WATERPROOFING OF BASEMENTS WITH A POLYURETHANE – BITUMINOUS LIQUID MEMBRANE

SOLUTION: Waterproofing of basements with the two-component, polyurethane-bituminous liquid membrane **ISOFLEX-PU 560 BT**.

Related Materials

ISOFLEX-PU 560 BT	Two-component, polyurethane-bituminous, waterproofing liquid membrane
PRIMER-PU 100	One-component, polyurethane primer
PRIMER-PU 140	Two-component polyurethane primer for surfaces with high moisture content
DUROCRET-PLUS	Polymer-modified, fiber-reinforced repairing mortar
PLASTIPROOF	Plasticizer type A – Concrete waterproofing admixture
FLEX PU-30 S	Polyurethane sealant
FLEX PU-50 S	Polyurethane sealant

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I. NATURE OF PROBLEM-REQUIREMENTS

In order to be used, the basements of buildings require effective sealing against moisture and water. If the problem to be addressed is simple moisture or water without hydrostatic pressure (e.g. penetrating rainwater), then the sealing layer to be applied must:

- Deal with the problem of moisture or water adequately.
- Show excellent adhesion to the substrate.
- Have durability, especially because of its difficult accessibility and continuous contact with the ground.

II. SOLUTION

It is recommended that the waterproofing membrane is applied on the outer side of the housing of the basement, i.e. the side of the water penetration, so that a protective-sealing layer is created even before the water comes into contact with components of the construction.

These requirements are fully covered by the two-component, polyurethane-bituminous**,** waterproofing liquid membrane, **ISOFLEX-PU 560 BT**. The innovative synthesis of the polyurethane-bituminous**,** waterproofing liquid membrane, ISOFLEX-PU 560 BT, provides particular characteristics making it ideal for sealing in numerous applications.

It forms a uniform waterproofing membrane, with high elasticity and excellent mechanical and chemical resistance, without joints. It shows very good adhesion to various surfaces such as concrete, cement, bituminous coatings, steel surfaces, etc. Furthermore, it is easy to use, with a mixing ratio of the two components 1:1 (by volume).

If it is a new construction, during the concreting of the structural elements of the basement, it is recommended to add the plasticizer-concrete waterproofing admixture, **PLASTIPROOF**, to the concrete, in a ratio of 0.2-0.5% on cement weight.

III. APPLICATION

Substrate preparation

In general, the substrate must be dry and free from loose particles, dust, grease, etc.

Any cavities in the substrate must be cleaned of loose materials. Starter bars and wooden molds should be cut to a depth of approx. 3 cm. Existing construction joints are opened longwise in a V shape to a depth of about 3 cm.

The surface of the above areas are well dampened and filled with the ready-to-use, polymer-modified, PCC R3 type cement mortar, **DUROCRET-PLUS**. (Indicative consumption of the polymer-modified, PCC R3 type cement mortar, DUROCRET-PLUS, for a common concrete wall surface: 25 kg for filling 30-40 m^2 of surface).

Intense substrate cracks must be sealed with polyurethane sealants **FLEX PU-30 S** or

FLEX PU-50 S.

Priming of the surface with the polyurethane primer PRIMER-PU 100

On the clean dry concrete surface (moisture content <4%) - as long as the materials used for smoothing the substrate have dried - the one-component polyurethane primer **PRIMER-PU 100** is applied. The primer is evenly applied throughout the whole surface with a brush, roller or by spraying.

Consumption of PRIMER-PU 100 polyurethane primer: 200-300 g/m^2.

In case the substrate has moisture content > 4%, the PRIMER-PU 140 which is a polyurethane, two-component primer for surfaces with high moisture content is applied instead of the polyurethane primer PRIMER-PU 100.

Consumption of PRIMER-PU 140: 200-250 g/m^2.

Application of ISOFLEX-PU 560 BT two-component, polyurethane-bituminous liquid membrane

The polyurethane-bituminous liquid membrane **ISOFLEX-PU 560 BT**, is a two-component product. Components A (polyurethane resin) and B (bitumen) are packed in separate containers. Mix equal volumes of the two components in a clean container. The two components are mixed for about 3 minutes with a low-speed mixer (300 rpm). It is important to stir the mixture thoroughly on the sides and bottom of the container.

ISOFLEX-PU 560 BT is applied by brush, roller or trowel 2-3 hours after application of the polyurethane primer PRIMER-PU 100, and as long as the surface is still slightly tacky.

Consumption: approx. 1.2-1.5 l/m^2, depending on the substrate.

IV. NOTES

- The temperature during application and curing of the materials should be between +5^{o}C and +35^{o}C.
- Tools are cleaned with the special solvent for polyurethane coatings SM-16**,** while the polyurethane-bituminous, waterproofing liquid membrane, ISOFLEX-PU 560 BT is still fresh.
- Packages which have been opened cannot be stored again.
- Consult the instructions for safe use and precautions written on the packaging.
- ISOFLEX-PU 560 BT may be applied when the ambient temperature is 5^{o}C and rising, and the temperature of the substrate is a minimum of 3 degrees above the dew point. The maximum application temperature is approximately 35^{o}C. Low temperatures retard curing while high temperature accelerates curing. High values of humidity may affect the final finish of the membrane.