POLYZEN
WHERE SOVEREIGN SURFACES RULE

APPLICATION DATA SHEET
INTERIM

Basement Waterproofing

SYSTEM FAMILY
Applied waterproofing / below-grade

TYPE
Below-grade tanking (positive / negative side)

NOMINAL BUILD
per system

1. SCOPE & SYSTEM DESCRIPTION

This ADS describes POLYZEN's method for **below-grade (basement) waterproofing** — creating a continuous, pressure-resistant tanked 'box' (raft, walls, cap) that resists constant hydrostatic groundwater pressure.

Delivered as a **POLYZEN Applied System**. The correct approach depends on access: **positive (external) side** where the face is reachable, or **negative (internal) side** using pressure-rated crystalline / cementitious or a cavity-drain (BS 8102 Type C) system where it is not. For high water tables, combined barrier (Type A) + drained (Type C) protection is recommended.

2. SUBSTRATE REQUIREMENTS

- Blinding / PCC layer under the raft to receive pre-applied membranes; sound, laitance-free concrete.
- Internal corners rounded with a fillet; external angles chamfered; honeycombs, tie-holes and cracks repaired.
- SSD (saturated surface-dry) for cementitious / crystalline systems; clean and dry for bituminous / PU membranes.

3. SURFACE PREPARATION

- Remove laitance, dust and contamination to a clean, sound substrate; grind / scabble as needed.
- Cut back form-tie / tie-holes, grout and patch — a common leak path.
- Treat construction joints with swellable / PVC waterstops and injection ports; chip and collar pile heads.
- Repair honeycombs and active seepage with plugging / crystalline mortar; prime per the selected system.

4. ENVIRONMENTAL CONDITIONS

- Apply within the selected system's temperature and moisture limits — keep bituminous / PU systems dry, cementitious SSD.
- Dewater the excavation and control groundwater during construction; protect fresh work from water until set / cured.

5. MATERIALS

Materials: delivered as a **POLYZEN Applied System** using a client-approved below-grade waterproofing system — e.g. pre-applied fully-bonded HDPE, APP/SBS bitumen membrane, polymer-modified cementitious slurry, crystalline (negative-side / pressure-resistant), liquid PU, or a BS 8102 Type C cavity-drain system, with swellable / PVC waterstops, selected to suit the project specification and standards. Exact products, consumption, thickness and cure times are per the **selected material's data sheet**. No POLYZEN branded product is required for this system.

6. MATERIALS PREPARATION / MIXING

- Prepare the selected material strictly per its data sheet (cementitious: mix powder into liquid polymer to a lump-free slurry; membranes single- / multi-component as specified).
- Mix full units only; respect the working time / pot life.

7. APPLICATION PROCEDURE

- **Positive side — raft:** over the blinding, prime and install pre-applied HDPE (membrane-up, cast against) or torch-apply bitumen membrane (side laps ~100 mm, end laps ~150 mm); add a second layer where specified.
- **Detailing:** form fillets at the raft-to-wall kicker, dress the membrane continuously, and detail waterstops, penetrations and pile heads.
- **Protection & pour:** lay protection board / screed before fixing reinforcement and pouring; for pre-applied systems, concrete is cast directly against the membrane.
- **Walls:** dress the wall waterproofing up from the raft membrane, lap continuously, and protect with a drainage / protection sheet before backfilling.
- **Negative side (no external access):** apply pressure-rated crystalline / cementitious coats to the SSD substrate, or install a cavity-drain (Type C) membrane routing seepage to a channel → sump → pump.

8. COVERAGE, LAYERS & FALLS

- Number of layers, membrane laps and coat thickness per the selected system's data sheet.
- Provide perimeter sub-soil / land drainage and a granular blanket to relieve hydrostatic head where the design allows.
- Reference standards: BS 8102:2022 (Type A/B/C), IS 3067, IS 2645, IS 9918 (reference only; confirm project spec).

9. CURING & RETURN TO SERVICE

- Cementitious / crystalline: moist-cure ~3–7 days.
- Liquid PU: ~24–48 h between coats, ~7 days full cure.
- Do not backfill or load until the protection layer is installed and the system has cured — per the selected system's data sheet.

10. FINISHING, PROTECTION & OVERLAY

- Continuity of the tanked box: raft → wall → cap with no discontinuity.
- Protection board / screed to the raft; external cavity / drainage sheet + geotextile against backfill.
- Type C systems: perimeter drainage channel, sump and pump maintained and accessible.

11. TESTING & QC CHECKPOINTS

- Holiday / spark electronic leak detection (ASTM D7877 / D7240) before covering.
- Adhesion pull-off (ASTM D4541); verify membrane laps, waterstops and detailing.
- Observe water-tightness through a wet / monsoon cycle where the programme allows.

12. DO'S & DON'TS

Do

- Achieve full continuity — raft, wall and cap as one tanked box.
- Treat every tie-hole, joint and penetration.
- Relieve hydrostatic pressure with drainage where possible.
- Match the system to access — pressure-rated / Type C on the negative side.

Don't

- Don't apply positive-side barrier coatings on the negative side — head pressure debonds them.
- Don't single brush-coat against real hydrostatic head.
- Don't backfill or pour before the protection layer is in place.
- Don't ignore construction-joint waterstops.

13. MAINTENANCE

- Keep perimeter / cavity drainage, sumps and pumps clear and serviceable.
- Inspect for seepage after heavy rain; re-treat locally with crystalline / injection as needed.
- Maintain access to Type C channels for cleaning.

14. HEALTH, SAFETY & ENVIRONMENT

- Follow the selected material's SDS — bitumen (torching), solvent primers and PU / isocyanate systems each carry specific hazards.
- Enforce confined-space, dewatering and excavation-safety controls in basements; provide ventilation and fire precautions for torch-on work.
- Control spills and prevent uncured material entering drains / ground water.

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