

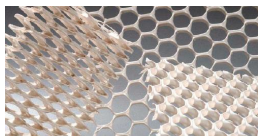


Abstract

The company is an international group with headquarters in Brussels. It has developed a new and original extrusion process for the continuous production of thermoplastic honeycombs and especially in soft and rigid PVC. Based on the adjustment of a flat die, the process is compatible with existing resins, accepts either dry blend or compounds, and offers the possibility to use the co-extrusion technique to produce multilayer honeycombs; it presents many advantages. License agreement is sought.

Description

The company has developed a new and original extrusion process for continuous production of PVC (polyvinyl chloride) honeycombs.



So far, the composite market mainly offers PP (polypropylene), aluminiums and Nomex® honeycombs solutions, a restricted offer that does not address, for economical and/or technical reasons, the various requirements coming from the market. In addition, all these honeycombs are produced through batch processes, presented as expensive and not very flexible solutions.

Owing to a strong experience in plastics processing, this company developed a new one-step process, based on a modified flat die extrusion, to produce honeycombs in all types of thermoplastics and, in particular, in PVC. The process consists of extruding in the same device a flat plate, splitting it into parallel strips and making the cells by alternatively blowing air between two strips and drawing up air between the adjacent strips.

The strips, already in melted phase, come in contact and stick together, forming a honeycomb that can be 0.5 to 30 mm thick. Cell size and shape can be varied to get a large range of properties, in particular the winding of the honeycomb in the cold state without damaging the structure. The cells can be filled to offer additional properties as thermal or acoustic insulation.

In addition, the process can be completed by the co-extrusion technology to produce multilayer

honeycombs that offer functionalised surfaces.

The possibility to produce PVC honeycombs in different designs, widths and thicknesses in a continuous process opens a host of highly interesting prospects in building construction and insulation, sports & leisure, cars, furniture and soil stabilisation. Finally, the PVC honeycomb can easily be associated with different materials in cover to make composite panels sandwiches.

The company intends to deploy the use of this technology by licensing both thermoplastics processors and end users consumers. Based on its processing know-how, its simulation and measurements tools as well as its knowledge on thermoplastics compounds, the company intends to give its licensees all access to the various ways of differentiation and improvements of properties.

Innovations and advantages of the offer

The above-described process is an original one-step in-line process to produce honeycombs. It allows the making of honeycombs with different thicknesses and different cell sizes and shapes, offering a larger range of possibilities in term of formability, with no necessity to stop and reset the production line.

Based on extrusion, it is open to most of the thermoplastics and especially to PVC, allowing the customers to enter into new markets. The addition of co-extrusion, not applicable in the other common processes, offers unique core and surface properties.

Current and Potential Domain of Application

Honeycomb and sandwiches panels for transport applications (automotive, trucks, boats, aircraft and railway), building applications (smart flame retardant and/or isolated panels, self-carrying walls, technical grounds, coffered ceiling, formwork, etc.), furniture, etc.



European Commission

Enterprise Europe Network Partnership Tools

INDUSTRIAL MANUFACTURING, MATERIAL AND TRANSPORT TECHNOLOGIES

Technology Offer

PVC honeycomb structures for furniture, transport and building applications

(10 BE 0213 3H27)



Valid until: 04/04/2012

For further information (including IPR status)

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