



KLEIBERIT Lithobond- Technology

Protects levees and railway embankments



The durability of levee systems and railway embankments is highly influenced by the integrity of the individual layers. Just a little erosion can lead to extensive damage when exposed to constant stress such as flooding. This is where the **KLEIBERIT Lithobond Technology** comes in: The top stone layer of a dam or levee is mixed with a binding agent, based on a two component polyurethane, immediately before applica-

tion to the underground. Afterwards the crushed stone mixed with binding agent is applied, using conventional methods, to the underground and creates a cohesive, mechanically stable layer without completely closing the surface layer. As an alternative to this method, the binding agent can be poured over the compressed stones; this is especially effective with railway track bedding.

PRODUCT INFORMATION

With the Lithobond products, KLEIBERIT offers high quality solutions for the sustained protection of dams and levees.

- Durable stone reinforcement for ocean and railway embankments
- Tested ecological compatibility
- Processing methods suitable for construction sites

VP 9489/1

Binding agent for reinforcing railway track bedding

- Long open time
- Very well suited for pouring over finished railway track beds

579.9

Binding agent for reinforcing stone ballasts for levees

- Accelerated reaction
- Ideal for preparing construction sections between tides

KLEBICHEMIE

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Erosion of railway embankments on the mainland due to driving rain or running water can be prevented without having to completely seal the surface.

For levees in coastal areas, this has the significant advantage that the force of breaking waves is not suddenly transferred to the underground at various points. Instead it is subdued and uniformly absorbed by the levee construction. This significantly contributes to the service life of the revetment. KLEIBERIT Lithobond systems have not only

been tested mechanically to examine the strength of the dam construction (see Table 1) – extensive ecological compatibility tests were also conducted. Furthermore, binding the gravel with Lithobond has virtually no impact on the external appearance of the construction which allows it to be ideally integrated into the landscape.



KLEIBERIT VP 9489/1 for reinforcing railway track beds



Testing ground for trials with KLEIBERIT Lithobond 579.9

KLEIBERIT VP 9489/1

For long lasting reinforcement of levees and dams, **KLEIBERIT Lithobond** offers products ideally matched to the corresponding application. **KLEIBERIT VP 9489/1** was first used over 10 years ago for successfully reinforcing track systems.

KLEIBERIT 579.9

With the newest development, **KLEIBERIT Lithobond 579.9**, the reaction properties have been adjusted so that the coating work on sections of a levee can be completed between tides and the binding agent reaches sufficient strength prior to the next flooding.

Mechanical trials on test samples produced with KLEIBERIT Lithobond 579.9 with granite gravel 10-30 mm

	Binding agent percentage of total weight of the test sample	
	3 %	5 %
Compressive strength DIN EN 12390-3 [N/mm ²]	1,3	2,5
Flexural Strength DIN EN 12390-5 [N/mm ²]	3	5,8

Viscosity of the mixture depending on temperature:

Temperature (°C)	5	10	15	20	25	30
Viscosity of mixture (mPas)	3,200	2,500	1,900	1,500	1,100	850