1 Technical Sheet
  1.1 General Features

2 Design Considerations

3 Installation Guide
  3.1 Previous Installation
  3.2 Installation of Hebel® Fence

4 Posts for Hebel® Fence System
  4.1 General Considerations
  4.2 Post caps
1 Technical Sheet

1.1 General Features

Description

Hebel® Fence is lightweight, fire resistant*, water penetration resistant**, pest resistant, fast and easy to install, versatile and affordable. Hebel® Fence Panel is an AAC, steel reinforced board with grade 70 steel covered with an anticorrosive coat. Hebel® Fence can be cut easily and drilled with conventional tools.

*Under ASTM E119-95 UL
**ASTM E514

Uses

Hebel® Fence can be used in landscaping, providing privacy, protection and style. Decorative and creative ideas can be adapted to Hebel® Fence such as ornamental moldings, openings, posts, etc.

2 Design Considerations

- Hebel® Fence Panels shall be designed in order to comply with safety and serviceability requirements as specified by ACI 523-09.
- Wind speed can be up to 80 mph for a 2” thick Hebel® Fence Panel and up to 100 mph for a 3” thick Hebel® Fence Panel.
- Nominal heights for Hebel® Fence System should be 6 ft and maximum 8 ft.

<table>
<thead>
<tr>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
</tr>
<tr>
<td>Width</td>
</tr>
<tr>
<td>Nominal Thickness</td>
</tr>
</tbody>
</table>

**Table 1. Properties.**

<table>
<thead>
<tr>
<th>Thickness (1)</th>
<th>Length</th>
<th>Design Weight (2) AAC-4</th>
<th>Area per Piece</th>
</tr>
</thead>
<tbody>
<tr>
<td>in</td>
<td>in*</td>
<td>ft</td>
<td>lb/ft²</td>
</tr>
<tr>
<td>2</td>
<td>1.969</td>
<td>8</td>
<td>6.14</td>
</tr>
<tr>
<td>3</td>
<td>2.953</td>
<td>8</td>
<td>9.22</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10</td>
<td>9.22</td>
</tr>
</tbody>
</table>

* Exact dimension. (1) Nominal dimension. (2) Values consider material’s moisture content.

**Table 2. Nominal Dimension [Exact dimension].**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Hebel® Fence Panel AAC-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Compressive Strength (F´aac)</td>
<td>580 lb/in²</td>
</tr>
<tr>
<td>Nominal Density (F´AAC)</td>
<td>31 lb/ft³</td>
</tr>
<tr>
<td>Design Weight (1)</td>
<td>37 lb/ft³</td>
</tr>
<tr>
<td>Module of Elasticity</td>
<td>295,000 lb/in²</td>
</tr>
<tr>
<td>Drying Shrinkage</td>
<td>0.0024 in/ft</td>
</tr>
<tr>
<td>Thermal Expansion Coefficient</td>
<td>8 x 10⁻⁶ 1ºK</td>
</tr>
</tbody>
</table>

(1) Values consider material’s moisture content.
- Hebel® Fence system requires posts with grooves to insert Hebel® Fence Panels. The minimum depth of groove should be 1 1/2”.

- Post must be designed according to Local Building Code (see Post for Hebel® Fence System).

- Posts, postcaps and concrete bases are not supplied by Hebel®.

- Backer rod and caulking must be applied between the post groove and the Hebel® Fence Panel.
3 Installation Guide

3.1 Previous Installation

Check fence layout and design. Decide, according to terrain slopes, if fence will be stepped following the contours of the land (see Fig. 3).

Check if material quantity (Hebel® Fence Panels, posts and post caps) is correct (see Fig. 4).

Contact utility companies to insure that no underground utilities will be affected with fence construction.

Always follow on-site safety measures during construction.

3.2 Installation of Hebel® Fence

1. Making of Hebel® Fence

Check for property marks. When property marks are not visible, you may call a surveyor. Mark location of the fence according to property marks.

When fence is to be located on a hillside with steep slopes or very irregular terrain, surveying equipment might be needed.

2. Placing Posts

Identify level differences of terrain and determine the way that this will be compensated (stepped fence, etc.)

Posts must be plumb (aligned vertically), and located exactly in-line.

3. Setting the Posts

Place posts into the ground and set them in concrete. Once post is in the hole concrete should be compacted using a tamping bar. Level and brace the post temporarily while concrete sets. Posts must have 1 1/2" height over fence to assure proper installation of postcaps.

