AQUAPROOF POLYUREA HSA

TWO COMPONENTS HYBRID POLYUREA SPRAY APPLIED ELASTOMERIC COATING

Description

Aquaproof Polyurea HSA is a two component solvent free, UV resistant, hybrid polyuria system. It combines the advantage of seamless coating with a very long-life cycles and provide high durability. It is highly reactive and can only be applied with high pressure and heated special type of spray machines. The reaction of the two component enable to form a membrane with excellent mechanical and chemical resistant properties on the applied surface. Due to these properties it is easily applied on all kind of surfaces for waterproofing and coating purposes.

Usage

It can be used as follows:

- General waterproofing on roofs , terraces , balconies and podium etc.
- Water Tanks, pipes, ponds and pools.
- Road, Bridges and Tunnels.
- Sewage and sewer linings.
- Foundation and curtain concretes.
- Over Thermal Insulation products (EPS, XPS, PU foam etc)
- Ship coating and marine industries.
- Pickup and Bedliners.
- Refineries, Petrochemicals and energy industry.
- Factories, Parking Lots, Hospital and other industrial floors.

Advantages

100% solid content.

- Two Component, aromatic and UV resistant.
- Fast setting and service time.
- Seamless on application.
- Can be applied for any desired thickness.
- Applicable on all surface with prior suitable priming.
- Can be applied to Horizontal & vertical surfaces.
- Excellent flexibility and Crack bridging.
- Excellent properties to resist chemical and abrasion resistant.
- Excellent resistant to weather conditions.
- Root resistant.
- Water vapour permeability.
- Resistant to all types of vehicle traffic.
- VOC free and odourless.

Technical Data

Appearance	Comp A – Liquid Comp B - Liquid
Colour	Comp A – Transperent Yellow Comp B – Desired RAL codes
Density at 25 ℃ (gr/ml) as per ASTM D 1217	Comp A - 1.11 + 0.03 Comp B - 1.02 + 0.02
Viscosity at 25 ℃ (gr/ml) as per ASTM D 4878	Comp A – 700 – 800 Cps Comp B – 300 – 600 Cps
Solid Content (ASTM D 2697)	Comp A – 100% Comp B – 100%
VOC Content (ASTM D 1259)	Comp A – 0% Comp B – 0%
Tensile strength (ASTM D 638)	15 -17 Mpa
Module(ASTM D638)	0-12 hrs
Elongation(ASTM D 638)	Approx 400%
Shore A after 15 days(ASTM D2240)	75 - 85
Tear Resistance (ASTM D 624)	>50 N/mm2
Impact Resistance(EN ISO 6272-1)	Class III
Adhesion Strength (ASTM D 4541)	Concrete: >2 Steel >6
Capillary Water Permeability (EN 1602-3) $Kg/m^2h^{0.5}$	0.021
UV Resistance Test (ASTM G53)	No Cracking and Swelling
Gel Time	8-15 Second
Tack Free Time	90-180 Second

Application Instruction

The surface must be strong and should possess sufficient strength. It should not be applied done over low quality screed concrete. The compressive strength of the surface should be minimum **25 Mpa** and lowest adhesion strength should be **1.5 Mpa**. Before application over fresh concrete the concrete should be allowed to cure and dry for 28 days. The ambient temperature of the surface should be at least 5**o**C and not more than 35ºC. Relative Humidity should be less than 85% at the time of application. The maximum moisture content of the surface should be 4% when polyurethane primer is applied on the surface., maximum 6% for the surfaces applied with moisture tolerant epoxy primer and maximum 7% for surfaces applied with water based epoxy primer.

Attention should be paid to condensation on the surface. Application should not be done early in the morning. The surface temperature to be at least 3ºC higher than the dew point. It should not be applied on frozen, melting surfaces on surfaces where rainfall is expected within 6-8 hours. The above conditions are applicable for both primer and polyuria application.

Surface Preparation:

- The application surface should be absolutely clean and dry. Adhesion preventing elements should be completely cleaned from the surface. Do not wash or clean surface.
- Necessarily the surface is wiped off with suitable wiping machines in order to remove weak concrete on the surface to open the eyelets and openings. The glazed top layer of ceramic surface should be roughened. Dust accumulation after wiping should be removed from the surface by brush or vacuum cleaner.
- Any cracks, gaps or undulation on the surface to be repaired with epoxy mortar or cement based repair mortar.
- Corner chamfers should be supported with appropriate repair mortar or chamfer tape.
- The large screed concrete surfaces should be cut in panel and the inside of the joints to be filled with polyurethane or polyuria based sealant.
- Sanding and polishing should be done as per standards for corrosive areas in metal surface
- coatings. The points on the leaned metal surface should be covered with polyurethane based sealant, flexible tape or steel paste.
- Resulting to follow the above processes, dust/debris accumulated on the surface to be removed for the final time before coating.

