

SMC for heavy truck market

A SHEET moulding compound intended specifically for the heavy truck market has been introduced by IDI Composites International. The new SMC AV-206 is available as a polyester/vinyl ester blend or as a wholly vinyl ester material.

IDI says the high physical and mechanical strength of SMC AV-206 makes it an ideal replacement for die-cast aluminium under-bonnet components such as oil drain pans, timing chain covers, and intake manifolds.

A 35 per cent glass content provides dimensional stability and a high strength-to-weight ratio. The new material also has a good noise vibration harshness rating, making it effective in damping normal harmonic vibration.

Other features of SMC AV-206 that suit it to heavy truck applications include heat resistance, corrosion resistance, electrical non-conductivity and light weight. SMC AV-206 also reduces secondary operations such as machining and drilling that are characteristic of aluminium die-cast components.

www.idicomposites.com



New TPEs are more like rubber

A DVANCED Polymer Alloys has introduced a line of thermoplastic elastomers that it claims feel, look and perform more like rubber than other TPEs. The new DuraGrip TPE 6200 series have a tactile and rubbery feel, and a matte finish that makes them suitable for use in tools, consumer products, and other light industrial applications where grip matters.

The DuraGrip 6200 series is available in natural, black, colourable translucent and clear. The materials range in hardness from 20 to 80 Shore A. Because of their elastomeric properties, the materials offer good compression set resistance for sealing applications, and high tensile performance for durability.

DuraGrip 6200 bonds to polypropylene and polyethylene, and can be processed by injection moulding, extrusion, calendaring, and blow moulding.

The materials have low taste and odour properties. They are available in FDA-compliant versions, and can be used in applications complying with NSF International 51 (food equipment materials) and 61 (drinking water system components) requirements.

■ Also new in the DuraGrip series is TPE 6300 non-halogenated extrusion grade for profile applications. It has a low gloss finish, improved compression set, high melt strength, and good weather resistance which suit it to automotive exterior body

mouldings, windscreen and rear window seals, wire and cable jackets, and window seals for homes and commercial buildings. Its extrusion melt viscosity enables ultra-fine, thin-walled profile designs.

DuraGrip 6300 can be co-extruded with polypropylene and polyethylene, and its melt strength makes it suitable for soft-touch sheet and other wide web applications.

www.APAinfo.com

FEA data published for Santoprene TPEs

E XXONMOBIL Chemical has introduced a finite element analysis database for Santoprene thermoplastic elastomers in semi-dynamic applications. At the same time, the company has updated the database for static applications that has been available for more than 15 years. Both sets of data are invaluable for modelling Santoprene TPEs, as they can help predict the behaviour of non-linear elastomer materials.

TPEs exhibit non-linear characteristics and components made from them are often designed to experience high non-linear strains, so they present challenges when modelling, which can be overcome by using real-world test data. The databases cover about 300 grades of Santoprene and represent a significant investment, says Exxon.

Knowing which database to use is very important and depends on the application. If the application is actuated numerous times over its life, then the semi-dynamic data are applicable. Exxon says that using the wrong data set could result in over- or under-predicting the mechanical behaviour of the application by 25 per cent or more. It's important to provide cyclic data, as many applications exhibit semi-dynamic or dynamic behaviour and the cyclic model provides more accurate predictions. When these data are combined

with data on stress relaxation, it is possible to more accurately predict dynamic application performances over the life of the part.

The new FEA database was developed from cycles of loading/unloading in the three modes of deformation – tension, compression and shear – up to the attainment of steady-state conditions which are met after a minimum of three to five cycles of deformation. These are used by design engineers in the structural analysis of semi-dynamic applications such as weather seals.

Test data for Santoprene rubber grade 101-80 are available on the web site (www.santoprene.com), while information relating to other grades can be obtained from the Santoprene Europe AnswerPerson service (+32 2 706 3511).

The fully upgraded FEA database for static applications is available on the web site. Data from testing at 23 degC of all standard Santoprene TPE grades from 35 Shore A to 50 Shore D have been made available in a three-page document with information related to constraints in tension and compression. FEA material models are available to design engineers, as well as the strain range of fittings with graphs. Some data at temperatures lower and higher than 23 degC are also available on request from the AnswerPerson service.

packaging materials

PP for pail packaging promises more for less

A NEW polypropylene provides an opportunity for pail packaging producers to raise productivity and increase processing efficiency while delivering pails with excellent stacking performance, high impact resistance and good aesthetics, says Borealis. The company developed BH374MO to meet converter and OEM demands for pail materials that reduce packaging weights, offer storage and transport benefits, and improve performance.

Polypropylene BH374MO has a higher than normal melt flow rate of 45, speeding processing in both single

and multi-cavity moulds and bringing shorter production cycles, lower costs and reduced energy usage. The new grade's stiffness, light weight, improved strength and anti-static performance also offer transport, storage and aesthetic benefits.

Typically, both empty and filled pails are stacked on top of one another during storage and transport. Here the high stiffness of BH374MO means that thinner walls can be used, reducing weight and improving empty stacking by means of new integrated handle connection systems. A different problem arises when

filled pails are stacked. Then the pail base can collapse under the superimposed weight. The strength of BH374MO combats this tendency and guards against leaks or breakages, even under rough handling, says Borealis.

The material incorporates an antistatic additive which keeps the packaging clean and dust-free – important because some 80 per cent of packaging pails are made in white.

BH374MO fulfils all food contact approvals and is suitable for use in food and non-food applications.

www.borealisgroup.com