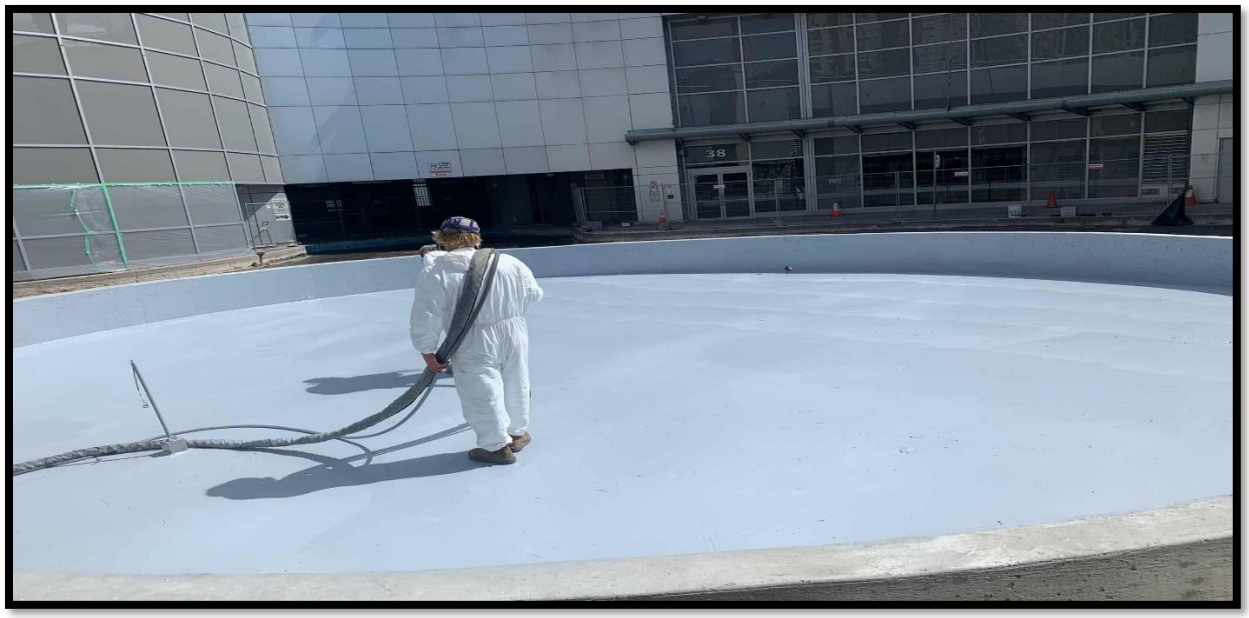
METHOD STATEMENT & TANK LINING APPLICATION GUIDE

BC Polyurea Tank Lining System

(Epoxy Putty 2000 + Epoxy Primer 349 + BC 237 Pure Polyurea)



1. Scope

This method statement covers the surface preparation, priming, levelling, and final application of the BC 237 Pure Polyurea Waterproofing & Protective Coating System using BC Epoxy Putty 2000 and BC Epoxy Primer 349 for carbon-steel and concrete tanks.

2. System Components

1. BC Epoxy Putty 2000 – high-strength epoxy repair/levelling compound
2. BC Epoxy Primer 349 – fast-drying, high-adhesion epoxy primer
3. BC 237 Pure Polyurea – 100% solids, fast-reacting pure polyurea elastomer

3. Surface Preparation

3.1 Concrete Tanks

- Ensure concrete curing age ≥ 28 days.

- Remove laitance, dust, contaminants, oils and weak surface by grinding / shot-blasting.
- Achieve surface profile CSP 3–5 (ICRI).
- Moisture content: ≤ 5%, no rising damp.
- Repair bug holes, cracks, and undulations with Epoxy Putty 2000 and allow curing.

3.2 Steel Tanks

- Perform degreasing and solvent cleaning (SSPC-SP1).
- Abrasive blast cleaning to SA 2½ with surface anchor profile 50–75 microns.
- Remove all dust and abrasives with dry air blow-out.

4. Application Procedure

4.1 Step 1 – Repair & Levelling (BC Epoxy Putty 2000)

- Mix Component A & B at recommended ratio until uniform.
- Apply using trowel or spatula to fill cracks, pinholes, welding seams, and surface defects.
- Allow curing: 6–8 hours @ 25°C (or as per TDS).
- Sand lightly if required.

4.2 Step 2 – Priming (BC Epoxy Primer 349)

- Ensure surface is clean and dry before priming.
- Mix primer components thoroughly.
- Apply by roller, brush, or airless spray.
- Recommended consumption: 0.15–0.25 kg/m² depending on porosity.
- Dry / recoat window: 2–6 hours @ 25°C.

- Ensure primer remains tacky but not fully dry before spraying polyurea for optimal adhesion.
- If primer exceeds recoat window, sand lightly and reapply.

4.3 Step 3 – Polyurea Application (BC 237 Pure Polyurea)

Equipment

- High-pressure plural component spray machine (Graco Reactor or equivalent):
    - A:B ratio 1:1 by volume
    - Temperature: 65–75°C each component
    - Pressure: 160–180 bar

Procedure

1. Preheat polyurea components and flush lines.
2. Spray test pattern to confirm mix quality.
3. Apply BC 237 Pure Polyurea in multiple cross passes.
4. Target thickness:
    - Tank lining: 1.5 – 2.5 mm
    - Heavy-duty chemical tanks: 2.5 – 3.0 mm
5. Ensure uniform coverage with no pinholes, sags, or dry spray.
6. Allow curing:
    - Touch dry: 10–20 seconds
    - Light service: 4–6 hours
    - Full cure: 24 hours

5. Post-Application Inspection

- Perform visual inspection for pinholes, blisters, or holidays.

- Conduct Holiday Test / Spark Test (as per NACE SP0188).
    - Test voltage:
        - 1.5–2.5 mm thickness → 10–15 kV
- Repair detected holidays immediately using polyurea patch kit or touch-up polyurea.

6. Safety & Environmental Requirements

- Follow safety guidelines for hot-spray polyurea application.
- Use PPE: respirators, gloves, goggles, chemical suits.
- Ensure proper ventilation inside tanks.
- No open flames or sparks inside confined spaces.
- Dispose of waste materials as per local regulations.

7. Storage & Handling

- Store all components in cool, dry place (15–30°C).
- Avoid moisture exposure of polyurea components.
- Use within shelf life provided in each TDS.