



# 106 HY Polyurea

High-Performance, Two-Component,  
Spray-Applied Pure Elastomeric  
Polyurea Coating

## PACK SIZE:

Component A : 220 kg / drum

Component B : 210 kg / drum

## TDS Technical Data Sheet



### Product Overview

106 HY Polyurea is a premium, cutting-edge, 100% solids, two-component elastomeric protective coating. Component A is an isocyanate-based semi-prepolymer, and Component B is a highly engineered blend of amine-terminated polyether resins, amine chain extenders, pigments, and functional additives.

Utilizing plural-component, high-pressure heated spray equipment, 106 HY Polyurea cures instantly on-site to form a seamless, dense, ultra-durable monolithic membrane. It provides exceptional mechanical properties, superior outdoor weathering resistance, chemical stability, and tenacious adhesion to various substrates.

### Advantages

- Ultra-Fast Curing: Gel time of 16 seconds allows for instant trafficking and continuous, sag-free application on vertical, overhead, and complex geometric surfaces.
- Eco-Friendly Profile: 100% solids formulation with zero Volatile Organic Compounds (VOCs), solvent-free, and heavy-metal-free.
- Seamless Integrity: Forms a completely monolithic, joint-free, and dense waterproofing barrier that eliminates potential leak points.
- High Efficiency: Achieves targeted design thickness in a single application pass, drastically reducing labor time.
- Extreme Thermal Stability: Maintains elastomeric performance across a wide service temperature range from -45°C to 150°C.
- Superior Durability: High tensile strength, massive elongation capacity, and excellent impact and abrasion resistance.

### Areas of Application

106 HY Polyurea is designed for heavy-duty waterproofing, anti-corrosion, and structural protection across various industries:

- Petrochemical & Chemical: Storage tanks, containment dikes, chemical workshop floors, drainage ditches, and neutralization ponds.
- Environmental & Waste Management: Wastewater treatment plants, sewage digestion tanks, landfills, and exhaust gas filtration towers.
- Infrastructure & Transportation: Steel and concrete bridges, marine decks, metal pipelines, and platform protection.
- Civil Construction: High-end roof waterproofing, commercial flooring, sports stadiums, stands, and exterior wall restorations.
- Aquatics & Leisure: Water parks, swimming pools, and aquacultural facilities.

### Physical Properties

All testing results are based on laboratory-cured samples at standard specification baselines.

| Test Property     | Specification Requirement | 106 HY Polyurea Typical Result |
|-------------------|---------------------------|--------------------------------|
| Solid Content (%) | ≥ 98%                     | 98%                            |
| Gel Time (s)      | ≤ 45s                     | 16s                            |

| Test Property                                  | Specification Requirement | 106 HY Polyurea Typical Result |
|--|---------------------------|--------------------------------|
| Surface Dry / Tack-Free Time (s)               | ≤ 120s                    | 20s                            |
| Tensile Strength (MPa)                         | ≥ 16.0                    | 22.0                           |
| Elongation at Break (%)                        | ≥ 455%                    | 460%                           |
| Tear Strength (N/mm)                           | ≥ 50                      | 66                             |
| Low-Temperature Flexibility (°C)               | ≤ -40°C                   | -40°C (No cracks)              |
| Impermeability / Water Resistance              | 0.4 MPa for 2 hours       | Impermeable                    |
| Dimensional Stability / Heating Elongation (%) | ≤ ±1.0%                   | 0.4%                           |
| Adhesion / Bond Strength (MPa)                 | ≥ 2.5                     | 3.0                            |
| Water Absorption (%)                           | ≤ 5.0%                    | 0.5%                           |
| Artificial Weathering (Heat Aging)             | No cracks / deformation   | Pass (No damage)               |
| Hardness (Shore A)                             | ≥ 80                      | 85                             |
| Taber Abrasion Resistance (mg)                 | ≤ 30 (750g/500r)          | 1                              |
| Impact Resistance (kg-m)                       | ≥ 1.0                     | 1.0 (No damage)                |

## Chemical & Environmental Resistance (Post-Treatment Performance Retention)

- Thermal Treatment: Retains 97% Tensile Strength; Elongation at break remains ≥ 411%; Passes low-temperature bending at -35°C without cracking.
- Alkali Resistance: Retains 103% Tensile Strength; Elongation at break remains ≥ 413%; Passes low-temperature bending at -35°C without cracking.
- Acid Resistance: Retains 99% Tensile Strength; Elongation at break remains ≥ 410%; Passes low-temperature bending at -35°C without cracking.
- Salt Spray Resistance: Retains 97% Tensile Strength; Elongation at break remains ≥ 409%; Passes low-temperature bending at -35°C without cracking.
- Accelerated Weathering (UV): Retains 83% Tensile Strength; Elongation at break remains ≥ 408%; Passes low-temperature bending at -35°C without cracking.

