BIGUMA®-VPD

Polymer-modified joint sealant containing bitumen with general technical approval for use in storage, filling and handling facility and in biogas and slurry, manure and silage effluent storage and filling facilities

Use

BIGUMA®- VPD can be used for sealing surfaces in LAU plants and in storage, filling and handling facilities and in biogas and slurry, manure and silage effluent storage and filling facilities, according to the specifications of the respective approval. Furthermore, the joint compound is suitable for filling joints on road surfaces made from concrete and rolled and mastic asphalt as well as semi-rigid road surfaces in areas without particular chemical or biological stress.

Properties

BIGUMA®- VPD holds the general technical approval for storage, filling and handling (Z-74.6-93) facilities and the general technical approval for the use in biogas and slurry, manure and silage effluent storage and filling facilities (Z-74.62-158). BIGUMA®- VPD also fulfils the requirements of of DIN EN 14188-1, Type N 2.

BIGUMA®- VPD or the produced joints distinguish itself by the following characteristics:

- plastic elastic set, therefore optimum balance between high movement accommodation and stress relief
- good application characteristics at heat and cold temperatures
- good bonding of the bituminous and mineral subsoil
- high ageing resistance of the joint
- high chemical resistance to aqueous solutions, salts, diluted acids and other substances hazardous to water
- high resistance to fermentation substrates of agricultural origin
- bitumen-based product and therefore easy to recycle

Application instructions

a) Melting

BIGUMA®- VPD has to be heated carefully to the application temperature of 150 - 180 °C in a boiler equipped with mechanical agitation, indirect heating and thermometer. The temperature of the sealant must be thermostatically regulated; it must be controllable at all times. Overheating of the sealant should necessarily be avoided, as this will damage the polymers, which were added for the improvement of the product, and consequently it will lead to a loss of the guaranteed properties. The maximum dwell time at processing temperature is 6 h.

b) Requirements to the subsoil

The concrete and asphalt joints to be sealed should be thoroughly blown with high-pressure-air or cleaned with a brushing machine if necessary, cleaning and application works have to take place separately. For artificial drying or pre-heating of the joints, hot compressed air lances can be used. For BIGUMA®- VPD COLZUMIX®- VPD primer has to be used, which is especially designed for this material. The function of the primer is to bind any dust bonding to the concrete or asphalt and to form an adhesive layer, which will fuse with the sealant being filled into the joints.

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The minimum cooling time should not be less than 30 minutes. If no filler is introduced within 24 hours, the joint flanks must be roughened and provided with COLZUMIX®- VPD again. Compatibility with any coatings applied beforehand on rising components must be checked. If an incompatibility is assumed, the coating must be fully removed in the area of the joints and the joint flank treated correspondingly.
The joint sealant must not be mixed with any coatings containing solvents that are to be applied (e.g. silo varnish). Suitable measured must be taken to protect the joint sealant before a new coating.

c) Filling of the joints

BIGUMA®- VPD can be applied by can or mechanical by the help of an application lance. The joint sealant must have reached the indicated application temperature during pouring work. If the pouring temperature is clearly below the stated temperature, the flow ability of the sealant suffers. The joint sealants may possibly not fill the to be poured joints completely. There is the danger that voids may occur which later can result in sinking of the sealant under rolling traffic. A priming filler or separating strip may have to be applied before using BIGUMA®- VPD. Before the application of BIGUMA®- VPD a suitable bedding material has to be applied. Through the bedding material the height of the joint sealant in the joint will be modulated.
The bedding material should be set firmly at the base of the joint. At the same time a leaking of the compound into possibly existing voids and the three-flank bonding will be prevented. A three-flank bonding may lead to a failure of the joint sealant caused by the tension. The cooling of the sealant may cause shrinkage dependent on the joint dimensions; a second pouring can be necessary. This second pouring should be made immediately after the first one.

d) Waiting times before use

BIGUMA®- VPD is chemically and mechanically loadable at the latest 2 hours after cooling down.

Weather conditions

The prepared joints are only allowed to be sealed in dry weather conditions and at a surface temperature of at least 5 °C.

Material consumption

BIGUMA®- VPD:	joint length (cm) x joint width (cm) x joint depth (cm) x specific gravity of the sealant (g/cm³) = consumption (g).
Primer:	The consumption of the primer (COLZUMIX®- VPD) is approx. 3 % of the sealant amount needed.

Storage

The product has to be stored cold and dry and is storable for at least 24 months.

Form of supply

The joint sealant will be filled into thin metal tins (hobbocks) and transported on non returnable pallets.
A separation agent coating and the welted type of the hobbocks guarantee a fast, problem-free and safe removal of the mass out of the tin.
The removed blocks can be filled into the heater together with the probably still adherent separation agent coating.

Thin metal tins:	27 kg, 9 kg
Carton:	25 kg, 10 kg

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Cleaning agent

Equipment:	BIGUMA®- SWS, petrol and commercial solvents
At skin contact:	Hand washing paste

Authoritative regulations

At the production or the filling of the joints you have to follow among others the following regulations:

- General technical approval of the German Institute for Structural Engineering Z.74.6-93 (storage, filling and handling facilities)
- General technical approval of the German Institute for Structural Engineering Z.74.62-158 (slurry, manure and silage effluent facilities)
- Ordinance on facilities for handling substances hazardous to water (AwSV)
- DIN EN 14188-1, type N2
- Technical Rules for Substances Hazardous to Water (TRwS)

Important Hint

When using BIGUMA®- VPD within the approved range of the general technical approvals Z.74.6-93 and Z.74.62-158, the executing company must meet the requirements of a specialist company in accordance with Art. 62 AwSV.

Technical data

Application temperature:	approx. 150 - 180 °C
Density:	approx. 1.1 g/cm³
Primer:	COLZUMIX®- VPD

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