

# WOODWORKS® Open Cell Vector®

## Assembly and Installation Instructions

### 1. GENERAL

#### 1.1 Product Description

WoodWorks® Open Cell Vector® ceilings consist of 12" and 6" square cells and 6" linear cells that are downward accessible, and are designed to be installed on a conventional 15/16" wide T-bar suspension system. Available sizes are 2' x 2', and 2' x 4'. All full panels can be removed and re-installed without the need for access to the plenum. Only two sides support installed panels. These edges have specially designed kerf details, which allow one edge of the panel to be raised slightly off of the grid flange, and then moved out of position. The other two sides are fitted with rabbeted edges, which work to center the panel within the grid opening.

#### 1.2 Surface Finish

All Open Cell panels are constructed from solid Poplar, are stained, and have a clear or semi-gloss coating.

#### 1.3 Storage and Handling

Ceiling components should be stored in a dry interior location and shall remain in cartons prior to installation to avoid damage. The cartons should be stored in a flat, horizontal position. The protectors between panels should not be removed until installation. Proper care must be taken when handling to avoid damage and soiling. Do not store in unconditioned spaces with humidity greater than 55% or lower than 25% RH and temperatures lower than 50°F or greater than 86°F. Panels must not be exposed to extreme temperatures, for example, close to a heating source or near a window where there is direct sunlight.

**NOTE:** Vector panels feature exposed edges. Exercise appropriate care to avoid unnecessary contact with the panel edges. Remember that the grid flanges will not conceal panel edge damage.

#### 1.4 Site Conditions

WoodWorks Open Cell Vector ceiling should be permitted to reach room temperature and have a stabilized moisture content for minimum of 72 hours before installation. They should not, however, be installed in spaces where the temperature or humidity conditions vary greatly

from the temperatures and conditions that will be normal in the occupied space. These products cannot be used in exterior applications.

#### 1.4.1 HVAC Design & Operation

Proper design for both supply air and return air, maintenance of the HVAC filters, and building interior space are essential to minimize soiling. Before starting the HVAC system, make sure air supply is properly filtered and the building interior is free of construction dust.

#### 1.4.2 Temperature & Humidity During Installation

WoodWorks Open Cell Vector ceiling panels are interior finish products that are designed for installation to be carried out in temperature conditions between 50°F (10°C) and 86°F (30°C), in spaces where the building is enclosed and HVAC systems are functioning and will be in continuous operation. Relative humidity shall not fall below 25% or exceed 55%. Additionally, the fluctuation in relative humidity shall not vary more than 30% over the life of the ceiling panels. There shall be proper ventilation of the plenum in high moisture areas. All wet work (plastering, concrete, etc.) must be complete and dry.

Real wood and wood composite products are natural building materials and they will react to changes in humidity. (Wood tends to contract with lower humidity and expand with higher humidity.) Wood could also have a tendency to warp, twist or bow, due to the natural stresses in the components and these humidity changes.

Be aware of these natural tendencies when evaluating the products. To ensure that the ceiling panels have stabilized to the current building conditions, prior to their installation, the panels must be placed in an environmentally stable building location for a minimum of 72 hours.

### 1.4.3 Plenum

Installation of Vector panels requires a minimum of space in the plenum, primarily that which is required to install the hanger wires for the suspension system. Three inches (3") is generally accepted as the minimum practical space that is needed to attach these wires.

**NOTE:** Light fixtures and air handling systems require more space and will determine the minimum plenum height for the installation.

### 1.5 Color

WoodWorks Open Cell panels are made of solid wood and are available in 4 standard finishes; custom options available. Natural variations in color and grain are characteristic of wood products. To maximize visual consistency, panels should be unpacked and examined collectively to determine the most desirable arrangement for installation.

### 1.6 Fire Performance

As with other architectural features located at the ceiling, WoodWorks Grille may obstruct or skew the planned fire sprinkler water distribution pattern, or possibly delay or accelerate the activation of the sprinkler or fire detection systems by channeling heat from a fire either toward or away from the device. Designers and installers are advised to consult a fire protection engineer, NFPA 13, and their local codes for guidance where automatic fire detection and suppression systems are present.

