

# Plascore AltuCore™



Lightweight Energy  
Absorption

## High Strength, Cylindrical Energy Absorber

Plascore **Aluminum Tubular Core** AltuCore™ is a lightweight, high-strength core manufactured in an annular cylindrical shape which is well suited for single-use energy absorption applications. AltuCore™ yields at a constant force providing reliable and consistent energy absorption for applications with in-axis loading conditions.

## Features

- Energy absorption in a cylindrical shape
- High crush strength-to-weight ratio
- Efficient constant force crush curve
- Wide range of strengths available
- Typical crush stroke is 60% of length
- Excellent moisture and corrosion resistance
- Elevated use temperatures

## Applications

**Aerospace** – A lightweight single-use energy absorber for attenuating impacts, controlling maximum loads, and over-travel protection.

**Defense** – Can serve as a crushable member to mitigate dynamic events.

**Dynamic Testing** – For high G load testing of components.

**Industrial Safety** – Provides efficient high-load drop or overload protection to prevent equipment failure.

**Shipping Protection** – Precise crush strength and high service temperatures facilitate use in many environments with minimal impact on the shipping weight.

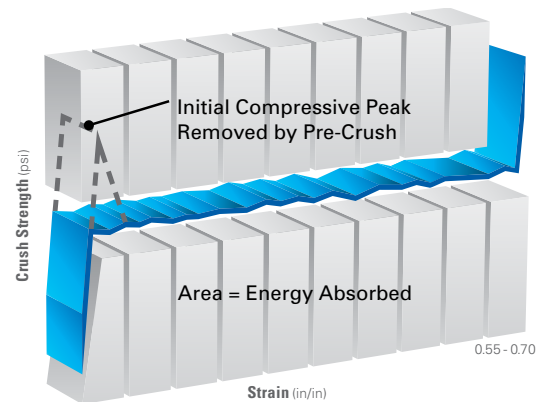
**Transportation** – Attenuates impact in applications where lightweight, high-performance energy absorption is critical for safety.

## Availability

AltuCore™ is custom manufactured in a wide range of strengths and sizes. Available as load certified in precrushed form or in stock lengths.

<b>Outside Diameter:</b>	1" - 16" (typical)
<b>Inside Diameter:</b>	0.375" Minimum
<b>Length:</b>	21" Maximum
<b>Crush Strength:</b>	1000 - 8000 psi
<b>Crush Stroke:</b>	55% - 70% (depending on strength)
<b>Available Alloys:</b>	3003, 5052, 5056

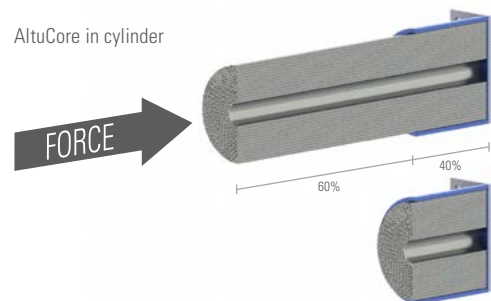
Contact a Plascore Representative for assistance specifying this material for your particular application and requirements.



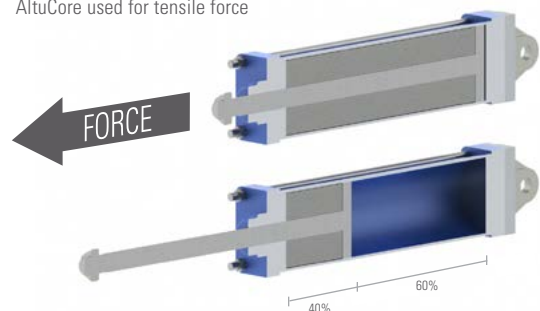
Constant force vs. displacement curve provides efficient lightweight energy absorption unique to aluminum honeycomb

## Application Examples

AltuCore in cylinder



AltuCore used for tensile force



PLASCORE®

## Properties

A range of static crush strengths from 1000 - 8000psi can be manufactured.

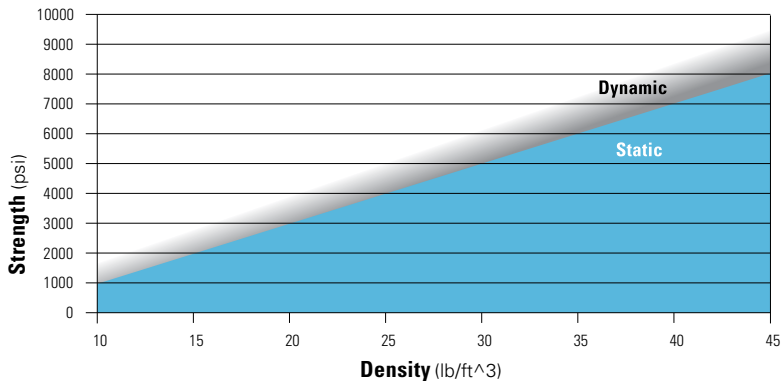
- Dynamic crush strengths can be 10% - 40% higher depending on strength and impact velocity. AltuCore™ should be evaluated by dynamic test in the final configuration to verify dynamic performance.
- Crush strokes as high as 70% are available, decreasing to 55% for higher strength core.
- AltuCore™ will crush and fold upon itself uncontained to strengths of 2500psi. Higher strengths should be contained within a cylinder, crushed into a cap, or wound with a composite wrap for best performance.

## Testing

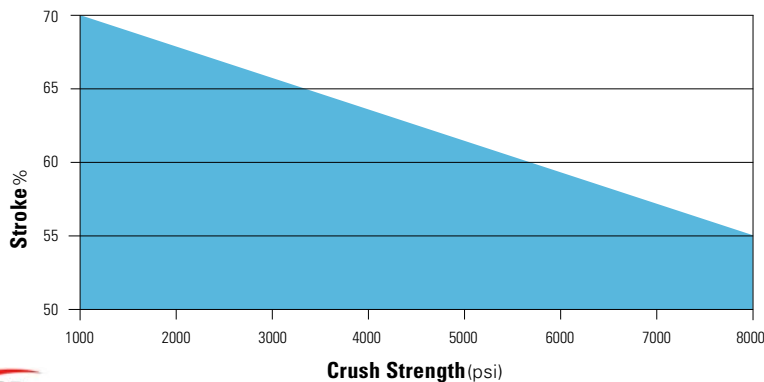
AltuCore™ is precrushed to eliminate the initial compression peak load. During this operation, average load is recorded to show conformance to crush strength requirements.

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## Crush Strength



## Effective Stroke



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

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AltuCore™ absorbs energy by crushing under load



### 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 & Co KG**  
Feldborn 6  
D-55444 Waldlaubersheim  
Germany

Phone +49(0) 6707-9143 0  
Fax +49(0) 6707-9143 40  
Web [www.plascore.de](http://www.plascore.de)  
Email [sales.europe@plascore.com](mailto:sales.europe@plascore.com)



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