

APS announces new TPE products and applications

Alliance Polymers and Services LLC (APS) is a warehousing, distribution, shipping and technical service organisation based in Romulus, MI, USA. In October 2012 APS added to its distribution portfolio of Maxelast TPEs from Polymax an own line of TPVs marketed under the brand name Viprene. 2013 has been a busy year so far for the company. Several new applications and new grades have been announced and in June 2013 APS finally introduced its first own thermoplastic polyurethane series.

Zythane, APS' first own TPU

In June 2013 APS introduced a line of polyester and polyether-based thermoplastic polyurethanes. The new materials are sold under the brand name **Zythane**. They are transparent, UV-resistant and available in a hardness range from 60 Shore A to 70 Shore D. Mechanical properties are:

- tensile strength 3,000–8,000 psi
- tear strength 400–1,600 lb f/in
- elongation 300–760 %

Benefits include flexibility at low temperatures, low compression set as well as good high temperature resistance. Depending on the grade the materials can be processed via injection moulding and extrusion. Possible applications include footwear, wire and cable sheathing, hoses and tubing, industrial and consumer goods, transportation products, geophysical and mining products (i. e. belting), recreational products and food processing.

Blow mouldable and HFFR grades added to Viprene series

After the introduction of **Viprene** TPVs in October 2012 APS now supplies also an extrusion blow mouldable Viprene grade. The material can be press blow-moulded, suction blow-moulded or 3D sequential-coextruded. Target application areas are automotive parts, aircraft and other vehicle parts for applications including hollow boots, bellows and ducts. APS says that this special new Viprene grade is offered as an alternative to competitive higher priced TPVs and can be substituted for more costly parts made out of silicone or ethylene-acrylic rubber boots. With a formulation optimised for a variety of parts needed for their softness and in tem-

peratures ranging from 40–175 °C while retaining flexibility, the new TPV is available in Shore A hardness of 90, says APS.

For consumer and industrial electronic power cords and auxiliary cables APS offers now a new Viprene HFFR type. Specific applications for the new **Viprene V85A-27U-BLK** grades include power plugs, charger cables, electronic power cords, auxiliary cables, and ribbon wire. They are offered as halogen-free and phthalate-free alternatives to flexible PVC. APS says that they are easy to process and have good surface quality.

Maxelast TPE for profiles

The **Maxelast D** series from **Polymax** is now available in a hardness range from 30 Shore A to 36 Shore D. They can be extruded for end caps for piping as well as industrial and commercial window profile, architectural gaskets, electrical components, hoses, outdoor products (including end caps for poles) and wire coatings, among others.

Investment in new Arburg machine

In order to complement its growing compounding and R+D activities, APS recently purchased its first injection moulding machine. The unit is a 100 t machine supplied by **Arburg**. It will enable APS to test and run formulations. It will also be used to assist designers to fine tune small parts and enable customers to prototype other resins and compounds and to test moulds.

According to **Stéphane Morin**, principal of APS, "Our initial goal, when we opened our doors four years ago, was to become a total thermoplastic elastomer resource, offering our own formulations of all types of



A possible application of Zythane TPUs is in footwear.

TPEs as well as those we source from manufacturers worldwide. With our recent introduction of our very own line of TPVs and TPUs (specifically Viprene thermoplastic vulcanizates and Zythane thermoplastic polyurethanes), we knew we had to bolster the size and scope of both our compounding and R+D facilities. That led to our recent purchase of the Arburg unit."

Polymax is a Chinese compounder of standard and custom SEBS- and SBS-based TPEs (brand name Maxelast). Several series for injection moulding, extrusion and blow moulding applications are available. The privately held firm, founded in 2005 as a joint venture between Chinese and American investors, has production facilities in Nantong (northwest of Shanghai). CEO of Polymax is **Dr. Martin Lu**, formerly technical supervisor for GLS and technical director for Xerox. In 2010 the company announced plans to build a production site in the US.

Now available is a Viprene grade for blow moulding applications.

