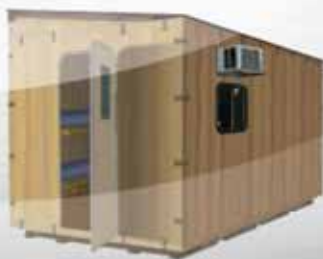


# Independent SNOWLOAD ANALYSIS



**COMPASSION**  
SHELTERS

Rest Easy.



The Versi-Panel Compassion Shelter is an easily assembled temporary shelter that is portable, sturdy, insulated and expandable. Snow load analysis of the structure was completed by MIND Studios at the University of Colorado at Colorado Springs.

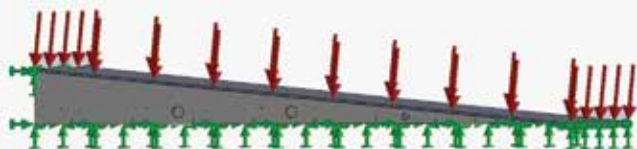


- CALL US: 1-866-928-5710 ext.141
- VISIT US: 2855 South Academy Blvd, Colorado Springs, CO
- WEBSITE: [www.vpenclosures.com](http://www.vpenclosures.com)

## Compassion Shelters

# Analysis

A Snow Load Analysis was completed by MIND Studios at the University of Colorado at Colorado Springs in order to determine reasonable load conditions for the Versi-Panel Compassion Shelter. These results were compared to relevant building codes based on given material specifications.



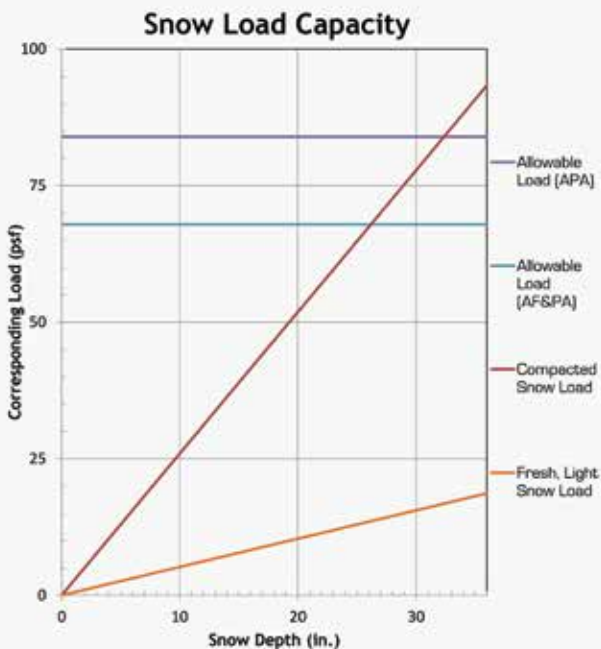
- ❖ Initial Analysis Using Standard Load Equations
- ❖ Comprehensive Finite Element Analysis using Solid Works Simulation software
- ❖ Realistic expectations and comparison to code established by the Engineered Wood Association (APA) and the AF&PA American Wood Council

- ✦ STURDY, WEATHER/DISASTER TESTED SHELTER
- ✦ STORES AND SHIPS FLAT
- ✦ ASSEMBLY BY TWO PEOPLE IN 30 MINUTES

## Compassion Shelters

# Snow Capacity

Maximum load capacity was determined by referencing plywood load capabilities tabulated by the Engineered Wood Association (APA) and the AF&PA American Wood Council. These values were compared to estimated snow loads with respect to snow depth and conditions.



**MIND**Studios  
innovation. by design.

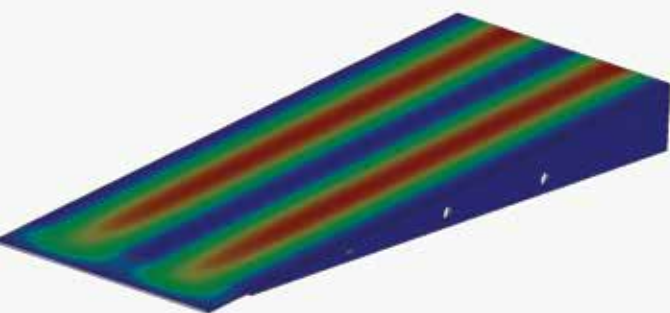


- EASILY ASSEMBLED
- PORTABLE, STURDY, INSULATED
- EXPANDABLE

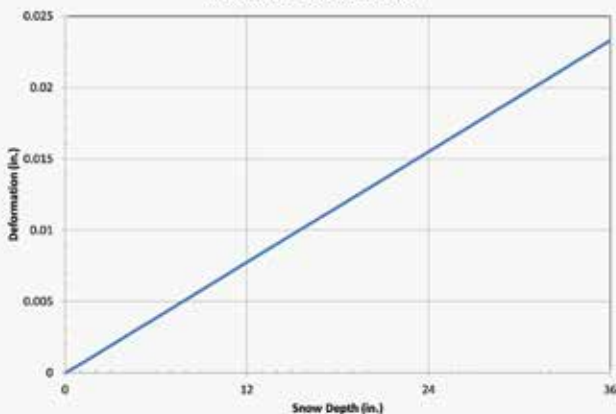
## Compassion Shelters

# Deformation

Deformation values were approximated using SolidWorks Simulation Software. The maximum deformation due to snow load was determined as well as the varying deformation across each roof panel. It was shown that the maximum deformation occurs midway between roof supports.



**Maximum Deformation**



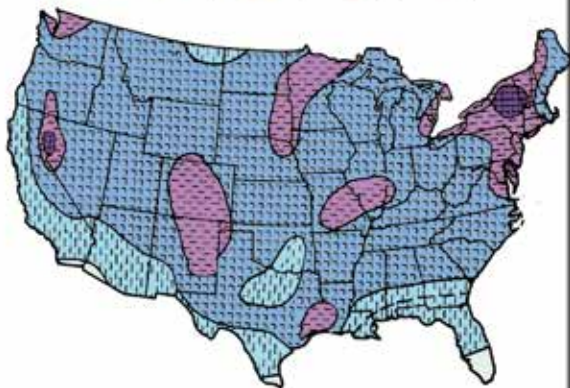
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# COLD WEATHER DISASTERS



Compassion Shelters are designed to withstand excessive snowfall, while the insulated composite structure maintains a warm temperature within.

Extreme 24-hour Maximum Snowfall Load  
■ 20 psf ■ 15 psf ■ 10 psf ■ 5 psf ■ 0 psf



- STURDY, WEATHER/DISASTER TESTED SHELTER
- STORES AND SHIPPED FLAT
- ASSEMBLY BY TWO PEOPLE IN 30 MINUTES

## Compassion Shelters

# OVERVIEW

A full load analysis was conducted in order to determine reasonable loading scenarios for the Versi-Panel Compassion Shelter in cold weather conditions. The analysis included both traditional structural code requirements along with detailed finite element modeling. Final results are presented herein.

### ■ AMERICAN WOOD COUNCIL

AF&PA approves a load capacity of 68 psf which corresponds to a snow depth of 132 in. of fresh, light snow and 26 in. of compacted snow

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### ■ ENGINEERED WOOD ASSOC.

APA approves an adjusted snow load capacity of 84 psf which corresponds to a snow depth of 162 in. of fresh, light snow and 32 in. of compacted snow

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### ■ FINITE ELEMENT ANALYSIS

Initial Finite Element Analysis, the maximum deformation is .0233" with 36" of heavy snow load

- EASILY ASSEMBLED
- PORTABLE, STURDY, INSULATED
- EXPANDABLE