## Construction Conditions

- Substrate Preparation (Concrete): Concrete must be fully cured (minimum 28 days), clean, dry, and sound with a compressive strength of C25 or higher. The surface must be mechanically ground or shot-blasted to achieve a uniform profile. Moisture content must be less than 8%. All defects, cracks, and voids must be repaired before application.
- Ambient Conditions: Application temperature must be between 5°C and 35°C. Relative humidity must remain between 30% and 80%. The substrate temperature must be at least 5°C above the dew point to prevent condensation.
- Ventilation: Ensure adequate continuous air circulation during application. Do not apply during high-wind events to avoid overspray drift or air-entrainment defects.

## Application Methodology & Painting Requirements

- Material Pre-Mixing: Component B contains settled pigments and must be thoroughly agitated/mixed mechanically using a power mixer before application to ensure uniform color and physical performance consistency. Component A does not require mixing.
- Mixing Ratio: Component A to Component B is 1:1 by volume.
- Equipment Requirements: Must be applied by certified, professional operators using high-pressure, heated, plural-component proportioning spray equipment.
- Process Parameter Windows: Material primary heating and hose temperatures must be tightly maintained between 50°C and 80°C during operation to balance viscosity.
- Recoat Windows: Under standard conditions, subsequent topcoats or downstream processes can proceed after 12 hours. If the recoat window exceeds 24 hours, or if the coating is exposed to rain/adverse weather, an approved polyurethane interface agent (primer) must be applied to reactivate the surface before proceeding.
- Final Cure: Full mechanical and chemical properties develop after 7 days of ambient curing. Do not put the system into heavy service before this timeframe.

## Coverage Estimates

Theoretical coverage rates are detailed below. Actual consumption values will vary depending on substrate profile, application loss factors, and environmental conditions.

- Material Consumption Factor: 1.2 kg / mm thickness / \$m^2\$
- Standard Waterproofing (1.5mm thickness): 1.8 kg / \$m^2\$
- Heavy-Duty Anti-Corrosion (2.0mm thickness): 2.4 kg / \$m^2\$

## Labor Protection and Safety

- Site Safety: Strictly prohibit open flames, welding, smoking, or sparking hazards within the application zone. Ensure high-capacity ventilation is active.
- Personal Protective Equipment (PPE): High-pressure atomization creates airborne paint mists. Applicators and field staff must wear full face masks with supplied air supply or appropriate chemical gas respirators, protective coveralls, chemical-resistant gloves, and safety boots. Avoid skin contact and inhalation of vapors.

- First Aid Procedures: In case of skin contact, immediately wipe off the material and wash thoroughly with an approved industrial skin cleanser, mild soap, and abundant water. In case of eye contact, flush eyes immediately with running water for a minimum of 15 minutes and seek urgent medical attention.
- Toxicity: Fully cured and dry 106 HY Polyurea membranes are non-toxic and inert.

### Pack Size:

- **Component A: 220 kg / drum**
- **Component B: 210 kg / drum**



### Data Reliability

All technical data provided in this document are based on laboratory tests. Actual performance may vary due to factors beyond our control.

### Regional Compliance

Product specifications may vary based on local regulations. Please refer to the local Product Data Sheet for precise information.

### Legal Disclaimer

The information and recommendations regarding the application and end-use of Carbolink products are provided in good faith based on our current knowledge and experience. Due to variations in materials, substrates, and actual site conditions, no warranty of merchantability or fitness for a specific purpose can be inferred. The user must determine the product's suitability for the intended application. Carbolink reserves the right to change the properties of its products. All proprietary rights of third parties must be observed. Orders are subject to our current terms of sale and delivery. Always refer to the most recent local Product Data Sheet, available upon request.