4. Concrete Base

A concrete base should be installed before placing Fence panels. Drainage conditions should be assessed. Leave drainage paths if required.

5. Preparation of Hebel® Thin Bed Mortar

Hebel® Thin Bed Mortar is prepared in a plastic bucket, adding water and mortar form the bag [see instructions on the bag] and mixed with a stirrer in a power drill. Use brush to clean the joint surface before mortar application.

6. Ready to Install Hebel® Fence

a) While two people hold the panel on its sides, a third person helps, lifting it to slide it into post grooves.

b) When panel is inserted into posts, two people keep sliding the panel, holding it from its upper edge.

c) Once panel is in place, Hebel® Thin Bed mortar is applied on joint before installing second panel using a dull (large tip).

d) Wedge the panel temporarily with acrylic or wood strips to adjust it into position (according to fence design).

e) Repeat procedure for subsequent rows of Hebel® Fence Panel. Care should be taken that panel joints are the same height throughout the fence.

f) Once all panels of one section have been placed, use dull (small tip) to place mortar on joints to make the appearance uniform.

g) Place bits of backer rod as wedges into joints between posts and panels and remove the acrylic strips. Then apply mortar or stucco to cover wedges.

5. Cutting of Hebel® Fence Panels on Site

If needed, for cutting Hebel® Fence Panels on-site, follow the procedure shown below:

a) Prepare a flat surface for site cutting, using saw horses.

b) Check for dimensions of cuts to be performed. Along its length, panel can be cut in half (1 ft wide) at most.

c) Proceed with panel cutting.

d) Place anticorrosive paint at reinforcing bars tips.

6. Post Caps

Post caps are placed on top of posts (see posts for Hebel® Fence System).
7. Gates, Ornaments and Other Fixtures

Gate installation must be made between gate posts. Gate posts have special preparations to attach gates. Fixtures like lamps, signs, etc. should be placed preferably over posts. For placing fixtures over Hebel® Fences, call Xella Aircrete North America, Inc., for technical support.

8. Surface Patching

Use Hebel® Repair Mortar to patch chips, breaks and other imperfections on the surface of the Hebel® Fence Panels.

Hebel® Repair Mortar is prepared in a plastic bucket, adding water and mortar from the bag (see instructions on the bag) and mixed with a stirrer in a power drill or by manual means (depending on quantity to be used). It is applied using a spatula.

9. Finishes

Although Xella Aircrete North America, Inc., has a very low water penetration rate, as with any concrete material it is recommended to apply a finish coat consisting of color paint or acrylic based render. Stucco and other types of renders are available through Hebel.

10. Installation Requirements

Tools:
- Plastic bucket
- Stirrer for power drill
- Shovel
- Mason’s level
- Brush
- Tape measure (50-100 ft)
- Sanding float
- Plastic edger
- Hammer ax
- Scissors for unpacking
- Claw hammer

Equipment:
- 12” auger
- Posthole digger
- 2 stepladders (2 or 3 steps)
- Heavy digger bar
- Tamper bar
- Circular saw with 8 1/4” metal or diamond blade for Hebel® Fence Panel 3” thick and 7 1/4” metal or diamond blade for Hebel® Fence Panel 2” thick 1/2” power drill
- 2 saw horses
- Dull w/small and large tip
- Safety gear (belts, goggles, dust mask, gloves)

Additional Materials Needed, Available Through Xella Aircrete North America, Inc

- Hebel® Thin Bed and Repair Mortar
4 Posts for Hebel® Fence System

4.1 General Considerations

Posts are used to provide support for Hebel® Fences and must be capable of withstanding wind loads applied upon them; while satisfying local, regional and national codes, such as Standard Building Code, Uniform Building Code, etc.

Use design methods, in accordance with nationally recognized organizations (American Concrete Institute, ACI; American Society of Civil Engineers, ASCE; and others).

Concrete posts or steel posts can be used for Hebel® Fence System. Fig. 12 shows typical concrete post sections.

4.2 Post Caps

Used as a decorative element over posts (see Fig. 13).

The post cap should be fixed or glued, as determined by the post material.

Note: For more technical information about posts and bases, call Xella Aircrete North America, Inc.

Caution: Use safety gear: Hard hat, gloves, dust mask and goggles to avoid excessive inhalation of dust and protection of the eyes when handling Hebel® Fence Panels.