

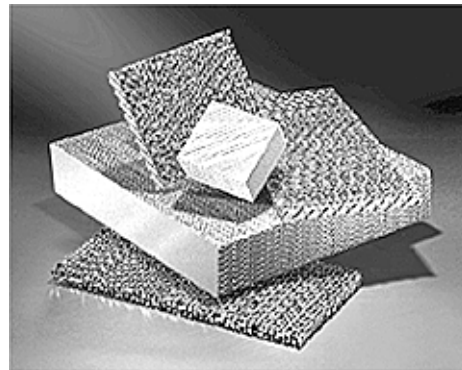


TRUSSGRID™ Three-Dimensional Honeycomb

January 2003

Description

TRUSSGRID three-dimensional honeycomb is a dimensionally stable, naturally vented, rigid core material made of cross-laminated aluminum foil corrugations. With considerable strength in all three dimensions, TRUSSGRID offers unique performance in special types of sandwich construction and as a high-impact energy absorber.



The three-dimensional stability makes it uniquely suited for aircraft leading and trailing edges where autoclave pressures cause conventional

honeycomb to move during bonding. TRUSSGRID offers unique isotropic properties due to its proprietary construction. Positive pressures can be exerted against the sides of the core to improve bond strength for edgings and inserts, and the core can be readily crushed to shape, with the crushed surface resembling a continuous metal surface. Its unique structure is also perfect for everything from vacuum tables to fuel tanks to diffusers and mixers.

With TRUSSGRID, you now have a solution to your most challenging structural core problems.

Applications

- Industrial energy absorbers
- Automotive energy absorbers
- Fuel tanks
- Heat exchangers
- Vacuum tables
- Radar reflectors
- Aircraft leading and trailing edges
- Flow diffusers

Features

- Excellent energy absorption in all three dimensions
- High crush efficiency (50-70%)
- Easily machined without cell reinforcement
- Fully vented, allowing volatiles/pressure to escape
- Stable during shipping and handling
- Bonded equally well with all types of adhesives
- Crushed surface resembles continuous metal surface
- Certain grades optimized for roll-formability

Availability

- Blocks
- Flat sheets
- Fabricated shapes

TRUSSGRID three-dimensional honeycomb is normally produced in 5052 alloy, with either our DURA-CORE™ II modified conversion coating or our PAA-CORE™ phosphoric acid anodized protection. Custom dimensions, cell sizes, alloys, tolerances and mechanical properties are available.

How to Order

When ordering, please specify TRUSSGRID using the following format:

