



## BULLETIN #10

July 1981

### NRCA-RIC/TIMA POSITION ON AGED THERMAL VALUE OF URETHANE ROOF INSULATION

It is recognized within the industry that there is a need for a common method of conditioning for thermal testing of urethane roof insulation since currently no uniformity exists among the many urethane roof insulation manufacturers with regard to thermal properties of their products. In order to provide the design and roofing industry with accurate and consistent thermal information, the Roof Insulation Committee of the Thermal Insulation Manufacturers Association (RIC/TIMA) has adopted a conditioning procedure<sup>1</sup> prior to standard ASTM testing.<sup>2</sup>

RIC/TIMA members intend to develop thermal value data based on this conditioning procedure for publication on a voluntary basis. The National Roofing Contractors Association (NRCA) endorses the roof insulation specimen conditioning procedure and encourages industry-wide acceptance of products valued by this method.

At the present time, The American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) Handbook of Fundamentals, the most referenced source of heat coefficients of construction insulation materials, states that expanded polyurethane is shown to have a k-value<sup>3</sup> of **0.16** ( $R = 6.25$  per inch of foam) for aged board stock roof insulations.

#### Recommendation

Until data on thermal properties based on this conditioning procedure is available from individual manufacturers, NRCA and RIC/TIMA recommend that insulation materials incorporating urethane for use in roof construction have the thermal conductivity value for the urethane portion calculated using a k-value of 0.16 as published by ASHRAE.

#### Footnotes

1. RIC/TIMA Roof insulation Specimen Conditioning Procedure  
(180 days  $\pm$  5 days, 73.4F  $\pm$  3.6F, 50% RH  $\pm$  5%)
2. ASTM Test Method C177, C236, C518 (providing it shows comparability to absolute values in accordance with ASTM C177)
3. Btu— $\text{in}/\text{ft}^2 \bullet \text{hr} \bullet \text{F}$