRUCTION

The damaged area or danger spot has to be roughly cleaned of loose stones, leaves, etc. with a broom. The area to be repaired must be free of chemical contamination such as fats, oils, oxides, etc. Make sure that the ground is solid. Before opening the packaging, it should be shaken and tapped briefly at all four corners and so that any material that may have been pre-compressed during transport can return to its original condition in order to facilitate the material application. **eka® repair asphalt** can be applied and processed on a wet surface without any problems. Even standing water in a pothole does not affect the repair asphalt. **AC-11**: The maximum installation depth of 5 cm or minimum of 2 cm must be complied. **AC-5**: The maximum installation depth of 3 cm or minimum of 1 cm must be considered. In the case of deeper holes, **eka® repair asphalt** must be applied in several layers.

When applying and spreading the repair asphalt mixture, it is important to get to a superstructure of approx. 1-2 cm above the requested road level (depending on the depth of the danger point) before compacting. Subsequently, **eka® repair asphalt** must be compacted with a suitable tool. For larger or deeper areas, the use of a vibrating plate with the appropriate weight is recommended, whereas a hand rammer is sufficient for minor road repairs. **eka® repair asphalt** gets its final hardness and strength through the subsequent dynamic traffic load.

Since the curing time of **eka® repair asphalt** purely depends on the initial compaction and the subsequent traffic load, as well as the current weather conditions, the shortest possible curing time is achieved by an according longer and intensive carried out compaction process during the construction.

THE ECOLOGICAL ASPECT

Per pallet with 72 ECOBags (15kg packagings) of **eka® repair asphalt**, 2 old rubber tires are reused in an ecologically sensible way.

The recycling of used tires in the form of rubber granulate **RARx Rubber Additive** in the filler, the use of **BIOROAD®** for energy reduction in the production as well as the environmentally friendly packaging ECOBag convert **eka® repair asphalt** to the unique repair asphalt with the respect for the environment.

Per kilometer of roadway with a width of 6m and a pavement thickness of 5 cm, eKa® repair asphalt recycles 1500 used rubber tires!

Also in the future, we will continue to work hard and permanently on our company strategy with the „3R“-environmental policy to fight against the global climate change!

RECYCLING RECOVERY REUSE

Because reducing waste in the world and avoiding emissions are important steps and our contribution in the fight against the global climate change!