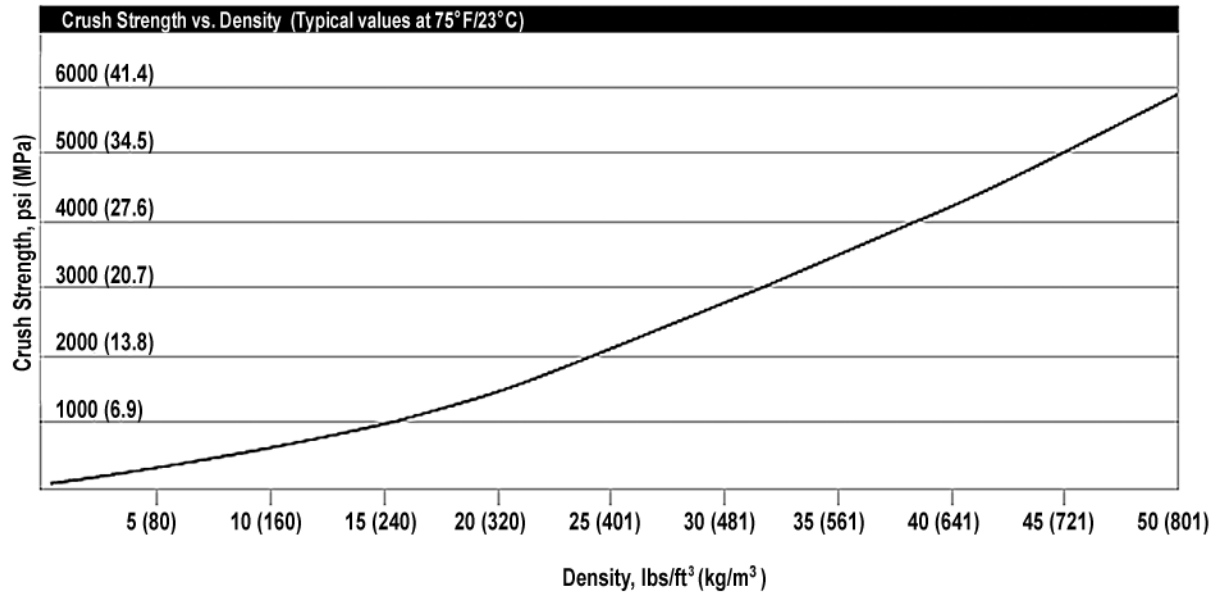
Example: Truss - PAA - 6.1 - 1/8, where

| Product | Coating | Density | Cell Size |
|---------|------------|---------|-----------|
| TRUSS | DUR or PAA | 6.1 | 1/8 |

Available Dimensions

| | Standard | | Maximum | | Tolerance | |
|----------------|--------------------------------------|------|---------|------|-------------|--------------|
| | inches | mm | inches | mm | inches | mm |
| Ribbon (L) | 96 | 2438 | 96 | 2438 | +1.0 / -0.0 | +25.4 / -0.0 |
| Transverse (W) | 12 | 305 | 20 | 508 | ±1.0 | ±25.4 |
| Thickness (T) | 12 | 305 | 12 | 305 | | |
| | up to 4 inches (102mm) T | | | | ±0.005 | ±0.127 |
| | over 4 inches (102mm) T | | | | ±0.062 | ±1.575 |
| Density | see mechanical characteristics chart | | | | ±15% | |
| Cell Size | see mechanical characteristics chart | | | | ±15% | |

| Trussgrid Mechanical Characteristics (Typical values at 75° F/23° C) | | | | | | | |
|--|-----------|---------------------------|------|----------------|------|-----|------|
| Density | Cell Size | Bare Compressive Strength | | Shear Strength | | | |
| | | | | L | | W | |
| lbs/ft ³ | inches | psi | MPa | psi | MPa | psi | MPa |
| 6.1 | 1/8 | 500 | 3.45 | 400 | 2.76 | 240 | 1.65 |
| 8.1 | 1/8 | 780 | 5.38 | 570 | 3.93 | 380 | 2.62 |
| 4.4 | 3/16 | 275 | 1.90 | 235 | 1.62 | 155 | 1.07 |
| 5.7 | 3/16 | 435 | 3.00 | 325 | 2.24 | 215 | 1.48 |
| 8.1 | 3/16 | 870 | 6.00 | 515 | 3.55 | 340 | 2.34 |
| 3.4 | 1/4 | 190 | 1.31 | 165 | 1.14 | 100 | 0.69 |
| 4.3 | 1/4 | 275 | 1.90 | 225 | 1.55 | 145 | 1.00 |
| 6.0 | 1/4 | 550 | 3.79 | 375 | 2.59 | 245 | 1.69 |
| 7.9 | 1/4 | 750 | 5.17 | 500 | 3.45 | 315 | 2.17 |
| 2.3 | 3/8 | 100 | 0.69 | 100 | 0.69 | 60 | 0.41 |
| 3.0 | 3/8 | 160 | 1.10 | 145 | 1.00 | 90 | 0.62 |
| 4.2 | 3/8 | 280 | 1.93 | 220 | 1.52 | 145 | 1.00 |
| 5.4 | 3/8 | 400 | 2.76 | 305 | 2.10 | 200 | 1.38 |



Alcore gives no warranties, expressed, implied or statutory, or otherwise, as to the description, quality, fitness, capacity, or any other matter, of the properties described. The data given represents typical values to be expected. Through additional testing of each lot it is possible to verify that the product exceeds the tabulated values. It is recommended, however, that prospective users evaluate the materials to determine their suitability for the users' specific requirements. Values are given on the condition that the user assumes all risk and that responsibility for any loss or damage caused by or resulting from the use of such information is disclaimed by Alcore.

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