



# Method Statement

## STARPROOF PU-44

(Spray applied Polyurethane Foam)

Rev.: A, Date: 25.06.2025



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## STARPROOF PU-44



### Section A: General Considerations

#### Tools & Equipment

It is suggested that the following list of equipment is adopted as a minimum requirement.

| Equipment Type                 | Equipment Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Protective clothing            | <ul style="list-style-type: none"> <li>Protective overalls</li> <li>Good quality gloves, goggles and face mask</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Mixing & Spray & Aux Equipment | <ul style="list-style-type: none"> <li>Low or High pressure Polyurethane Foam Spray Equipment – Reactor.</li> <li>The plural component must be capable of supplying each component within <math>\pm 2\%</math> of the desired 1:1 mixing ratio by Volume</li> <li>Hose heaters set to the temperatures that will ensure proper mixing in the spray gun chamber (Pressures and Temperatures vary according to ambience and equipment type)</li> <li>Auxiliary required equipment as per spray equipment manufacturers recommendation – Applicator responsibility, i.e. transfer pumps</li> <li>Hand Tools (Pliers, Hand Saw, Wire Brush, Rollers, etc)</li> <li>Transfer pumps for material transfer from container to proportioner</li> </ul> |
| Surface Preparation Equipment  | <ul style="list-style-type: none"> <li>Wire Brush</li> <li>Proprietary blasting equipment</li> <li>Industrial Vacuum – All loose particles to be removed</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

|                        |                                              |
|------------------------|----------------------------------------------|
| Respiratory Protection | ▪ Mandatory – Follow the API recommendations |
|------------------------|----------------------------------------------|

#### High temperature working

It is suggested that, for temperatures above 35°C, the following guidelines are adopted as good working practice:

1. Store unmixed materials in a cool environment, avoiding exposure to direct sunlight.
2. Keep equipment cool, it is especially important to keep cool those surfaces of the equipment which will come into direct contact with the material itself.
3. Try to avoid application during the hottest times of the day, arrange temporary shading as necessary.
4. Make sufficient material, plant and labour available to ensure that application is a continuous process.

# Method Statement

## Application - Points of Note

STAR operates a policy to encourage the use, where possible, of approved or licensed applicators. This ensures that applications are completed satisfactorily so that the long-term performance of the materials is assured.

For contractors who wish to apply the materials themselves STAR is also able to offer technical assistance and training. Either on-site or at its Training Centre in the Kingdom of Saudi Arabia.

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Applicators must recognize and anticipate climatic conditions prior to application to ensure highest quality foam and to maximize yield. Ambient air and substrate temperatures, moisture and wind velocity are all critical determinants of foam quality. Extreme ambient air and substrate temperature will influence the chemical reaction of the two components, directly affecting the yield, adhesion and the resultant physical properties of the Insulation Foam.

Wind velocities in excess of 20 km per hour may result in excessive loss of exotherm energy (Heat) and interfere with the mixing efficiency of the spray gun affecting foam surface texture, cure, physical properties and will cause overspray.

Precautions must be taken to prevent damage to adjacent areas from uplifted overspray.

## STARPROOF PU-44



Applicators should ensure the safety of the jobsite and construction personnel by posting appropriate signs warning that all "hot work" such as welding, soldering, and cutting with torches should take place no less than 10m from any exposed foam. If "hot work" must be performed all applied polyurethane foam should be covered with an appropriate fire or welder's blanket, and a fire watch should be provided.

## Section B: Application Instructions

### 1. Surface Preparation

- 1.1 Surfaces to be coated should be clean, solid, free from loose materials, oil grease, paints and free from contamination such as oil, grease, loose particles, decayed matter, moss algal growth, laitance, and all traces of mold, release oils and curing compounds. This is best achieved by lightly grit-blasting the surface.
- 1.2 Where moss, algae or similar growths have occurred, treatment with a proprietary biocide should be carried out after the grit-blasting process.
- 1.3 Spalled and deeply disintegrated concrete should be removed to sound concrete and repaired with a appropriate concrete repair system.
- 1.4 Concrete substrates should be at least 28 days old and completely dry.
- 1.5 Sprayed PU-Foam is not recommended for lightweight or insulating concretes unless tests have been made to determine that adequate adhesion can be obtained or unless overpayment is installed.

# Method Statement



## STARPROOF PU-44

- 1.6 Retrofit – Roof must be thoroughly inspected or tested for moisture in the assembly & Saturated Insulation removed. Roof must be sound and all accessories fastened & all soft mastic materials or items that impede polyurethane foam adhesion shall be removed.

### 2. Inspection

- 2.1 Prior to application of STARPROOF PU-44 the surface shall be inspected to ensure that all conditions – stated earlier – are met.
- 2.2 Substrate should have sufficient slope to avoid excessive ponding of water. If not measures need to be taken to create slope or installation of sufficient drainage.
- 2.3 No installation of Foam during inclement weather. No application of Foam below min or max temperatures and/or max. humidity or wind or specified air and surface temperatures

### 3. Application

- 3.1. STARPROOF PU-44 shall be applied in accordance with the Spray Equipment Manufacturer recommendations
- 3.2. Areas to be built-up to remove potentially ponding water to be filled in with PU-Foam first – Before continuation of spraying the entire area to the specified thickness.
- 3.3. STARPROOF PU-44 shall be applied in a max. thickness of 2.5 cm per pass.
- 3.4. STARPROOF PU-44 min. thickness shall be 25mm or more – as specified. STARPROOF PU-44 shall be applied uniformly over the entire surface Area with a tolerance of 5mmminus 0, except

where variations are required to ensure proper drainage or to install flashings/terminations.

- 3.5. The Spray Polyurethane Foam shall be uniformly terminated. Foamed in place cants shall be smooth and uniform to allow positive drainage.
- 3.6. Detailing skylights is particularly important – PU-Foam MUST be terminated below existing weep holes (drainage). Weep Holes NEVER to be covered by Foam or Coating.
- 3.7. STARPROOF PU-44 surface shall be allowed to cure sufficiently. The full thickness of PU-Foam in any area shall be completed to the end of each day.
- 3.8. In case of delay of the Coating application and the Foam is exposed to full sunlight over an extended time, the foam needs to inspected for UV degradation, oxidation or contamination

### 4. Cleaning

- 4.1. STARPROOF PU-44 should be removed from tools, equipment and mixers with STAR Technology Equipment Cleaner immediately after use. Cured material can only be removed mechanically.

# Method Statement

## STARPROOF PU-44



### 5. Handling and Safety

- 5.1. Respiratory protection is MANDATORY! Contact Star Polyurethane Systems for a copy of the Model Respiratory Protection Program developed by API.
- 5.2. Avoid contact with skin, eyes, and clothing.
- 5.3. Open containers carefully, allowing any pressure to be relieved slowly and safely.
- 5.4. Wear chemical safety goggles and rubber gloves when handling or working with these materials.
- 5.5. In case of eye contact, immediately flush with large amounts of water for at least fifteen minutes, consult a physician immediately.
- 5.6. In case of skin contact, wash area with soap and water.
- 5.7. Wash clothes before reuse.

### Section C: Approval and Variations

This method statement is offered by STAR Technology as a 'standard proposal' for the application of STARPROOF PU-44. It remains the responsibility of the Engineer to determine the correct method for any given application.

Where alternative methods are to be used, these must be submitted to STAR Technology for approval, in writing, prior to commencement of any work. STAR Technology will not accept responsibility or liability for variations to the above method statement under any other condition



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