

PP Polypropylene Honeycomb

| PP Polypropylene Mechanical Properties | | | | | | | |
|--|-----------|-------------|--------------------------|-------------|---------------------|-------------|---------------------------|
| PLASCORE® Honeycomb Designation | | | Typical Base Compression | | Typical Plate Shear | | Nonwoven Tensile Strength |
| Core Type | Cell Size | Density PCF | Strength PSI | Modulus KSI | Strength PSI | Modulus KSI | Strength PSI |
| PP50-5 | 0.50" | 5.0 | 225 | 16.9 | 75 | 2.0 | 175 |
| PP40-4 | 0.40" | 4.0 | 140 | 7.2 | 40 | 1.3 | 125 |

*Values per MIL-D1014E1 at room temperature.

How to specify Plascore Honeycomb:

PP polypropylene honeycomb is specified as follows:

Material - Cell Size - Color - Thickness

Example: PP-20-0-2

Scoring up to 1.127" available with 25mm or 50mm grid pattern.

Where:

PP

20

0

2

- designates polypropylene
- is the cell size in inches (.20" or .50mm.)
- indicates the density in pcf
- indicates surface veil with film barrier (left blank indicates surface veil only, 1 indicates no surface veil)

Description:

PP polypropylene honeycomb exhibits a unique cell structure. The core has 3 orientations vs. the 2 orientations common with other honeycomb, making its properties more uniform. Each cell has a tubular form and is inherently stable.

PP polypropylene honeycomb is supplied with or without a non-woven polyester veil for better bonding. It is also supplied with or without a film barrier under the polyester veil to limit the amount of resin consumption.

Applications:

PP polypropylene honeycomb uses include sandwich panel cores, energy absorption and filtration media.

Features:

- High strength to weight ratio
- Corrosion, fungi, rot, chemical and moisture resistant
- Sound and vibration dampening
- Energy absorbing
- Thermoformable
- Temperature use to 180°F
- Recyclable

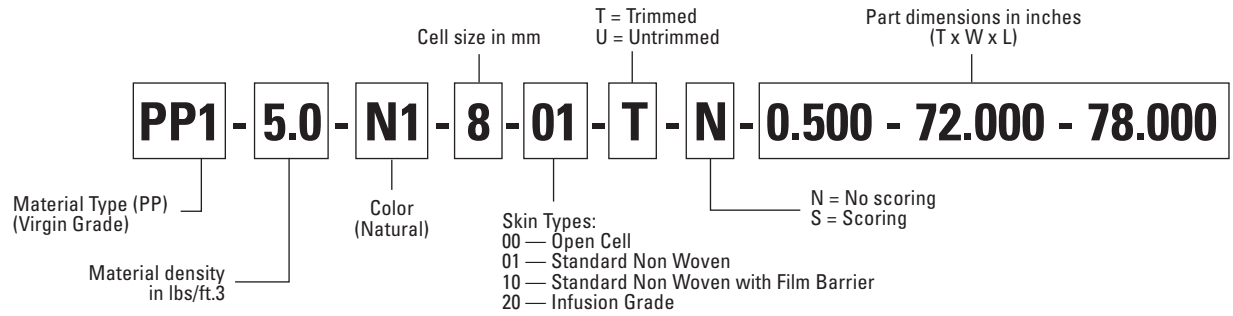
Availability:

PP polypropylene honeycomb is available in the following standard dimensions.

- Densities:** 3.5 to 20.0 pcf
- Thickness:** ¼" to 6" Laminated; up to 24" open cell
- Sheet Length:** Up to 50'
- Sheet Width:** 72" max.
- Tolerances:**
 - Length: ± .125"
 - Width: ± .125"
 - Thickness: ± .02"
 - Open Cell: ± .03"
 - w/reinforced PP facings ± .03"
 - Density: ± 10%

PP polypropylene honeycomb is specified as follows:

Material - Cell Size - Color - Thickness



PP Honeycomb Core Mechanical Properties

| CORE | CELL SIZE | | DENSITY | | | | FLATWISE TENSILE ¹ | | BARE COMPRESSION ² | | | | | | PLATE SHEAR ³ | | | | | | | | | |
|---------------|-----------|------|--------------------|-------------------|--------------------|-------------------|-------------------------------|------|-------------------------------|------|----------|------|---------|------|--------------------------|------|---------|------|-----|------|-----|------|-----|------|
| | | | TYPICAL | | MINIMUM | | | | STRENGTH | | STRENGTH | | MODULUS | | STRENGTH | | MODULUS | | | | | | | |
| | (in) | (mm) | lb/ft ³ | kg/m ³ | lb/ft ³ | kg/m ³ | psi | MPa | psi | MPa | psi | MPa | psi | MPa | psi | MPa | psi | MPa | psi | MPa | psi | MPa | | |
| PP1-5.0-N1-8 | 0.315 | 8 | 5 | 80.0 | 4.75 | 75.0 | 130 | 0.89 | 275 | 1.89 | 255 | 1.55 | 11.5 | 79.2 | 9.5 | 65.4 | 85 | 0.58 | 75 | 0.52 | 2.2 | 15.2 | 1.7 | 11.7 |
| PP1-4.0-N1-10 | 0.395 | 10 | 4 | 64.0 | 3.8 | 60.0 | 120 | 0.83 | 180 | 1.24 | 140 | 0.96 | 10.5 | 72.3 | 8.5 | 58.5 | 60 | 0.41 | 55 | 0.38 | 2.0 | 13.8 | 1.5 | 10.3 |

The data provided is based on the testing of -01 (veil only) version of each core type.

¹ Flatwise Tensile
 Tested per ASTM C 297

² Bare Compression
 Tested per ASTM C 365

³ Plate Shear
 Tested per ASTM C 273



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