## 2. PANEL EDGES

### 2.1 General

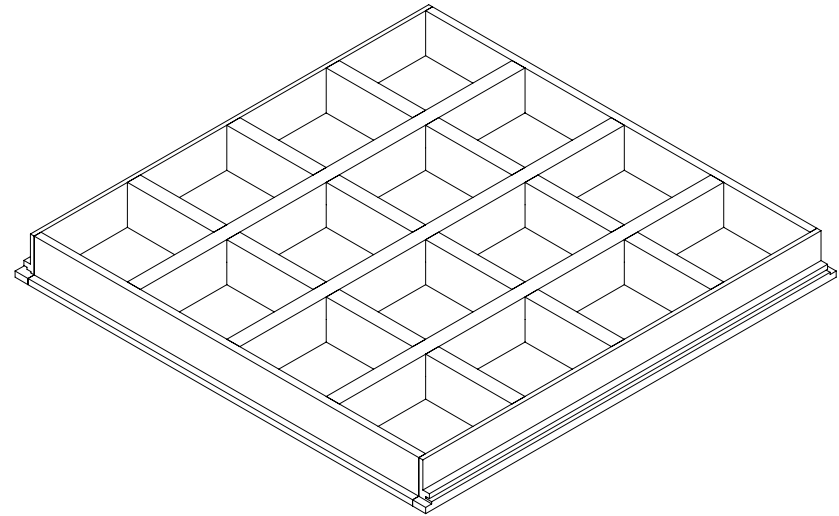
The edges of the Vector panels feature unique detailing. The following section is intended to define and explain the function of the edge details. (Fig 1)

### 2.2 Access Kerf Edge

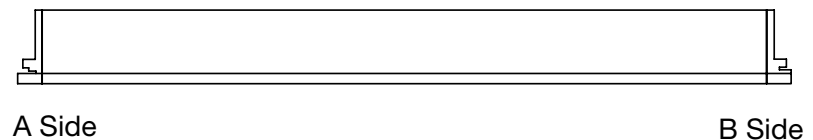
The panel edge designated as "A" has a stepped groove detail and is called the access kerf. This edge is the first to engage the suspension system. Review the drawings below to familiarize yourself with this unique detail. Remember that the "A" edge is always installed first. This panel edge is also the one that must rise when the ceiling must be accessed. (Fig 2)

### 2.3 Registration Kerf

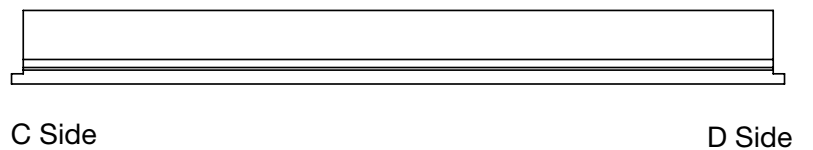
Edge "B" has a single kerf detail that supports the second side and centers the panel in the A – B direction. This edge is referred to as the registration kerf and is opposite edge "A". (Fig 3)



(Fig 1)



(Fig 2)



(Fig 3)

## 2.4 Reverse Tegular Edges

The two remaining panel edges are rabbeted to fit between the flanges of the grid system. These edges center the panel in the C - D direction and are called reverse tegular edges.

## 2.5 BioAcoustic™ Infill Panel

Use 2' x 2' x 8" black infill panel (item 5823) to improve acoustical performance.

