

Spray Polyurethane Foam (SPF) and Cathedral Roofs & Cathedralized Attics



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Spray Polyurethane Foam Alliance
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BUILDING ENVELOPE COMMITTEE (BEC)

Mission Statement

To provide a technical basis for expanding the use of polyurethane-foam-in-place within the building envelope.

To achieve this mission, the BEC will review and support the development of methods for performance evaluation of SPF, participate in activities leading to development, documentation and dissemination of information on applications of SPF in different building envelopes and systems.

To participate in the planning, organizing, documenting and supporting of construction and monitoring of selected demonstration projects with SPF in the building envelope.

To assist the Management and IPC committees in developing and carrying out market oriented programs.

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Spray Polyurethane Foam (SPF) And Cathedral Roofs & Cathedralized Attics

Closed cell, spray polyurethane foam (SPF) may be used to construct unvented cathedral roofs and cathedralized attics. It can be applied in sufficient thickness to satisfy local energy code requirements, directly to the underside of roof sheathing between rafters or joists of any slope in all (heating, mixed and cooling) climates.

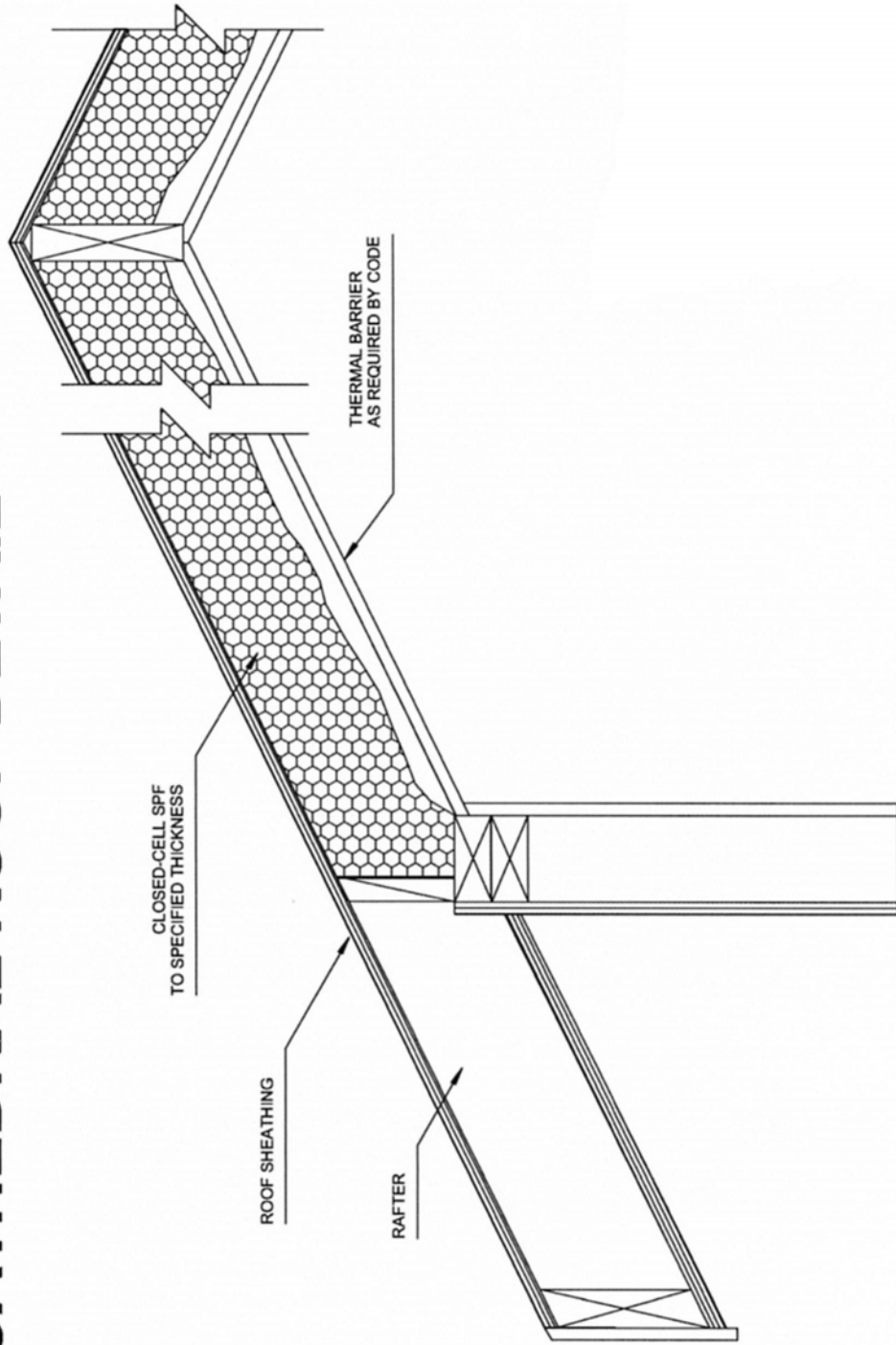
This configuration controls the entry of moisture-laden air into the insulation and also eliminates dew-point occurring at the underside of the roof deck and anywhere in the insulation, in all (heating, mixed or cooling) climates*. Due to the fully adhered, closed cell properties of SPF, air and moisture are displaced out of the insulated space – including at rafters and sheathing. Moisture cannot enter the insulated space from any direction, eliminating the requirement for roof venting.

Venting above the closed cell SPF could reintroduce moisture laden air into a new air space below the roof sheathing, which may introduce another moisture condensation problem. Therefore, venting above the SPF in these configurations is not recommended.

*(Assumes the suitable thickness of SPF is applied to prevent condensation)

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CATHEDRAL ROOF DETAIL



CATHEDRALIZED ATTIC DETAIL

NOTE: IN COLD CLIMATES, EMBED METAL CONNECTOR PLATES IN SPF TO PREVENT WINTER-TIME CONDENSATION.

