Historically, cellulose has been promoted as the only choice for dense pack applications. However, CertainTeed OPTIMA® loose-fill fiber glass insulation provides the same reductions in air permeance as cellulose while delivering a number of other significant benefits.

**OPTIMA offers many additional benefits when compared to cellulose**

- Fewer packages needed – less labor, handling and jobsite trash
- Higher R-value per inch (R-25 in 2 x 6); higher wall R-values
- EPA and BPI approved for weatherization programs and retrofit applications
- GREENGUARD® Gold certified for indoor air quality
- High recycled glass content – exceeds EPA’s Recovered Materials Advisory Notice
- Won’t absorb moisture or support mold growth
- Naturally noncombustible; no fire-retardant chemicals added
- Doesn’t settle
- Less dust
- Faster flowing – helps save time on the job

**36% FEWER BAGS at a 19% increased R-value***

Dense Packing with OPTIMA

**OPTIMA = R-25 in 2 x 6 wall @ 2.3 lbs/ft³**

Cellulose = R-21 in 2 x 6 wall @ 3.5 lbs/ft³

*Based on a 30 lb bag of cellulose
**Dense Packing Installation Guidelines for OPTIMA®**

<table>
<thead>
<tr>
<th>OPTIMA Dense Pack Coverage Chart</th>
<th>31 lb Bag</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Construction Type</strong></td>
<td><strong>Cavity Depth</strong></td>
</tr>
<tr>
<td>2 x 4</td>
<td>3.5</td>
</tr>
<tr>
<td>2 x 4</td>
<td>4</td>
</tr>
<tr>
<td>2 x 6</td>
<td>5.5</td>
</tr>
<tr>
<td>2 x 8</td>
<td>7.25</td>
</tr>
<tr>
<td>2 x 10</td>
<td>9.25</td>
</tr>
</tbody>
</table>

For dense packing walls to an air permeance of 3.5 cfm/ft² at 50 pascals pressure differential, use a minimum density of at least 2.3 PCF.

**Blowing Machine:** Required – fiber agitation and conditioning with air pressure control
1. Machine speed – per manufacturer’s recommendation
2. Slide gate – start with 1/3 to 1/2 open
3. Air pressure – 2.0 to 2.4 psi (55" to 66" of H₂O) (machine back pressure end of insert tube)
4. Transmission (if applicable) – 2nd gear

**Blowing Hose:**
1. Internally corrugated hose required (except for wall insert tube)
2. Smooth transition reducers
3. 10’ cavity insert tube:
   a. 1¼" ID w/ 1/8" wall thickness clear vinyl/plastic tube
   b. 1½" ID w/ 1½" wall thickness for larger cavities (2 x 6 or larger)
4. c. 1½" or 2" blow hose inserted into floor/ceiling cavities or large sidewall cavities from the attic

**Blowing Hose Assembly**

<table>
<thead>
<tr>
<th>Machine Outlet Dia.</th>
<th>1st Section</th>
<th>Reduce to</th>
<th>2nd Section</th>
<th>Reduce to</th>
<th>3rd Section</th>
<th>Reduce to</th>
<th>4th Section</th>
<th>Reduce to</th>
<th>5th Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>4&quot;</td>
<td>4&quot; x 0 - 25′</td>
<td>3½&quot;</td>
<td>3½&quot; x 50′</td>
<td>Follow 3½&quot; Machine Outlet Set Up</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3½&quot;</td>
<td>3½&quot; x 0 - 25′</td>
<td>3&quot;</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3&quot;</td>
<td>3&quot; x 50′ min.</td>
<td>2½&quot;</td>
<td>2½&quot; x 50′</td>
<td>2&quot;</td>
<td>2&quot; x 50′</td>
<td>1½&quot;</td>
<td>1½&quot; x 10 - 25′</td>
<td>Insert Tube</td>
<td>10′</td>
</tr>
<tr>
<td>2½&quot;</td>
<td>2½&quot; x 100′ min.</td>
<td>2&quot;</td>
<td>2&quot; x 50′</td>
<td>1½&quot;</td>
<td>1½&quot; x 10 - 25′</td>
<td>Insert Tube</td>
<td>10′</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Hose length combination to be a minimum of 150’

**Techniques:**
1. Preferred – 1 hole with tube inserted filling both upwards and downwards until the cavity is filled
2. Alternative – 2 holes with tube inserted filling both upwards and downwards at each hole location until cavity is filled

**NOTE:** See machine manufacturer recommendations for hose length. For mid-size to large machines, 150’ minimum is typical. Please ensure you are in compliance with applicable OSHA and EPA regulations on all job sites.