

ATD Aluminum Honeycomb Energy Absorber - Neck Certification

Product Description

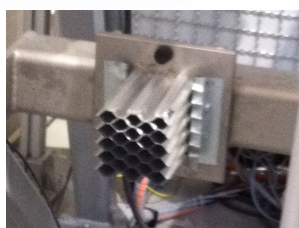
ATD's or crash test dummies are used worldwide for the evaluation of automotive safety restraint systems in crash testing. The dummies are regulated test devices per the Hybrid III in the USA Code of Federal Regulations (Part 572, Subpart E) and also per the European ECE Regulations. Considered to have excellent bio fidelity and instrumentation capability, the ATD or crash test dummy can also be used in many non-automotive applications such as wheelchairs, medical and sport equipment etc.

To ensure certified performance, ATD's certification requires neck extension/flexion tests. Aluminum Honeycomb energy absorbers are used to create the pulse for neck flexion extension tests.

Technical Description

Individual energy absorber - Aluminum honeycomb:	Standard Dimension: W 1250 x L 1250 mm Two Thicknesses as requested for testing:
+ Alloy 3003 series	+ T1 = 152.4 mm (6 Inches)
+ Perforated material	+ T2 = 76.2 mm (3 Inches)
+ Rc 0.30 Mpa +/-10%	Cell size is 19 mm (3/4 Inch)
+ Density 28.8 kg/m ³	

The ATD energy absorbers are supplied as slices, strips or pre-cut dimension according to customer needs. Materials also available upon request with under expanded cell size to approximately 11/16" in order to better fit 4-Pin supports.



Energy Absorber
5x5 Cells



Energy Absorber
4 Pin Support

Quality Assurance

Each block of honeycomb is tested and internally certified to ensure consistent and repeatable ATD Neck Certification testing results. Aluminum Honeycomb products are designed and manufactured according to the ISO 9001 standard.

Flex-PLI Aluminum Honeycomb Energy Absorber - Dynamic Inverse Test

Product Description

The pedestrian lower leg form impactor is used to evaluate pedestrian protection afforded by passenger cars in case of vehicle collision with a pedestrian. The Japan Automobile Manufacturers Association, Inc. (JAMA) and the Japan Automobile Research Institute (JARI) initiated development of the "Flexible Pedestrian Leg form Impactor (Flex-PLI)" as a completely new leg form. Flex-PLI is part of the draft Global Technical Regulation (GTR).

Since February 2014, the Pedestrian Protection Safety Assessment by Euro NCAP has been executed using the Flexible Pedestrian Legform Impactor (Flex-PLI). Certification of the Flex-PLI-GTR requires nine different procedures to ensure certified performance of all components. Additionally, after 30 car tests or before homologation testing, a dynamic inverse test must be carried out using an aluminum honeycomb energy absorber.

Technical Description

Individual energy absorber - Aluminum honeycomb:	Standard Dimension (as requested for testing):
+ Alloy 5052 Series	+ W 200 mm +/- 5 mm
+ Cell size 6.35 mm (1/4 Inch)	+ L 160 mm +/- 5 mm
+ Density 2.3 pcf	+ T 60 mm +/- 2 mm
+ Equivalent 75 Psi ±10%	+ Included 10 mm pre-crushed

The leg is struck with an 8.1 kg linear guided impactor with a honeycomb face fired at 11.1 m/s (40 km/h). The "Flex-PLI" energy absorbers are supplied as pre-cut blocks according to the testing requirements.



Energy Absorber
Post Impact



Energy Absorber
Before Impact

Quality Assurance

Each block of honeycomb is tested and internally certified to ensure consistent and repeatable Flex-PLI Dynamic Inverse testing results. Aluminum Honeycomb products are designed and manufactured according to the ISO 9001 standard.