



NCFI Polyurethanes
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NCFI Spray Adhesive 13-003 Application Specifications

PART 1 – GENERAL

1.01 SUMMARY

NCFI Spray Adhesive 13-003 is a two-part, slow-rise spray polyurethane foam adhesive designed for adhering conventional roofing board stocks to roof decks or other board stocks.

The choice of this system for any given situation is the responsibility of the Contractor, Specifier, or Building Owner. It is the responsibility of the Contractor, Specifier, or Building Owner to evaluate the load bearing capacity of the roof deck to insure safe weight limits are not exceeded.

1.02 QUALITY ASSURANCE

A. **Applicator Qualifications:** The proposed foam applicator should be experienced in the application of spray-applied polyurethane roof systems and should provide reference projects similar in nature to the one proposed including location and person to be contacted.

B. **Daily Application Checklist:** Fill out an NCFI Spray Adhesive 13-003 Daily Application Checklist every day that spray adhesive is applied.

PART 2 – PRODUCTS

2.01 SPRAY ADHESIVE

The spray adhesive used shall be NCFI Spray Adhesive 13-003. Use the appropriate system speed for the conditions on the project:

<u>Chemical System</u>	<u>Tack Free Time</u>
Fast	1-5 minutes @ 45°F
Regular	1-5 minutes @ 72°F

2.02 BOARD STOCK INSULATION

Insulation board stocks approved for use with Spray Adhesive 13-003 include unfaced expanded polystyrene, polyisocyanurate with fiber glass facing, asphalt impregnated wood fiber board. Foil and plastic faced boards or other boards are not specifically approved without an adhesion test.

PART 3 – EXECUTION

3.01 SURFACE PREPARATION

- A. Concrete Decks: The concrete deck must be fully cured and primed. Lightweight concrete decks are not approved for direct application of Spray Adhesive 13-003.
- B. Metal Decks: Clean metal roof deck surface to remove all dirt and oils. Prime the metal roof deck surface with a suitable primer if required. Allow primer to fully cure before applying spray adhesive.
- C. Wood Decks: Clean wood roof deck surface to remove all dirt and oils. Prime the wood roof deck surface with a suitable primer if required. Allow primer to fully cure before applying spray adhesive.
- D. Other Decks: For suitability and preparation of other deck types, contact NCFI.
- E. Tear-offs: Roofs or roof sections may require tear-offs due to deck deterioration, excessive weight, existing insulation deterioration, or inability to secure loose existing substrates to the deck. Specific treatment of these roofs or roof sections depends on the deck type.
- F. Board Stock Insulations: Insure the surfaces to be sprayed with adhesive are free of dirt, oils, and moisture.

3.02 SPRAY ADHESIVE APPLICATION

- A. Weather Conditions: Spray Adhesive 13-003 cannot be applied during periods of precipitation or when precipitation is imminent. The ambient temperature must be above 50°F. Ambient humidity must be monitored before and during the application of foam with a psychrometer; wet bulb measurements must not exceed the maximums for a given dry bulb measurement as defined by NCFI's Applicator Bulletin on Wet Bulb/Dry Bulb Thermometer (see Table 1 below). Wind speeds should not exceed 15 mph. To avoid overspray, wind screens are recommended.

TABLE 1
 MAXIMUM WET BULB READINGS FOR GIVEN DRY BULB READING
 (°F)

Dry Bulb	Wet Bulb	Dry Bulb	Wet Bulb	Dry Bulb	Wet Bulb	Dry Bulb	Wet Bulb	Dry Bulb	Wet Bulb
50	45½	60	55½	70	65½	80	73½	90	79½
51	46½	61	56½	71	66½	81	74½	91	80
52	47½	62	57½	72	67½	82	75	92	80½
53	48½	63	58½	73	68	83	75½	93	81
54	49½	64	59½	74	69	84	76	94	81½
55	50½	65	60½	75	70	85	77	95	82
56	51½	66	61½	76	70½	86	77½	96	82
57	52½	67	62½	77	71½	87	78	97	82½
58	53½	68	63½	78	72	88	78½	98	82½
59	54½	69	64½	79	73	89	79	99	83
								100	83

B. Surface Conditions: All surfaces to be sprayed with foam must be free of all forms of moisture and ice. Surfaces can be checked with NCFI’s MDP (Moisture Detection Paper) strips prior to and during foam application. All surfaces must be free of dust, loose aggregate, grease, oil, and solvents.

C. Application Rates: Application rate of Spray Adhesive 13-003 depends on the roughness of the substrate. Spray-apply the adhesive to fully wet the substrate. Metal decks and smooth substrates require approximately 0.10 lb/ft².

Additional adhesive may be applied where there are gaps or uneven surfaces to achieve full adhesion.

3.03 INSULATION BOARD STOCK INSTALLATION

A. Apply the insulation boards directly onto the surface wetted with the spray adhesive while the adhesive is still tacky. Depending on ambient and surface temperatures, the tack-free time will vary from 30 seconds to several minutes. With tapered insulation boards, have the boards oriented and ready to set before spraying the adhesive.

B. Apply weights to the corners of the insulation boards to assure good contact with the spray adhesive. Weights may be removed as soon as the spray adhesive cures beyond its tack-free time.

C. Boards may be walked on and used as a working surface as soon as the spray adhesive has cured beyond its tack-free time.