

## Technical Data Sheet

### BC 238 AL Polyurea

Aliphatic, 100% Solids, UV-Resistant Pure Polyurea Coating

#### 1. Description

BC 238 AL Polyurea is 100% solids, fast-curing, two-component, UV-stable, aliphatic pure polyurea system. It is specially formulated to provide excellent color stability and resistance to discoloration under continuous UV exposure.

BC 238 AL Polyurea forms a seamless, durable, and highly elastic membrane with outstanding mechanical and chemical resistance properties.

#### 2. Features & Benefits

- 100% solids, VOC-free and solvent-free
- Excellent UV resistance and long-term color stability
- Fast curing and quick return to service
- Seamless, jointless membrane with superior waterproofing performance
- High tensile strength and flexibility
- Excellent adhesion on concrete, metal, wood, and various substrates
- Excellent chemical and temperature stability
- Anticorrosive and weather-resistant

#### 3. Application Areas

- Roofs, balconies, terraces, and parking decks
- Swimming pools, water parks, and tanks
- Industrial floors, warehouses, and garages
- Shipyards, marinas, and offshore structures
- Decorative and architectural coatings





## 4. Technical Data

Properties	Test Method	Result
Chemical Base	—	Aliphatic Polyurea (A: MDI Prepolymer / B: Amine Resin)
Mix Ratio (by volume)	—	A : B = 1 : 1
Mix Ratio (by weight)	—	A : B = 110 : 100
Solid Content (%)	ASTM D2697	100
VOC Content (%)	ASTM D1259	0
Gel Time (sec)	—	15–30
Tack-Free Time (sec)	—	45–60
Density (g/cm <sup>3</sup> )	ASTM D792	1.05–1.08
Tensile Strength (MPa)	ASTM D638	≥16
Elongation at Break (%)	ASTM D638	≥400
Hardness (Shore D)	ASTM D2240	40–45
Abrasion Resistance (mg loss)	EN ISO 5470-1 (H22, 1000 cycles)	<33
Adhesion (Pull-off Strength, N/mm <sup>2</sup> )	ASTM D4541	Concrete ≥2.5 / Steel ≥6
Process Pressure (bar)	—	A: 150–200 / B: 150–200
Density (25°C, g/cm <sup>3</sup> )	ASTM D1217	A: 1.11 ± 0.03 / B: 1.02 ± 0.02
Viscosity (25°C, mPa s)	ASTM D4878	A: 800–1000 / B: 600–1000

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## 5. Application Procedure

### Surface Preparation:

- Surface must be clean, dry, and free from oil, grease, dust, or contaminants.
- Concrete should be mechanically prepared (shot blasting or grinding) to achieve an open-textured surface.
- Remove weak concrete; repair cracks and voids with suitable epoxy mortar.
- Minimum pull-off strength of substrate: 1.5 N/mm<sup>2</sup>; maximum moisture: 6%.
- Apply a compatible BC Primer to promote adhesion and seal porosity.

### Mixing and Application:

- BC 238 AL Polyurea must be applied using a plural-component high-pressure, heated spray machine capable of maintaining a 1:1 volume ratio.
- Typical spray parameters: 70–80°C temperature, 150–200 bar pressure.
- Stir amine resin (B-side) thoroughly before use.
- Apply in multiple passes if thicker film is required.
- Protect from water contact during the first 2 hours of curing.

## 6. Coverage Rate

- Typical Thickness: 1.0 – 2.0 mm per layer

Coverage: Approx. 1.05 – 2.10 kg/m<sup>2</sup> depending on film thickness and substrate porosity (1 mm DFT ≈ 1.05 kg/m<sup>2</sup>)

## 7. Packaging

- Component A (Iso side): 220 kg drum
- Component B (Amine side): 200 kg drum



## 8. Storage & Shelf Life

- Store in original, tightly closed containers in a dry area at 20–30°C.
- Protect from moisture and direct sunlight.
- Shelf Life: 9 months (when stored under recommended conditions).
- Mix amine resin thoroughly before use.

## 9. Safety

- Contains isocyanate (MDI). Avoid breathing vapors or mist.
- Avoid skin and eye contact.
- Wear appropriate protective clothing, gloves, and eye/face protection during handling and spraying.
- Ensure adequate ventilation in the work area.
- Refer to the Safety Data Sheet (SDS) for detailed information on health and safety precautions.

### DISCLAIMER

The data presented in this sheet are based on laboratory testing and practical experience. Variations in substrate, application method, and environmental conditions may impact performance. Users are advised to carry out tests under their own conditions. Building Chemistry Industry's responsibility is limited to the product replacement in cases of proven manufacturing defect.

