POLYZEN
WHERE SOVEREIGN SURFACES RULE

APPLICATION DATA SHEET
INTERIM

Roof Heat-Proofing

SYSTEM FAMILY
Applied roof coating / thermal management

TYPE
Solar-reflective 'cool roof' over verified waterproofing

NOMINAL BUILD
two coats (~250 µm dry/coat)

1. SCOPE & SYSTEM DESCRIPTION

This ADS describes POLYZEN's method for **roof heat-proofing** — a solar-reflective / thermal coating (or over-deck insulation) that lowers roof surface temperature and heat ingress. It is a thermal-management layer, **not** a leak-repair system.

Delivered as a **POLYZEN Applied System**, applied **over verified, watertight waterproofing**. Success is measured by solar reflectance / SRI and surface-temperature drop, not leak-tightness. India's ECBC drives cool-roof requirements.

2. SUBSTRATE REQUIREMENTS

- Existing waterproofing intact and verified watertight FIRST (heat-proofing is not leak repair).
- Surface clean, dry and free of dust, algae and chalking; ponding low spots filled.
- Coating-over-membrane compatibility confirmed (e.g. acrylic over acrylic / PU / APP).

3. SURFACE PREPARATION

- Clean (pressure-wash / mechanical) to remove dirt, algae and flaking coating; allow to dry.
- Repair the existing waterproofing and fill ponding low spots.
- Prime as required (some systems broadcast sand into the primer and cure ~12 h to key the coat).

4. ENVIRONMENTAL CONDITIONS

- Apply to a dry surface within the coating's temperature / humidity limits; keep rain-free until cured.
- Do not apply in rain, dew or on a hot ponded surface.

5. MATERIALS

Materials: delivered as a **POLYZEN Applied System** using a client-approved roof heat-proofing system — e.g. solar-reflective white acrylic elastomeric 'cool-roof' coating (high albedo + emittance), ceramic / hollow-microsphere insulation coating, over-deck rigid insulation boards (EPS / XPS / PU-PIR, tapered for slope), or a china-mosaic / broken-tile reflective screed — selected for the required SRI, 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

- Stir / mix the selected coating per its data sheet; mix full units. Do not over-thin (reduces build and reflectance).

7. APPLICATION PROCEDURE

- **Waterproof first:** ensure the roof is waterproofed and verified watertight before any heat-proofing.
- **Prime & detail:** prime (± sand broadcast, cure ~12 h); reinforce cracks, junctions, parapets and penetrations.
- **Reflective coats:** apply cool-coat 1 within the primer window, then cool-coat 2 (6–8 h between) — **a minimum of two coats** for opacity, DFT and reflectance (~250 µm dry / coat, ~1.0–1.5 L/m² total).

- **Boards (alternative):** mechanically / adhesively fix tapered over-deck insulation; ballast on inverted roofs.

8. COVERAGE, LAYERS & FALLS

- Minimum two coats to full DFT (~250 µm dry / coat, ~1.0–1.5 L/m² total); target SRI per the specification (quality Indian cool coats reach SR ~0.83–0.88).
- Maintain falls 1:80–1:100 — ponding soils and degrades reflectance and voids warranties.
- Reference standards: ECBC (India), ASTM D6083; reflectance C1549 / E1980, emittance C1371 / E408, aged D7897; ref. CRRC, ENERGY STAR (SR ≥0.65, emittance ≥0.90, SRI ≥78).

9. CURING & RETURN TO SERVICE

- Acrylic: recoat 6–8 h, rain-free 4–24 h, full cure ~7 days.
- Board systems: on completion — per the selected system's data sheet.

10. FINISHING, PROTECTION & OVERLAY

- Walkway pads on trafficked terraces, or china-mosaic / tile as a durable reflective wearing surface; ballast on board / inverted roofs.
- Coatings require periodic cleaning and recoat to sustain reflectance.

11. TESTING & QC CHECKPOINTS

- Solar reflectance (ASTM C1549 / E1918) and emittance (C1371 / E408); SRI (ASTM E1980) — specify **aged** values (D7897), not just initial.
- Before / after IR surface-temperature reduction; DFT, adhesion and coverage.

12. DO'S & DON'TS

Do

- Waterproof and verify watertightness FIRST.
- Confirm coating-to-membrane compatibility.
- Ensure slope (ponding kills reflectance and adhesion).
- Apply a minimum of two coats to full DFT and target SRI.

Don't

- Don't treat heat-proofing as leak repair.
- Don't apply over a dirty, damp or algae-covered roof.
- Don't under-apply — reflectance needs full build.
- Don't apply in rain / dew or on a hot ponded surface.

13. MAINTENANCE

- Wash the roof periodically to maintain reflectance.
- Inspect junctions, penetrations and the underlying waterproofing annually.
- Recoat when reflectance / film declines.

14. HEALTH, SAFETY & ENVIRONMENT

- Follow the selected material's SDS; ensure working-at-height controls (edge protection / harness) on roofs.
- Provide PPE and ventilation; control overspray and spills.
- Avoid work in high wind or wet conditions.

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