BLUE PROCESS TECHNOLOGIES, Inc.
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THERMOSEAL

BPT ThermoSeal a 3 in 1 high performance coating that will WATERPROOF, INSULATE and EXTEND existing roofing. Seal with confidence.

1. PRODUCT DESCRIPTION

ThermoSeal is a pure polyaspartic system that is developed as a seamless coating for waterproofing, and sealing. It expands approximately 4-5 times its original volume during the spray application and helps to fill all voids and height differences in substrates of different nature. Thanks to these features, it can be easily used on all kinds of surfaces for waterproofing and coating purposes.

2. FEATURES

- 100% solids, VOC free
- Fast cure and service time
- Very good adhesion to concrete substrates.
- Environmentally friendly
- Waterproofing and thermal insulation behavior
- Suitable for horizontal and vertical applications
- Reduces application processes by eliminating hand applied cementious skim coats and patch repair materials.
- Good resistance to weather conditions
- Suitable for internal and external applications.
- Enable to bond to any surface, such as cement, concrete, polyurethane, wood, metal, etc.
- Excellent resistance to weather conditions

3. APPLICATIONS AREAS

- Waterproofing and protection membrane for concrete and metal roofs, terraces and balconies not exposed to traffic
- As a surface repair and restoration layer on concrete substrates to minimize surface preparation labor prior to the application of protective membranes
- To fill and protect a variety of porous surfaces
- Primer onto different height / uneven roofing substrates
- Waterproofing exterior basements, retaining walls and foundations
- As a protective coating for thermal insulation polyurethane foam products

4. APPLICATION REQUIREMENTS

In order to achieve a good penetration and bonding:

- The surface must be solid and of sufficient strength. Application should not be made on screed with low concrete quality. The minimum adhesion strength should be 1.5MPa.
- Before applying on fresh concrete, it should be waited for at least 28 days for the concrete to dry.
- Surface and ambient temperature must be at least 10 °C and at most 40 °C.

5. SURFACE PREPARATION

- The application surface must be clean, dry and sound surfaces and the elements that will prevent adhesion must be removed from the surface.
- Dilatations on the surface should be insulated with the appropriate polyurethane based filler material and dilatation tape.
- Check the seals and overlaps for metal surfaces and where necessary seal with a proper product.
- ThermoSeal system can be applied to many different surfaces and the procedure will vary depending on its nature or state. A primer may be required, subject to type and/or condition of the substrate. Consult technical service personnel for specific primer recommendations and substrate preparation procedures.

6. APPLICATION

Preparation of Components:

Before starting the application, the component B must be mixed in the barrel for at least 30 minutes until a homogenous mixture obtained. The mixing process must continue during application.

It is important that the temperature of components A and B be in the range of 20-25 °C before application. The components should not be diluted in any way.

Spray Machine Settings:

The ThermoSeal could be applied with a spray machine operating at high pressure and temperature. Machine settings must be checked continuously during application.

Parameters	Datas
A Component Temperature	55 °C
B Component Temperature	50 °C
Hose Temperature	50 °C
Machine Pressure	140-160 bar

Components Mixing Ratio:

It should be checked continuously whether the mixing ratio is correct or not during the application.

Mixing Ratio	Unit	Data
A / B	Volume	100 / 100
	Weight	112 / 100

Application:

It is recommended that the product should be sprayed in multi-directional (north-south/east- west) passes to ensure uniform thickness.

To reduce the possibility of blisters and blow holes when applying ThermoSeal to cementitious or other porous surfaces:

- Do not apply on damp or wet substrates.
- Start spray application after peak heat of the day when surface is cooling.
- Attention should be paid to the condensation that may occur on the surface. Application should not be done early in the morning. The surface temperature must be at least 3°C higher than the dew point
- Do not apply as a waterproofing barrier on the negative side of a structure where hydrostatic pressure is possible

For application details please contact our technical department.

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7. TOP COAT APPLICATION

ThermoSeal is an aromatic coating system, therefore as all aromatics color change will occur under direct sunlight. This does not affect the physical properties and performance of the product but an aliphatic topcoat recommended for color reliability and increase longevity in sun exposure areas. The final coat should be applied within 0 - 12 hours after the application of the main coat.

8. CONSUMPTION

Product	Consumption
ThermoSeal	1,0 - 1,1 kg/m^2 (4 -5 mm thickness)

* Consumption in the table is theoretical. Consumption may vary according to surface permeability, weather conditions, and the technique of application.

9. TECHNICAL FEATURES

Component properties

	Unit	Method	A Component	B Component
Chemical Structure	-	-	MDI Prepolymer	Amine Resin
Physical Condition	-	-	Liquid	Liquid
Density (25°C)	gr/cm^3	ASTM D 1217	1,11 ± 0,03	1,02 ± 0,02
Viscosity (25°C)	cps	ASTM D 4878	200 - 400	400 - 700
Solid Content	%	ASTM D 2697	100	100
VOC Content	%	ASTM D 1259	0	0
Color	-	-	Light Yellow	Dark Grey (RAL 7043) RAL color upon request

Reaction Parameters

	Unit	Method	Data
Gel Time	Second	-	15- 20
Tack Free Time	Second	-	45-50

Finished Product Features

Test Name	Unit	Method	Value
Tensile Strength	MPa	ASTM D 638	≥ 5
Elongation	%	ASTM D 638	≥ 125
Shore A	-	ASTM D 2240	70-75
Density	Kg/m^3	ASTM D792	230
Thermal Conductivity	W/mK	EN 12667:2003	0,051
Adhesion Strength	N/mm^2	ASTM D 4541	Concrete: ≥ 2 Steel: ≥6
Capillary Water Permeability	kg/m^{2}h^{0,5}	EN 1062-3	0,01
Compression strength	kPa	ASTM D1621	>100
UV Resistance test	hour	ASTM G154	No swelling, crack and deformation (1000 hrs)

10. PACKAGING

225 kg drum (A - MDI Prepolymer)
200 kg drum (B - Amine Resin)

11. SHELF LIFE AND STORAGE CONDITIONS

ThermoSeal components are moisture sensitive. Therefore, in original, unopened and undamaged packages, it is suitable for 9 months from date of production when stored correctly between +10 °C and +30 °C.
Products should be stored in dry and places where not having direct sunlight.

12. CLEANING

Clean all tools and application equipment with suitable cleaner solvent immediately after use. Hardened/cured material can only be cleaned by mechanical methods.

13. WARNING AND SUGGESTIONS

Follow the instructions in SDS form before or after use or when a problem is encountered. Personal protective equipment and full face mask with appropriate filter should be used during application. There must be sufficient air circulation in the application area. Give empty barrels to authorized hazardous waste collector companies.