## 3. SUSPENSION SYSTEM

### 3.1 General

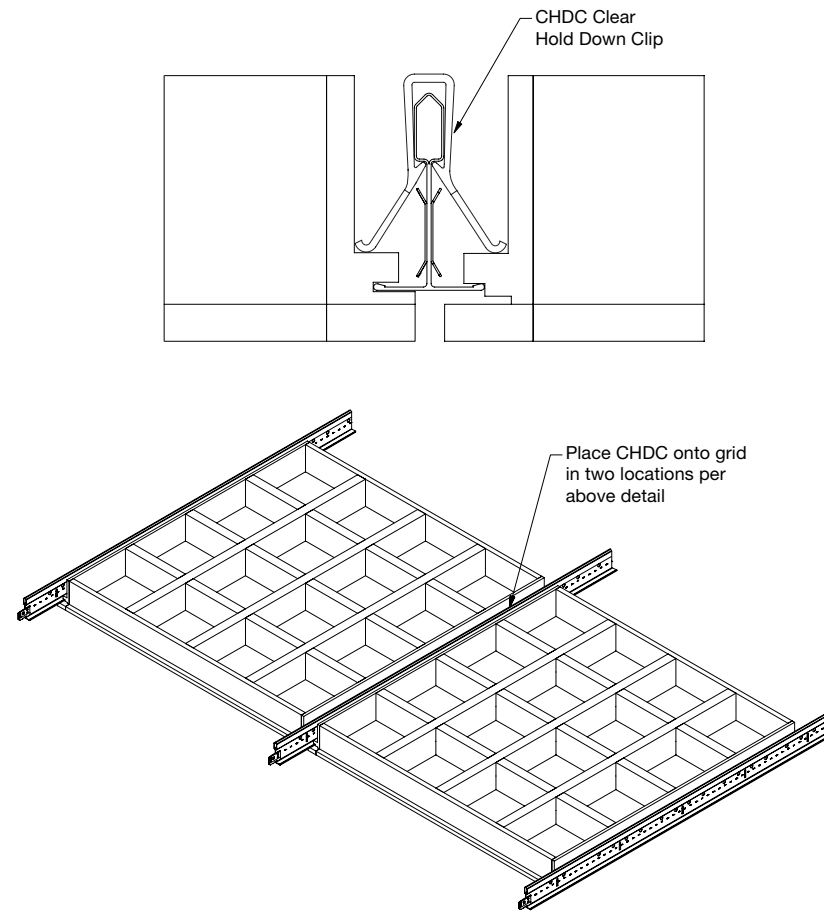
Pay close attention to these instructions. 2' x 2' and 2' x 4' panels can be installed in a conventional grid layout with main beams at 4' centers. Follow the guidelines in section 3.2 for 2' x 2' and 2' x 4' panels. The suspension system shall be standard 15/16" exposed tee grid. The installation shall, in all cases, conform to the requirements of the International Building Code and its referenced standards. Walls or soffits that serve to support a panel edge must be braced to structure so as not to allow movement greater than 1/8" when subjected to design lateral force loads. When such bracing is not practical or is not effective additional mechanically connected grid components shall be provided to capture all edges of every panel. Axiom perimeter trim connected to the grid with AXTBC clips will also meet this requirement. The requirements listed here represent the manufacturer's minimum acceptable installation recommendations, and may be subject to additional requirements established by the local authority having jurisdiction.

### 3.2 Suspension Grid

For 2' x 2' and 2' x 4' Vector panels, the main beams shall be spaced 48" o.c. The 48" cross tees shall intersect the main beams at 90° every 24" for 2' x 2' panels. The 24" cross tees shall be installed at the midpoints of the 48" tees. Hanger wires shall be installed not more than 48" on center along the length of the main beams. The suspension system must be leveled to within 1/4" in 10' and must be square to within 1/16" in 2'. Installation on grid systems that do not meet this tolerance will produce unacceptable panel alignment.

### 3.3 Clear Hold Down Clips (CHDC)

Clear Hold Down Clips (CHDC) are to be installed at the A & B edges of the panels (2 clips for 2' x 2' and 3 clips for 2' x 4'). The clips need to be used in all applications, regardless of the seismic category. (Fig 4)



(Fig 4)

### 3.4 Panel Face Offset

The face of the Vector panel extends 7/16" below the suspension system. The height of components that interface with the ceiling panels, such as sprinkler heads and light fixture trim rings, will have to be adjusted to accommodate this 7/16" offset. (Fig 5)

## 4. PANEL INSTALLATION AND REMOVAL

### 4.1 General

Vector ceiling panels are easily installed and removed from below the suspension system without the aid of tools or special equipment, allowing easy downward access to the plenum.

