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HONEYCOMB STRUCTURES

Innovations in aircraft design, motor vehicle technology and light-weight construction have formed the basis for the development of honeycomb structured panels. Their decisive advantage is low weight, combined with great structural strength. Because of their anti-shock properties, honeycomb structures are today used as shock-absorbent layers both in automobile construction and in sportsgear and sport shoe production. They are ideally suited for design and architectural applications as a result of their optimal ratio of weight to load-bearing capacity and bending strength. In addition this composite material, which generally consists of a honeycomb core and external facing, can be adapted to individual requirements with regard to strength and choice of materials. And not least, the aesthetic properties of these materials are being increasingly valued. From transparent to translucent, catching the eye and directing the gaze, this versatile material can be tailor-made for a variety of design purposes.



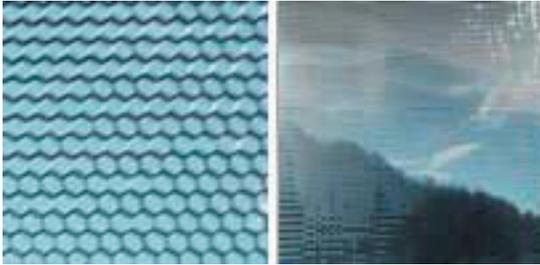
Glass Flooring System

The material consists of two 4-mm reinforced glass plates with an inlaid aluminium honeycomb. The honeycomb is structurally effective and ensures that the fire-resistant material is not only lighter but has both greater durability and load-bearing strength than conventional glass. Standard tile size: 600 x 600 mm. Surfaces can be either sandblasted or made non-slip using clear anti-slip strips or plastic bubbles.



Transparent Honeycomb Panels

Highly transparent plastic honeycomb panels with a transparent core and transparent thermoplastic cover. The panels are easy to work, low in weight and have flammability class B1 (DIN 4102). They are suitable for partition walls or display systems as possible applications. UV resistant version for outdoor use is available.



Insulation Glass with Integrated Honeycomb

A special development for facade panels, which filter the incoming light and beam it deep into the interior. The insulation glass is filled with an aluminium honeycomb structure; the result is a translucent effect. These panels were designed by architects Barkow Leibinger specially for a production and office building in Baar / Switzerland. Their total thickness is 54 mm and they consist of three layers of glass. The aluminium honeycombs are placed in the external inner cavity between the panels, and the second internal cavity is filled with krypton. The light transmission factor of the glass is between approx. 3 % to 64 %, depending on the angle of the sun.



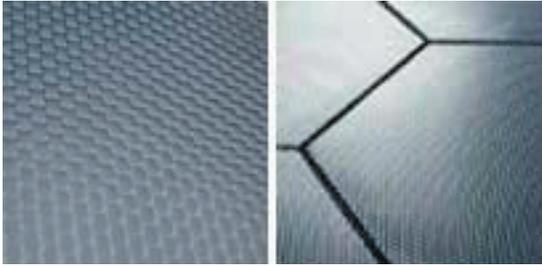
Vault structuring

Energy-saving process for the three-dimensional forming of sheet metal without material loss. The rigidity of semi-finished material can be considerably improved by hexagonal structuring, created by a self-organized vaulting process. The surface finish of the starting material is not impaired by this treatment because conventional shaping tools are not made use of. Under external pressure, multi-dimensional displaced honeycomb structures are formed by the principle of self-organisation; under pressure the material looks for its ideal new and stable form. Not only metals but plastics, cardboard and paper can be shaped with this technology.



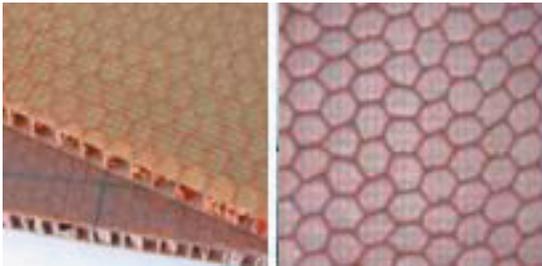
Ultra-Light Stone Honeycomb Panel

The standard panel consists of an approx. 1 cm thick natural stone slabs made of granite, marble or other stone which can be worked. The stone is then stuck firmly to an aluminium honeycomb. The panel permits considerable savings in weight, increased stability and simpler assembly than is the case with conventional natural stone slabs. The average panel weight is 15 - 35 kg / sqm, that is approx. 75% less than corresponding whole stone slabs.



Honeycomb Flooring Mats

Derived from a hexagonal material structure that was initially developed to replace foams and gels in footwear, sports gear and bumpers for rides in amusement parks. The material has a distinguished geometry as cells are partly double and single walled. This gives it a varying resistance in length, width and thickness: The material can be contoured to any shape and impact is spread over a wide area. The honeycomb flooring system provides shock absorption and insulation, the material has a cellular matrix with „memory „- the ability to repeatedly return to its original shape. The tiles are easy to clean and extremely durable, even high heels won't puncture them. The flooring system comes in fixed cell clusters and can be installed in minutes – ideal for tradeshow, gyms and even residential areas.



Light-Weight Panels

Light-weight panels from aeroplane, ship and automobile construction with high bending resistance – honeycomb structures with phenolic resin-coated core and glass-fibre reinforced facing sheets. The fire-retardant version is available with a special aramid-fibre honeycomb core. Aluminium cores can also be applied. Among other applications the material is used in the construction of formula-one racing cars, ships and skiing equipment. Depending on application a range of facing sheets are available.