

# 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.

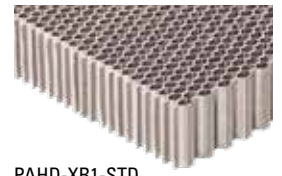
**Defense** – Tactical vehicles requiring light weight, high performance core with known crush characteristics for blast mitigation in doors, hatches, panels and floors.

**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



# 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]

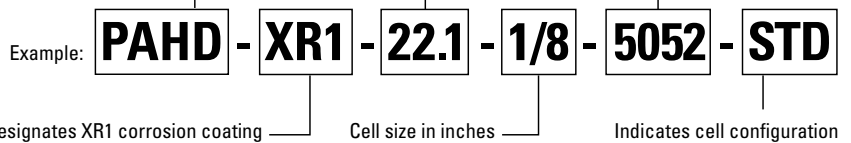
**2R2S** – Reinforced Bisected Staggered

**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

#### Plascore Incorporated

615 N. Fairview St.  
Zeeland, MI 49464-0170  
USA

Phone (616) 772-1220

Toll Free (800) 630-9257

Fax (616) 772-1289

Web [www.plascore.com](http://www.plascore.com)

Email [sales@plascore.com](mailto:sales@plascore.com)

### Europe

#### Plascore GmbH&CoKG

Feldborn 6  
D-55444 Waldlaubersheim  
Germany

Phone +49(0) 6707-9143 0

Fax +49(0) 6707-9143 80

Web [www.plascore.de](http://www.plascore.de)

Email [sales.europe@plascore.com](mailto:sales.europe@plascore.com)



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

**IMPORTANT NOTICE:** The information contained in these materials regarding Plascore's products, processes, or equipment, is intended to be up to date, accurate, and complete. However, Plascore cannot warrant that this is always the case. Accordingly, it is a purchaser's or user's responsibility to perform sufficient testing and evaluation to determine the suitability of Plascore's products for a particular purpose. Information in these materials and product specifications does not constitute an offer to sell. Your submission of an order to Plascore constitutes an offer to purchase which, if accepted by Plascore, shall be subject to Plascore's terms and conditions of sale. PLASCORE MAKES NO WARRANTIES OF ANY KIND REGARDING THESE MATERIALS OR INFORMATION, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Plascore owns and shall retain all worldwide rights in its intellectual property, and any other trademarks used in these materials are the property of their respective owners. The information in these materials shall not be construed as an inducement, permission, or recommendation to infringe any patent or other intellectual property rights of any third parties. © 2018 Plascore, Inc. All Rights Reserved. v07.10.2019