Primer Application:

If the surface moisture is less than 4% on absorbent surfaces (concrete, wood etc.) it is recommended to use a low viscosity primer for the first coat primer application. This will reduce the amount of epoxy primer to be applied on the second layer priming and the number of pinholes on the surface in polyuria application.

- After impregnation primer application one has the option to choose according to surface
- moisture presence on the surface.
- If the surface moisture is above 4%, the moisture tolerant primer should be used instead of first
- layer impregnation primer.
- For metal surfaces, choose NON POROUS primer.
- For non-absorbent surface (Ceramic, glass or metal) NON POROUS Primer is suggested always.
- To get a homogenous primer mixture, the primer should be mixed with a low speed (300 – 400 rpm) electric mixer for 3-4 minutes. Do not mix at high speed for a longer period of time which will form air bubbles in the mix.
- When the primer is still green it is recommended to spray 0.3-0.7 mm of silica sand on the surface to increase the adhesion of the polyuria to the surface.
- It is to be ensured that the prime surface is sufficiently dry before application of polyurea.
- The primed surface should not be too wet or completely dry. It is sufficient to leave a feeling of adhesion in your hand.
- Foreign objects adhering to the primer surface and quartz sand which is sprinkled, should be cleaned by brush or vacuum before application.

POLYUREA APPLICATION

Preparation of Components: Before the application is started, **Component B (amine resin)** must be mixed in the barrel for at least 30 minutes until a homogenous color is obtained. The mixing process must continue during application. It is important that the temperatures of Components A & B be in the range between 25-300 C before application. The components should not be diluted at all.

Spray Machine Settings:

The polyurea is applied to floors with a spraying machine operating at high pressure and temperature. Machine settings must be checked continuously during application.

Parameter	Data
Component A	70-71ºC
Component B	67-68ºC
Hose temperature	67-68ºC
Machine Pressure	140 -180 bar

After all preparations are finished, the polyuria is applied by spraying on the surface with a minimum thickness of **2mm in 2 layers**.

Mixing Ratio:

It is recommended that the mixing ratio is checked continuously whether it is correct or not looking at the machine pressure bar hours.

Mixing Ratio:

Comp A:Comp B(By volume) - 100 : 100

Comp A:Comp B(By Weight) - 112 : 100

Top Coat Application

• If **Aquaproof Polyurea HSA** applied is under direct sunlight, color change is observed after certain period of time. This does not affect the physical properties and performance of the product.

• If the stability of the color is desired aliphatic top coat is required to be applied. Aliphatic Polyurethane paint, aliphatic polyuria system or polyaspartic polyuria system is preferred as a top coat application. The top coat is to be applied within 0-12 hours after the application of the main coat.

Coverage

PRODUCT CONSUMPTION

Aquaproof Polyurea HSA - 2.0 -2.2 Kg/m2 (for 2mm)

Consumption as per the above is theoretical. Consumption depends and may vary to surface permeability, weather conditions and technique of application.

Packaging

Available in **Pack A in 225 Kg Drum** & **Pack B in 200 Kg Drum.**

Storage & Shelf Life

Shelf life is 9 months, store in unopened containers in clear, dry conditions at 10 to 35°C.
During storage, an easily removed skin of **Aquaproof Polyurea HSA** may form, which does not affect the performance of the product.
For specific storage advices please consult FCSC Technical Services Department.

Cleaning

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

Safety Precautions

Aquaproof Polyurea HSA is non-toxic but ingestion is to be avoided. Any splashes to the skin must be washed with water. If contact with eyes occurs, wash well immediately with water and seek medical advice.

Firstchoice Speciality Chemicals Pvt. Ltd.
(An ISO 9001:2015 & 14001: 2015 Certified Co.)
Shrachi Tower, 2nd Floor, 686, Anandapur,
E.M. Bypass, Kolkata - 700107

Note:
Firstchoice Speciality Chemicals (FCSC) goods are sold pursuant to its regular terms and conditions of sale, copies of which can be acquired upon request, and are guaranteed against defective materials and manufacturing. While FCSC makes every effort to ensure that any recommendations, guidance, or specifications or information it may provide is true and accurate, it cannot accept any liability, either directly or indirectly, resulting from the use of its products, whether or not it complied with any advice, specification, recommendation, or information it provided, as it lacks direct or ongoing control over where or how its products are applied.