NATIONAL ROOFING CONTRACTORS ASSOCIATION

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TECHNICAL DEVELOPMENTS

BULLETIN #2A

CLARIFICATION OF BULLETIN #2
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EQUIVISCOUS TEMPERATURE (EVT)

Since the issuance of Bulletin 2, we have received numerous requests for a clarification of the EVT concept.

Equiviscous Temperature (EVT) is defined as the temperature at which asphalt will attain a viscosity (flow and adhesion) of 125 centiStokes. This is the practical and optimum temperature for wetting and fusion at the point of application. (For practical purposes, the point of application is defined as the mop bucket or felt machine.)

A tolerance range is added for practical application in the field to accommodate the effects of wind chill, sunshine, or ambient temperature. This range is expressed as a temperature, plus or minus 25F. Good practice indicates the use of this EVT range as the temperature range at which asphalt should be applied.

Asphalt should be sufficiently heated in the kettle/tanker and allow for typical handling procedures so to allow for and achieve this optimum viscosity/temperature range (EVT) at the point of application. Asphalt heating is subject to two restraints:

1. It should NOT be heated to or above the actual COC Flash Point (ANSI/ASTM Method D 92, Test for Flash and Fire Points by Cleveland Open Cup).

2. It should NOT be heated and held above the Finished Blowing Temperature (FBT) for more than four hours.

This concept emphasizes that the temperature of asphalt at the point of application is the main consideration and that kettle/tanker heating should, therefore, be based on reaching the desired application temperature.

The Roofing Systems Technical Committee, a joint committee of the Asphalt Roofing Manufacturers Association and the National Roofing Contractors Association, endorses and recommends the following identification system for mopping grade asphalts. This information should now be printed on all asphalt packages or bills of lading.

- **The Softening Point (SP) Range.** The temperature ranges of the asphalt determined in accordance with ASTM D-312 and D-36. (General)

- **The Flash Point (FP).** The flash point of the asphalt as determined by ASTM Method D 92. (Actual for specific run)

- **The Equiviscous Temperature (EVT) Range.** The temperature rang at which a viscosity of 125 centiStokes is attained, plus or minus 25F. (Actual for specific run)

- **The Finished Blowing Temperature (FBT).** The temperature at which the blowing of asphalt has been completed. (Actual for specific run)

(continued)

In the event EVT information is not furnished by the manufacturer, the following maximum heating temperatures should be used as guidelines. The same two restraints for asphalt heating previously listed (i.e. Flash Point and Finished Blowing Temperature) pertain to these temperatures:

• Dead Level Asphalt	— Type I	— 475F Maximum
• Flat Grade Asphalt	— Type II	— 500F Maximum
• Steep Grade Asphalt	— Type III	— 525F Maximum
• Special Steep Asphalt	— Type IV	— 525F Maximum

Coal tar roofing bitumens are produced by a limited number of manufacturers and have fewer material variations than asphalt. Although EVT has not been applied to coal tar bitumens for this reason, the same concept is applicable. Heating and application temperatures for coal tar are slightly lower than asphalt bitumens. Most manufacturers recommend a kettle temperature of 425F with application temperatures ranging from 325F to 400F. As with asphalt, higher heating temperatures may be necessary to attain the proper application temperature, but higher heating temperatures should be maintained only for short periods of time.