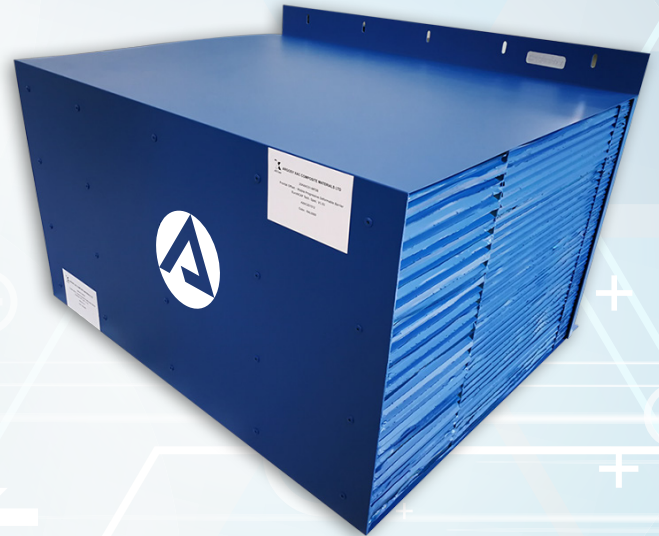


Euro NCAP Mobile Progressive Deformable Barrier - M-PDB

Description

Based on Aluminum Honeycomb technology, the M-PDB barrier (mobile progressive deformable barrier - Euro NCAP V1.2 TB022) is used by car manufacturers and test laboratories worldwide for the assessment of motor vehicle passenger protection in offset frontal impact test procedure according to 2020 European New Car Assessment Programme (Euro NCAP).

The frontal offset impact replicates a collision with another vehicle. In this test, 50% of the test vehicle, on the driver's side, initially makes contact with a crushable aluminum honeycomb barrier at the impact speed of 50 kph for both: test vehicle & M-PDB barrier mounted on trolley.



Technical Properties

The M-PDB barrier consists of three stacked aluminum honeycomb blocks. The front and rear blocks offer constant levels of force with deflection, the middle block has been processed to give a progressively increasing level of force with increasing deflection. The rear block is bonded to an aluminum back plate which is also used for mounting the impactor. The three blocks are bonded to three aluminum sheets and the entire impactor is covered by an aluminum skin (cladding) riveted to the front face.

Honeycomb Block A - Aluminum 3003 - cell size 6.35 mm
568 mm x 1000 mm x 90 mm Crush strength of 1.711 MPa +0/-10%

Honeycomb Block B - Aluminum 3003 - cell size 9.50 mm
568 mm x 1000 mm x 450 mm Progressive Crush strength according to Euro NCAP Tech. Spec.

Honeycomb Block C - Aluminum 3003 - cell size 19.10 mm
568 mm x 1000 mm x 250 mm Crush strength of 0.342 MPa +0/-10%

Backplate - Aluminum of series AlMg2 to AlMg3 with hardness between 50 and 67 HBS
H 645 mm x W 1000 mm x T 3.0 mm
Upper mounting flanges of 75 mm high, vertical
Lower mounting flanges of 53 mm high, bent through 90 degrees towards the rear
Two 30 mm side flanges shall be bent through 90 degrees towards the honeycomb

Intermediate plates - Aluminum 5754 H111
T 0.5 mm

Contact plates - Aluminum 1050A H24
T 1.5 mm

Cladding Sheet - Aluminum 5754 H22
H 645 mm x W 1000 mm x T 0.8 mm
Upper mounting flanges of 75 mm high, vertical
Lower mounting flanges of 53 mm high, bent through 90 degrees towards the rear
Two 30 mm side flanges shall be bent through 90 degrees towards the honeycomb

Rivets
Twenty 6 mm diameter blind rivets to connect the contact and cladding plates

Adhesive
Two-part Polyurethane

A complete testing procedure for certification of aluminum honeycomb is performed in-house according to Euro NCAP Mobile Progressive Deformable Barrier Face Specification version 1.2 from November 2018 - TB022 and in accordance with the procedure defined in NHTSA TP-214D. The aluminum honeycomb blocks are processed such that the force deflection-curve when statically crushed is within the corridors defined for each of the 3 blocks.

Dynamic Tubular Impactor Test

The AXAC M-PDB tubular dynamic calibration tests are performed at UTAC, France << certified EuroNCAP Laboratory >> in compliance with EuroNCAP TB 022 protocol.

Quality

AXAC has an approved ISO9001-2015 Quality Management System, which demonstrates a commitment to supplying customers with the highest quality products and services.

Delivery

- + Individual cardboard crate
- + Anti-reflective paint as standard
 - Blue anti-reflective paint as standard
 - Light gray anti-reflective paint or customized painting available
- + UTAC dynamic tubular impactor test certificate

