



## Technical Data Sheet

### BC 690H Hybrid Polyurea

#### High-Performance, Fast-Curing, Spray-Applied Elastomeric System

#### 1). Description

BC 690H Polyol combined with BC 6534 Isocyanate is a high-build, solvent-free, elastomeric hybrid polyurea membrane system. The two-component system is designed for durable, seamless, and flexible waterproofing across commercial, industrial, and infrastructure applications.

The formulation cures rapidly, providing excellent tensile strength, elongation, tear resistance, and adhesion to primed substrates, ensuring long-term protection even in harsh climates and dynamic structural conditions.

#### 2). Key Features & Benefits

- Fast curing – rapid return to service
- Seamless, joint-free membrane with uniform thickness
- High elongation ( $\geq 500\%$ ) for crack-bridging capability
- Excellent adhesion to concrete, steel, and wood (with primer)
- High chemical and abrasion resistance
- Cold flexibility down to  $-40\text{ }^{\circ}\text{C}$
- Solvent-free, low VOC formulation
- Long-term durability under dynamic loading and thermal cycling

#### 3). Typical Applications

- Podium decks, terraces & balconies
- Car parks, ramps & trafficable areas
- Potable & wastewater containment structures
- Industrial floors & bunds



- Bridge decks, tunnels & infrastructure waterproofing
- Roofing & exposed structures requiring durable protection

#### 4). Technical Data

##### Component Properties

| Property                | Unit              | BC 690H Polyol | BC 6534 Isocyanate | Test Method |
|-------------------------|-------------------|----------------|--------------------|-------------|
| Appearance @ 25°C       | –                 | Grey liquid    | Amber liquid       | Visual      |
| Viscosity @ 25°C        | cps               | 350–650        | 700–1300           | ASTM D4287  |
| Specific Gravity @ 25°C | g/cm <sup>3</sup> | 1.01–1.03      | 1.11–1.13          | ASTM D1475  |

##### Recommended Processing Conditions

| Parameter              | Unit | Value   |
|------------------------|------|---------|
| Mix Ratio (pbw)        | –    | 0.91: 1 |
| Mix Ratio (pbv)        | –    | 1:01    |
| Gel Time (100g @ 25°C) | sec  | 25–45   |
| Tack-Free Time         | min  | 5       |
| Full Cure              | hrs. | 24–48   |
| Final Hardness         | days | 4       |



## Typical Properties of Cured Membrane

| Property                                    | Unit              | Value | Test Method          |
|---|-------------------|-------|----------------------|
| Shore Hardness                              | °A                | 87    | ASTM D2240 / ISO 868 |
| Tensile Strength                            | MPa               | 15    | ASTM D412 / ISO 527  |
| 100% Modulus                                | MPa               | 5.5   | ISO 527 (2.5 mm)     |
| Elongation at Break                         | %                 | 500   | ASTM D412 / ISO 527  |
| Tear Strength<br>(Angle/Nicked<br>Crescent) | N/mm              | 50    | ISO 34 / ASTM D624   |
| Density                                     | g/cm <sup>3</sup> | 1.05  | ISO 2781             |
| Cold Flex<br>Temperature                    | °C                | -40   | BS 2782 Method 150B  |
| Adhesion to Primed<br>Steel                 | MPa               | ≤13   | ASTM D4541           |
| Adhesion to Primed<br>Concrete              | MPa               | ≥3    | ASTM D4541           |

### 5). Coverage Rate

- Approx. 0.47 m<sup>2</sup>/kg at 2 mm thickness  
(Coverage depends on substrate condition, profile, and application technique.)

### 6). Packaging

- BC 690H Polyol: 196 kg drum
- BC 6534 Isocyanate: 220 kg drum



## 7). Handling & Storage

| Component          | Storage Temperature (°C) | Shelf Life (months) |
|--------------------|--------------------------|---------------------|
| BC 690H Polyol     | 0–30                     | 12                  |
| BC 6534 Isocyanate | 15–25                    | 12                  |

- Protect from direct sunlight, moisture, and frost.

## 8). Health & Safety

- Use appropriate PPE (gloves, goggles, respirator during spraying).
- Ensure adequate ventilation during application.
- Refer to the latest Safety Data Sheet (SDS) before handling or use.

### 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.

