



High Density  
Aluminum Core

# PAHD High Density Corrugated Aluminum Honeycomb Core

Plascore PAHD high-density corrugated aluminum core offers an exceptional strength to weight ratio suited for load or stress bearing aerospace, high-speed transportation vehicles, roll formed, and energy absorption applications. Available in multiple configurations, and a wide range of densities, Plascore PAHD is engineered for use as anchor points and other critical structural areas where only a reinforced material will deliver the desired strength, and only an aluminum core can do so with less weight.

When used in a composite sandwich structure, PAHD provides additional strength and stiffness, which are required at mechanical points for fastener insert anchoring.

## Characteristics

- *High strength to weight ratio*
- *Elevated temperature applications*
- *High thermal conductivity*
- *Machinable*
- *Flame resistant and fungi resistant*
- *Excellent moisture and corrosion resistance*
- *Superior strength over most commercial grade aluminum honeycomb*
- *Yields consistent cross-dimensions in roll forming*

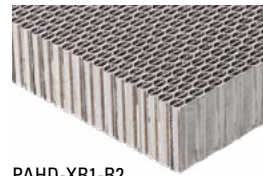
## Applications

**Aerospace** – A lightweight, machinable core for structural areas requiring density not achievable through standard aluminum core. Such as engine nacelles, roll formed applications, anchor points and force attenuation.

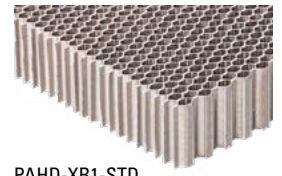
**Defense** – Tactical vehicles requiring light weight, high performance core with known crush characteristics for blast mitigation in doors, hatches, panels and floors.

**Transportation** – Ground and air applications where energy use and safety under stress are at a premium, and predictable performance in extreme machine is foremost in vehicle engineering.

*Plascore PAHD can meet virtually any structural requirement for lighter yet stronger materials to enable the manufacturer to build structures that travel faster with reduced environmental impact. Lightweight applications in aerospace and high-speed rail, for example, include floors, doors, ceilings and bulkheads.*



PAHD-XR1-R2  
Bisectioned Corrugated Aluminum  
Honeycomb



PAHD-XR1-STD  
Corrugated Aluminum Honeycomb



PAHD-XR1-2R2S  
Bisectioned Reinforced Staggered  
Corrugated Aluminum Honeycomb



PLASCORE®

# PAHD-XR1 5052 Aluminum Honeycomb is specified as follows:

Material - Density - Cell Size - Alloy - Configuration

## Cell Configurations:

**STD** – Standard Hexagonal

**R2** – Bisected Hexagonal

**R2S[DG]** – Bisected Staggered [Different Gauge]

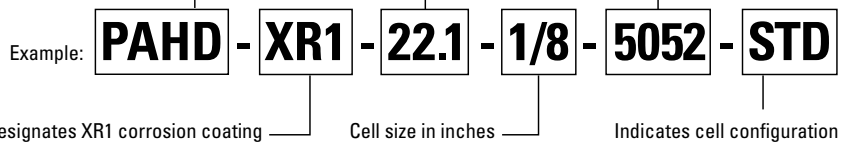
**2R2S** – Reinforced Bisected Staggered

**R2S-Cross** – Alternating Cell Axis for multi-axis strength (limited block size)

Designates corrugated high density aluminum

The nominal density in pounds per cubic foot

Designates the alloy of the foil



| PAHD Typical Properties |             |               |                            |            |                |      |                      |
|-------------------------|-------------|---------------|----------------------------|------------|----------------|------|----------------------|
|                         |             |               | Compressive Strength (PSI) |            | Strength (PSI) |      | Crush Strength (PSI) |
| CELL SIZE               | NOMINAL PCF | CONFIGURATION | BARE                       | STABILIZED | "L"            | "W"  |                      |
| 1/8                     | 14.5        | STD           | 2900                       | 3000       | 2100           | 1500 | 2000                 |
| 3/16                    | 15.7        | STD           | 3200                       | 3300       | 1700           | 800  | 2000                 |
| 1/8                     | 22.1        | STD           | 5200                       | 5200       | 2500           | 1500 | 4050                 |
| 3/16                    | 22          | R2S           | 5200                       | 4500       | 2500           | 1500 | 2600                 |
| 3/16                    | 25          | R2S           | 5500                       | 5600       | 3000           | 1500 | 2800                 |
| 1/8                     | 30          | R1S-Cross     | –                          | –          | –              | –    | 2900                 |
| 1/8                     | 38          | R2            | 7500                       | 7700       | 4000           | 2000 | 6200                 |
| 1/8                     | 55          | 2R2S          | 8500                       | 10000      | 4500           | 2250 | 8000                 |

## Availability:

PAHD-XR1 5052 honeycomb is available in three forms: untrimmed sheets, cut to size expanded sheets, and machined components. Special densities and configurations available upon request.

**Cell Sizes:** 1/8" - 3/16"

**Tolerances:** Length: + 6", - 0"

**Densities:** 14.5 to 55.0 pcf

Width: + 6", - 0"

**Sheet "Ribbon" (L):** 36" typical

Thickness: ± .010" (under 4" thick)

**Sheet "Ribbon" (W):** 30" typical

**NOTE:** Special dimensions, sizes, tolerances, CNC machining and can be provided upon request.

## AS9100 Quality

Plascore is AS9100 registered and has a range of testing capabilities. Our on-site validation lab is experienced in providing timely and accurate first article submissions to customers.

Mechanical testing confirms cell size, density, compression and shear values are within specification. Certification documents are included upon request for validation and tracking purposes.

### Corporate Headquarters

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Plascore, Inc., employs a quality management system that is Nadcap, AS9100, ISO 9001 and ISO 14001 certified.

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