Building Science

Retrofit Case Studies

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3” spray polyurethane foam (2 lb/ft³ density)

1 1/2” metal stud wall

Gypsum board thermal barrier

3/4” drainage mat (filter fabric side facing up)

2” extruded polystyrene (XPS)

New concrete slab

Existing slab
Asphalt shingles
Roof underlayment
1/2" plywood roof sheathing
Two layers of 2" polyisocyanurate rigid insulation
Existing board roof sheathing
6" high-density (2.0 pcf) sprayed polyurethane foam insulation
Self-adhering ice/water membrane
4" from roof edge
Existing attic joists extended, widening soffit to accommodate exterior insulation
Metal starter strip with drip edge
1 X 3 trim
2 X 12 facia board
Continuous beadboard soffit
5/4" X 8" frieze board
Siding over 3/4" pressure treated wood strapping

Existing 2 X 6 wood rafter
1/2" gypsum board interior sheathing
Existing attic flooring removed at perimeter to allow for installation of sprayed polyurethane foam insulation seal to top plate
Existing interior plaster
Remove windows and infill openings
Remove demising wall
Add column support
COMBUSTIBLE. Protect from flammable and other high heat sources. For more information, contact MSDS or contact Dow (1-800-441-4369).

Surface Burning Characteristics for STYROFOAM Brand Insulation

<table>
<thead>
<tr>
<th>Thickness (inches)</th>
<th>R-value in R^2</th>
<th>1</th>
<th>1-1/2</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8</td>
<td>3.0</td>
<td>5.0</td>
<td>7.5</td>
<td>10</td>
<td>15</td>
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R-value is in R^2, meaning R means resistance to heat flow. The higher the R-value, the greater the insulating power. Ask for insulation manufacturer's fact sheet.

To get the marked R-value, it is essential that this insulation be installed properly, if you do it yourself, follow these instructions carefully. Obtain instructions from your supplier or the Dow Chemical Company, Midland, MI 48674. Instructions do not come with this package.