### 4.2 Installing Full-Size Panels

The Vector panel are installed in a simple three-step process:

STEP 1: Fully insert the deepest kerf of edge "A", the access kerf, onto the exposed grid flange. (Fig 6)

STEP 2: Raise the "B" edge of the panel, the registration kerf, into the grid opening until the kerf lines up with the grid flange. (Fig 7)

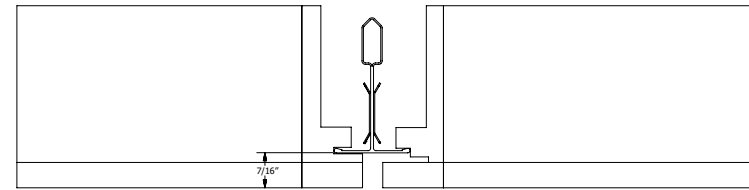
STEP 3: Slide the panel so that the registration kerf on edge "B" engages the grid flange. Ensure that the access kerf on edge "A" drops down into the correct position. (Fig 8)

### 4.3 Orientation of Full Panels

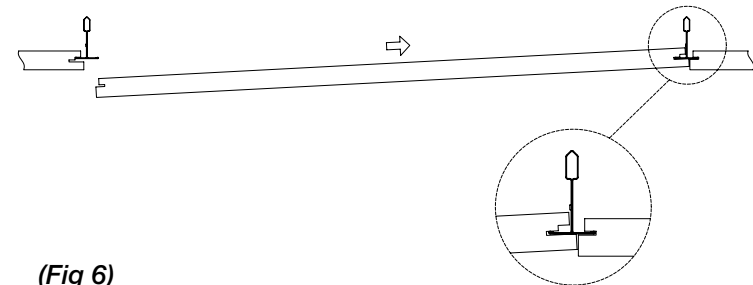
Install all full-sized panels with the "A" edge facing in the same direction to provide access consistency. Align panels as you proceed to insure a uniform reveal width in both directions. Pay particular attention to this alignment process. Minor variations in placement can be difficult to see from the scaffold, but will become obvious when looking down long runs of panels.

### 4.4 Panel Removal

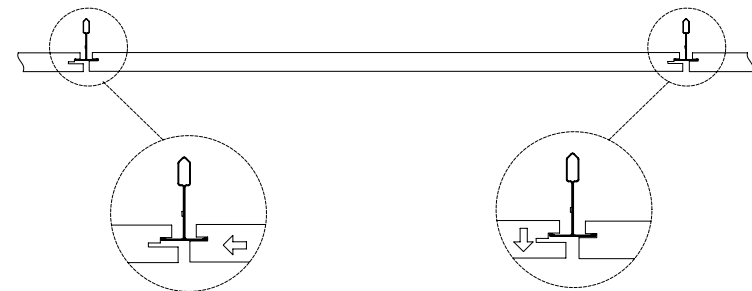
Press against the panel face to identify the edge that raises easily. This is the "A" edge. Move the A edge up and toward the web of the grid member until the "B" edge disengages and drops out of the ceiling plane.



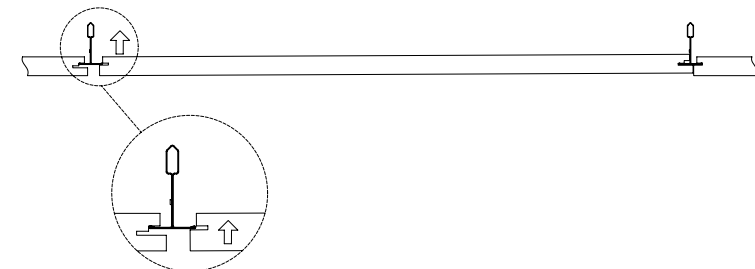
(Fig 5)



(Fig 6)



(Fig 7)



(Fig 8)

## 5. PERIMETER DETAILS

### 5.1 General

Perimeters must be detailed as described in the following section.

