

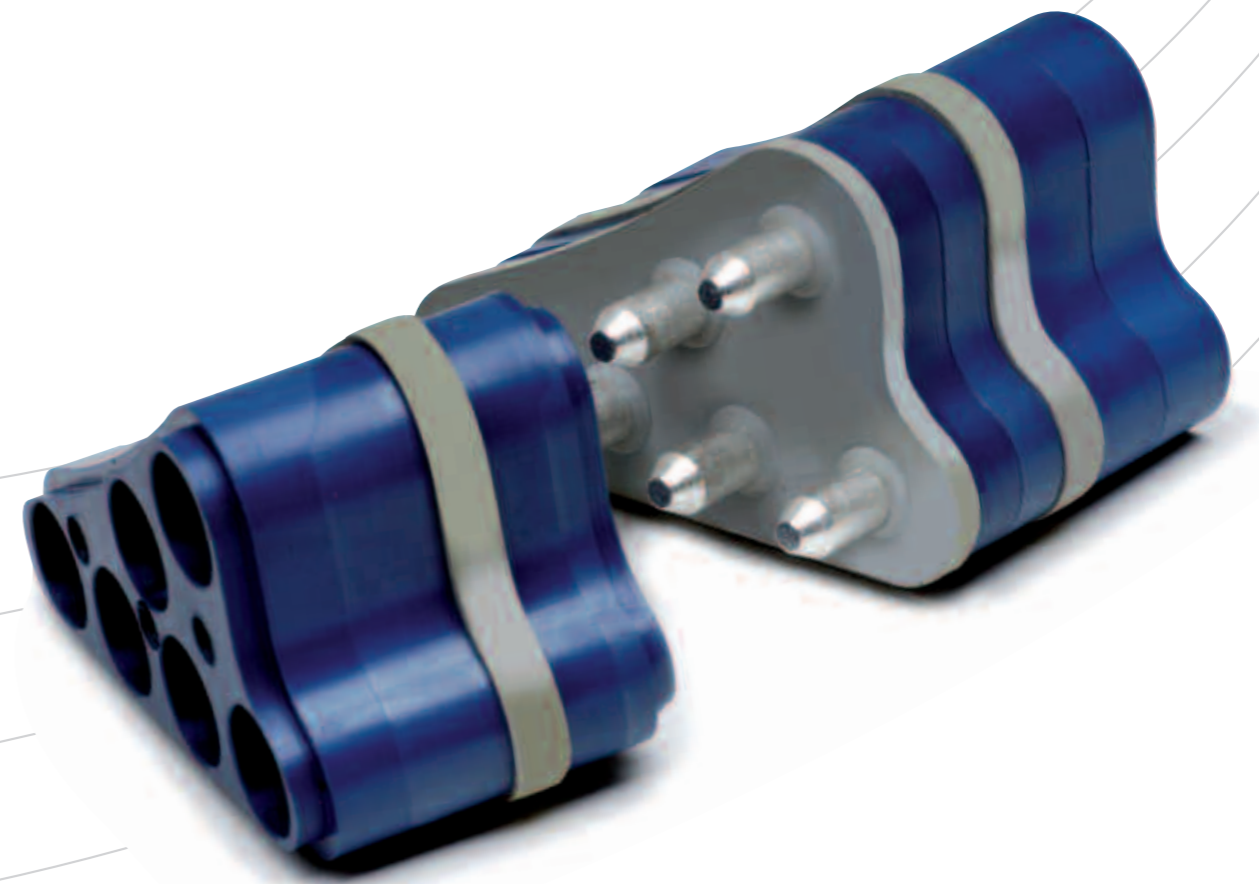
Contact in every situation

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When live parts have to share tightly confined spaces, materials with excellent electrical insulating properties are indispensable. The multipole connectors with up to 150 contacts manufactured by EMCT Swiss-ConnTec SA are a good example. If you add further challenges, such as resistance to chemical influences, extreme temperatures, high-energy radiation and heavy mechanical stresses, TECHTRON® HPV PPS from Angst+Pfister is an obvious choice.

EMCT Swiss-ConnTec SA, a mid-sized enterprise based in Schönbühl-Urtenen, Switzerland, develops, designs and manufactures highly specialized multipole connectors featuring up to 150 contacts. Working with great dedication and extensive expertise in a wide array of application areas, the family-like team finds solutions for virtually all connection technology problems. Over the last 25 years, the company has developed more than 2,500 special solutions worldwide for the mechanical engineering, railway vehicle, telecommunications,

effects of chemicals, resistance to high and low temperatures, high mechanical stability, and – for use in nuclear power plants – even good radiation tolerance, call for a plastic material with a broad deployment spectrum. Currents of up to 150 amperes are reached in applications involving special motor spindle drives for machine tools, for instance. Furthermore, plugs can be subjected to mechanical pressures of up to 1.5 tons.



Multipole plug connector



Individual plug solutions with TECHTRON® HPV PPS

military, tunnel construction and offshore sectors, and has implemented them in specific customer applications. A standard assortment of piezoelectric signal generators and alarm sound generators round off the company's product range.

Plug connections for extreme requirements

As much as the users' industries and the application areas for plug connections vary, so do the demanding requirements placed on the plugs' materials. Owing to the plugs' generally very compact design, materials with very good electrical insulation properties are needed for their interiors. Additional requirements such as good resistance to oils and the

Cooperation produces robust solutions

Working with external specialists from several different fields, EMCT Swiss-ConnTec SA's development team looked for solutions that meet the complex demands placed on the various materials. Cooperating closely with the plastics specialists at Angst+Pfister and another external developer and supplier, EMCT Swiss-ConnTec evaluated the high-performance plastic TECHTRON® HPV PPS and discovered it to be an ideal mechanical insulation and component material for plugs. But the developers also became interested in Angst+Pfister's broad product range and expertise in the sealing technology area.

This led to further cooperation that resulted in the devising of a solution for a challenging plug seal using a shaped seal made of H-NBR.

Exceptional material property profile

Extruded semifinished TECHTRON® HPV PPS products are based on fiber-reinforced linear polyphenylene sulfide (PPS) with a homogeneously distributed solid lubricant built in. This modification produces an interesting combination of excellent properties such as wear resistance, mechanical toughness and dimensional stability, both in contact with chemically aggressive media and at high temperatures.

The biggest advantages of TECHTRON® HPV PPS are:

- very high upper operational temperature limit in air (+220°C continuously, with brief peaks of up to +260°C);
- high mechanical stability, stiffness and creep resistance even at high temperatures;
- excellent chemical and hydrolysis resistance;
- suitability for contact with food;
- excellent friction and wear properties;
- very high dimensional stability;
- low moisture absorption;
- low outgassing in a vacuum;
- excellent resistance to high-energy radiation (gamma and x-rays);
- good UV light resistance;
- low flammability;
- good electrical insulation properties and favorable dielectric behavior.

For instance, TECHTRON® HPV PPS is employed successfully in industrial drying kilns, in food processing ovens and in chemical process plants (as a material for components in pumps, valves, and compressors). This material particularly lends itself for sliding components operating in chemically aggressive environments or under elevated temperatures.

Take advantage of our expertise even for solving interdisciplinary technical challenges. Contact us for more information.

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Interesting range of uses

TECHTRON® HPV PPS can be used wherever other engineering plastics such as PA, POM, PET, PEI and PSU fail to meet the requirements or where a more economic alternative is sought for PI, PEEK or PAI in less demanding high-tech applications. The material's broad spectrum of attributes clearly enables it to be used in numerous applications in a wide variety of industrial areas.