

Carbyne™ SUP250

Aliphatic Polyurethane Two Component

031925-C

Carbyne™ SUP250 Gloss is a bio-based, two-component, water-based, urethane coating that combines ease of use with high bonding performance on concrete, ceramic, wood, and metal substrates. BioCoat SUP250 Gloss has low content with minimal to no odor. BioCoat SUP250 Gloss provides a durable, flexible and long-lasting coating that has exceptional abrasion resistance and strong adhesion properties.

PRODUCT DESCRIPTION

Carbyne™ SUP250 Gloss provides the following product characteristics:

Technology	Aliphatic Polyurethane
Chemical Type	Urethane
Appearance, Resin (Part A)	Cream
Appearance, Hardener (Part B)	Clean, Odorless
Appearance (Mixture)	White
Viscosity	Thixotropic
Cure	Room Temperature
Components	Two-component (Mixing Required)
Solids Content	65%
Bio-based Content	25%
Application	Coating
Product Benefits	Excellent bonding Excellent Gloss One hour pot-life Retain hardens overnight for disposal Water based Low to no odor Mildew Resistant Odor Resistant Guards against degradation from microorganisms
Density @ 25 °C, (g/mL)	1.02
Viscosity (cP)	500

PHYSICAL PROPERTIES OF COATING

Carbyne™ SUP250 Gloss provides the following product characteristics:

VOC (wt%)	4
VOC (g/L)	44
Odor	None
Pot Life (hrs)	1
Dry Time (hrs)	10-12
Full Cure (days)	5
MEK Double Rubs	3000+
Tabor Abrasion (mass loss)	21
Adhesion to Concrete (psi)	>480
Elongation (%)	159
Chemical Spot Test (30% NaOH, 10% H2SO4, vegetable oil, hospital-grade cleaner, soap)	No
No changes in color, changes in gloss, blistering, softening, swelling, or loss of adhesion when chemicals applied for 15 minutes.	

GENERAL INFORMATION

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials. For safe handling information on this product, consult the Safety Data Sheet (SDS)

SURFACE PREPARATION

Moisture Content

Maximum Limit: The moisture content of the concrete substrate must typically be $\leq 4\%$ by mass, as measured with a concrete moisture meter.

Alternative testing: Relative humidity tests conducted per ASTM F2170 should show values $\leq 85\%$.

Surface Profile (Roughness)

Open Texture: The concrete substrate needs a clean, sound, and open-textured surface to ensure proper adhesion.

Mechanical Preparation: Achieve this open texture through

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mechanical means like shot blasting, grinding, or similar techniques.

Avoid Polishing: Do not use grinding pads that will polish the concrete surface as this is not suitable for achieving the required profile.

Note on Porosity & Permeation: Variations in concrete porosity due to factors like water-to-cement ratio, aggregate gradation, and admixtures can significantly affect how much epoxy penetrates the substrate. Optimal bonding is generally observed at 6-8% porosity levels.

General Concrete Substrate

Soundness: The concrete must be sound and possess a minimum compressive strength of 3626 psi (25 N/mm²) with a minimum pull-off strength of 218 psi (1.5 N/mm²).

Cleanliness: Ensure the substrate is clean, dry, and free of contaminants like dirt, oil, grease, coatings, and surface treatments. Decontamination methods like detergent scrubbing or low-pressure water cleaning may be necessary.

pH: Normal concrete has a pH range of 11 to 13. If the pH is 10 or lower after decontamination, further decontamination is required to ensure a good bond.

DIRECTIONS FOR USE

01. Mix Part A well prior to use. Use a paint stick or a drill mixer.
02. Add all of Part B to Part A.
03. Mix 5 minutes using a paint stick or drill mixer.
04. Add reducing water if desired to the Part A container. Add 128 fluid ounces of water to the 4-gallon kit. Add 28 fluid ounces of water to the 1-gallon kit.
05. Mix for 5 minutes using a paint stick or drill mixer.
06. Add the entire content of the Accelerator to Part A if a faster dry is desired. When the Accelerator is added the dry time of the coating is approximately 10 - 12 hours. When the Accelerator is not added, the dry time of the coating is approximately 20 - 24 hours.
07. Mix for 5 minutes using a paint stick or drill mixer.
08. Apply with brush, roller or sprayer to substrate.
09. Apply with brush, roller or spray system
10. Apply coating at 3mil to 6mil thickness
11. Coating will be dry to touch in 10 - 12 hours when using the included Accelerator.
12. Full cure in 5 days.

For Smaller Areas

To only use 1/2 the kit: Use only half of all components and follow the mixing instructions.

Temperature Guidelines

Conditioning: Store and condition all components at 65-75 °F (18-24 °C) for at least 24 hours prior to mixing.

Application Range: Apply only when ambient and substrate temperatures are between 50-85 °F (10-30 °C).

Dew Point Control: Ensure substrate temperature is at least 5 °F (3 °C) above the dew point to prevent condensation and adhesion issues.

STORAGE

The product can be stored in ambient conditions with the lid secured in the container or plunger closed if using in portable gun. Storage information may also be indicated on the product container labelling.

Optimal Storage: Store material at room temperature or ambient conditions. Storage below or above these conditions can adversely affect product properties. Material removed from containers may be contaminated during use. Do not return product to the original container. BioBond cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local Technical Service Center or Customer Service Representative.

CONVERSIONS

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$
 $\text{kV/mm} \times 25.4 = \text{V/mil}$
 $\text{mm} / 25.4 = \text{inches}$
 $\mu\text{m} / 25.4 = \text{mil}$
 $\text{N} \times 0.225 = \text{lb}$
 $\text{N/mm} \times 5.71 = \text{lb/in}$
 $\text{N/mm} \times 5.71 = \text{lb/in}$

$\text{N/mm}^2 \times 145 = \text{psi}$
 $\text{MPa} \times 145 = \text{psi}$
 $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$
 $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$
 $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$
 $\text{mPa}\cdot\text{s} = \text{cP}$

Note:

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. BioBond is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product. Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law. In case products are delivered by BioBond please additionally note the following: In case Henkel would be nevertheless held liable, on whatever legal ground, Henkel's liability will in no event exceed the amount of the concerned delivery.

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