### 5.2 Grid Resting on Perimeter Trim

The face of the suspension system components rests directly on the molding or trim flange. The grain pattern on the panels dictates that they can be rotated 180°, but not 90°. (Fig 9)

### 5.3 Cutting the Panel

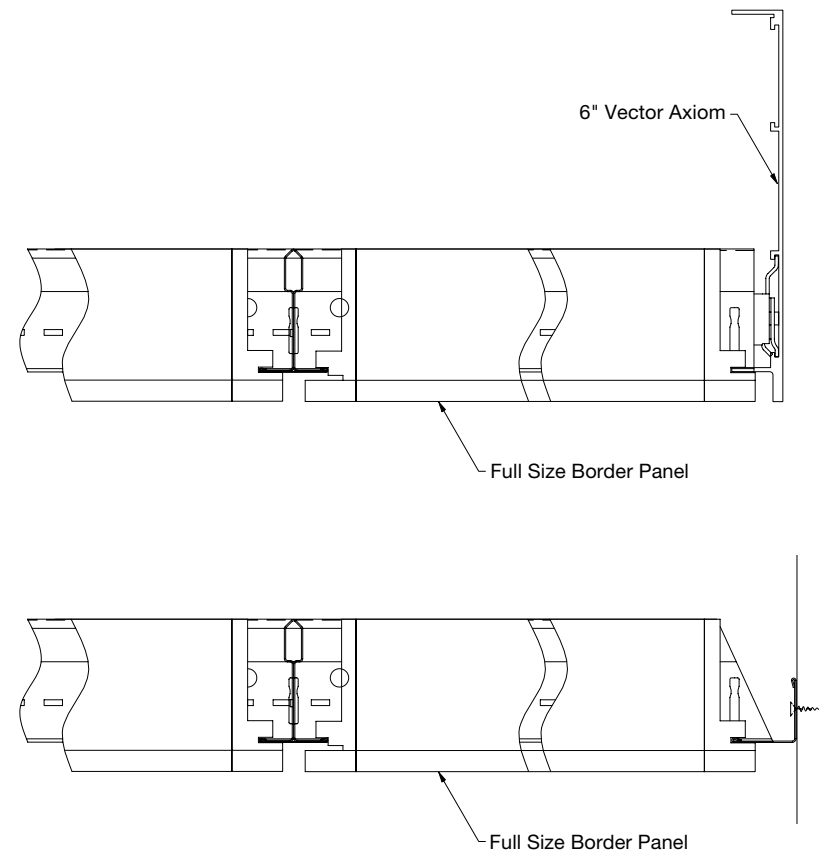
Panels cannot be cut. Full-size panels must be used.

## 6. SEISMIC RESTRAINT

WoodWorks® Open Cell Vector® has been engineered for application in seismic areas. This system has been successfully tested in applications simulating seismic design categories D, E, and F. For applications in seismic zones, review the following guidelines. Check local code for the need for lateral bracing and/or compression posts/splay wires, perimeter wires and for additional installation requirements.

## 7. CLEANING RECOMMENDATIONS

WoodWorks panels can be cleaned with a soft, dry cloth.



(Fig 9)

## MORE INFORMATION

For more information, or for an Armstrong Ceilings representative, call 1 877 276 7876.

For complete technical information, detail drawings, CAD design assistance, installation information, and many other technical services, call TechLine customer support at 1 877 276 7876 or FAX 1 800 572 TECH.

Inspiring Great Spaces® is a registered trademark of AFI Licensing LLC; All other trademarks used herein are the property of AWI Licensing LLC and/or its affiliates.

© 2021 AWI Licensing Company Printed in the United States of America