

# SUPolyurea Super Polyurea Waterproof Coating (Spray Type)

TDS

## Product Introduction

SUPolyurea Super Polyurea Waterproof Coating(hereinafter referred to as “SUPolyurea”) is the latest development of the third generation polyurea elastomer by Joaboa Tech Group. The product is constructed by Special Spraying equipment of GRACO Company. The coating can be cured instantly and quickly to form elastic waterproofing coating with high strength, high elongation and no seams. It is a revolutionary leap of traditional coating technology and one of the most advanced waterproof construction technologies in the world.

## Product Features

Quick Curing Time	10 seconds to gel, 10 minutes to walk strength. The construction speed is fast, the facade and the top surface are continuously sprayed without flow hanging.
Insensitivity	In the construction process, it is not sensitive to humidity and temperature, thus to reduce the risk of polyurethane foaming.
Seamless	Using spraying process, continuously seamless, reducing the risk of leakage.
Superb Waterproofing Performance	The coating is compact and continuous, no seams, of high elasticity, and can keep good waterproof performance in the case of wind, rain and sun.
Excellent Physical Properties	High strength, high elongation, high tearing strength, can withstand water, sea water, acid, alkali, salt and other types of erosion.
Pursuit Performance	Excellent crack pursuit performance, can withstand structural deformation without damage to polyurea coating itself.

## Application Area

SUPolyurea can be widely used in Marine facilities, large building structures, chemical infrastructure, water conservancy and other waterproof projects, especially those exposed to corrosive chemicals and water. Typical application fields include:

- ★ Roofing, Flooring and Building Waterproofing
- ★ Water conservancy facilities such as DAMS, reservoirs, canals
- ★ Sewage treatment tank, swimming pool, water park
- ★ Wear-resistant and waterproofing for stadium stands
- ★ Petroleum, petrochemical, chemical, mining and other industries of all kinds of concrete

storage tanks and ancillary facilities

★ Marine steel structure, cross-sea bridge, dike and other Marine and coastal facilities.

## Application Instructions

SUPolyurea is composed of Part A (Isocyanate) and Part B (Resin), which should be prepositioned in an environment of 15~35°C before use. This product should be applied with high temperature and high pressure special spraying equipment. Part A and Part B should be heated to 60~70°C respectively, and the spraying equipment must produce enough pressure to make the material achieve the most appropriate mixing degree and the best polymerization effect.

## Spraying Equipments

Spraying should be carried out by high pressure collision mixing equipment. High pressure compound spraying equipment must have the thermal control ability of the material, whose material dosage volume ratio is 1:1, available for round or flat type nozzle spray operation. GRACO polyurea spraying equipment (USA) is recommended. For details of equipment and accessories, please consult the material supplier.



## Equipment Parameter

Part A(isocyanate) and Part B (resin) must be pressurized by a primary pump sent to the secondary pump of the main engine.

Temperature Setting	PART A (Isocyanate)	60~70°C
	PART B (Resin)	60~70°C
	Pipeline (Isocyanate & Resin)	60~70°C
Pressure Setting	Hydraulic equipment	2000~2500psi (13.8~17.2MPa)

## Construction Environment

The following restrictions must be observed:

- Apply coating only when the substrate temperature is at least 3°C above the dew point.
- Do not apply coating if the substrate is wet or may become wet.
- Do not apply coating if the weather deteriorates significantly or is not conducive to applying or curing.
- Do not spray coating in strong wind conditions.

## Common Problems and Solutions

### 1. The coating color is uneven and does not cure

The uneven color is mainly due to pigment precipitation, and the PART B (resin) material is not agitated or circulated prior to spraying.

### 2. Coating bubbling

The main reasons for the bubbling of the coating includes: the substrate is not dry enough, the bottom coating is not completely dry, there is bias in the spraying process or the gun block is not tightened in the spraying process, which leads to the unmixed spraying on the substrate and not cleaned up in time.

When encountering the above situation, the water content of compressed air should be checked first, whether there is bias pressure or the gun block is not tightened when spraying, and then cut the bubble position, and extend outward to cut off part of polyurea, polish the base material and brush the bottom coating, and then spray polyurea to repair the bulging position of coating.

## Equipment Cleaning

After proper use, the spraying equipment should be cleaned immediately in the manner described by the equipment manufacturer. For details, see the usage and maintenance instructions of the spraying equipment. The cleaning agent must not contain reactive contaminants such as water and alcohol. All cleaning materials for airbrush and spray equipment shall be used in accordance with local regulations.

## Material Storage

In the unopened case, the storage period is 12 months from the date of production.

The storage temperature is 10~40°C.

For unused materials, do not expose them to high humidity and keep them sealed.

For materials connected to the pump body in the construction site, as much as possible, the unused materials should be kept air-tight and dry to ensure their chemical properties.

Stock drums should be stored on freight pallets, avoiding direct contact with the warehouse floor.

## Safety Specification

Please refer to the MSDS safety specification for this material. All relevant personnel are required to read and understand all relevant safety instructions provided by MSDS. Wear all personal protective equipment to ensure worker health and safety.

## Chemical Technical Index

<b>Volume Ratio(Part A: Part B)</b>	1A:1B
Gel Time	7-15 sec
Surface Drying Time	15-20 sec
<b>Viscosity(cPs, 25°C)</b>	
PART A (Isocyanate)	1000 ± 300
PART B (Resin)	800± 300
<b>Density(g/cm<sup>3</sup>, 25°C)</b>	
PART A (Isocyanate)	1.13
PART B (Resin)	1.08

## Physical Properties

Item No.	Testing Item	Testing Standard	Testing Result
1	Appearance	Visual Test	Passed
2	Tensile Strength, MPa	ASTM D-412*	26.79
3	Elongation, %	ASTM D-412*	483.56
4	Tearing Strength, N/mm	ASTM-D624	79.5
5	Hardness, Shore D	ASTM-D2240	50
6	Taber abrasion, mg (CS1, 1000r, 1kg loading)	ASTM-D4060	6
7	Water Absorption, % (23°C, 24h)	ASTM-D471	0.5

## Declaration

This manual is based on the accumulation of our experiment and experience. With the improvement of the product, this manual may be modified without prior notice. Please keep in touch with us for timely update. The right of final interpretation of this manual belongs to Shenzhen Joaboa Technology Co., Ltd.