BCI BUILDING CHEMISTRY INDUSTRY

Method statement for fire-rated polyurethane spray foam BC 702 40 FR insulation

Purpose

This method statement outlines the procedure for the safe and effective application of fire-rated polyurethane (PU) spray foam insulation to ensure compliance with project specifications and safety regulations.

Scope

This procedure applies to the application of fire-rated PU spray foam insulation in walls, ceilings, and other designated surfaces for thermal and fire-resistant insulation.

Responsibilities

Project Manager:

Ensures overall compliance with the method statement and safety guidelines.

Site Engineer:

Supervises the application process and ensures quality control.

Safety Officer:

Ensures that all safety procedures and PPE requirements are adhered to.

Applicators:

Responsible for the preparation and spraying of PU foam as per specifications.

Materials & equipment

Fire-rated polyurethane spray foam
Spray foam dispensing equipment (airless spray system)
Surface preparation tools (wire brushes, scrapers, vacuum cleaners)
Personal Protective Equipment (PPE): Respirators, gloves, safety goggles, coveralls

Fire extinguishers
Measuring and mixing tools

Safety precautions

Ensure proper ventilation in the application area.
All personnel must wear appropriate PPE.
No open flames or ignition sources should be present near the work area.
Fire extinguishers must be available at the work site.
Emergency exit routes should be identified and kept clear.

Application procedure

Surface Preparation

Ensure all surfaces are clean, dry, and free from dust, grease, and loose materials.
Mask off any areas not to be sprayed.
Install fire barriers or protective covers where required.

Mixing and Equipment Setup

Follow Building Chemistry Industry guidelines for mixing the PU foam components.
Set up the spray foam equipment according to technical data sheet instructions instructions.
Ensure the correct spray nozzle is selected for uniform application.

Application Process

Apply the first layer of fire-rated PU foam in thin, even coats.
Allow the first coat to cure as per manufacturer’s specifications before applying additional layers.
Continue applying in multiple passes to achieve the required thickness and fire resistance rating.
Conduct thickness measurements at various points to ensure uniform coverage

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Post-Application Inspection

Visually inspect the applied foam for defects, such as bubbles, voids, or uneven application.
Conduct adhesion tests if required.
Measure and record the final thickness of the insulation.
Ensure proper curing time before allowing other construction activities.

Quality control & compliance

Verify the material batch numbers and manufacturer’s certifications.
Ensure compliance with project specifications and fire resistance standards (ASTM E84, EN 13501, etc.).
Record all inspection and test results in the quality assurance log.

Cleaning & waste disposal

Remove all protective masking and covers.
Dispose of empty containers and waste materials according to environmental and safety regulations.
Clean equipment thoroughly as per manufacturer’s guidelines.

Final approval

Conduct a final walkthrough with the client or project representative.
Obtain approval for the applied fire-rated PU insulation before proceeding with subsequent works.

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Hazard	Risk	Initial Risk Level (H/M/L)	Control Measures	Residual Risk Level (H/M/L)
Chemical Exposure (Isocyanates & Polyols)	Skin irritation, respiratory issues, eye damage	High	Use proper PPE (gloves, goggles, full-body suit)	
Ensure adequate ventilation				
Use supplied air respirator or organic vapor cartridge respirator				
Follow SDS guidelines	Medium			
Fire & Explosion	Flammable vapors, ignition sources	High	Keep away from open flames & ignition sources	
Use explosion-proof ventilation				
Store chemicals in approved containers	Medium			

Over-spraying & Off-Gassing	Inhalation of toxic fumes, contamination of surrounding areas	High	Contain the work area with barriers	
Allow proper curing & ventilation time				
Evacuate non-essential personnel	Medium			
Slips, Trips & Falls	Slipping on foam overspray, tripping on equipment	Medium	Keep work area tidy	
Use slip-resistant footwear				
Place warning signs in hazard zones	Low			
Equipment Failure (Spray Gun, Hoses, Pumps)	Pressurized material leaks, burns, injuries	Medium	Regular equipment maintenance	
Train operators properly				
Use correct pressure settings	Low			

Confined Space Work	Oxygen deficiency, buildup of toxic fumes	High	Use air monitoring devices	
Ensure proper ventilation				
Have an emergency response plan	Medium			
Manual Handling & Ergonomic Strain	Muscle strain, fatigue, repetitive motion injuries	Medium	- Use ergonomic spray techniques	
Take regular breaks				
Rotate tasks among workers	Low			