

Metal replacement/Automotive

Well suited for aggressive fuels: Low swell and reduced fuel gain

Fortron® PPS 6162XF:

- + Meets the precision requirements for pump components in the tank or engine compartment in direct contact with fuel
- + Lighter than metal and corrosion-resistant
- + High dimensional stability and low creep over a wide range of temperatures
- + Considerably reduced swell, 45 % less fuel gain than prior art materials
- + Faster crystallization for shorter cycle times in processing



The use of bio fuels like ethanol is constantly increasing in the automobile industry. Methanol is being added to fuel to an ever greater extent in the Asian region. Materials that come into contact with these mixtures must withstand both the aggressive additives in the fuels and the high operating temperatures. Ticona has developed a new mineral/glass-reinforced polyphenylene sulfide (PPS): Fortron® PPS 6162XF especially for these demands.

This engineering plastic also fulfils the high demands on precise pump components with narrow tolerances – and thus contributes to greater efficiency of the pumps and low fuel consumption. Continuous use temperatures of up to 270 degrees Celsius are no problem for Fortron® PPS 6162XF.

Fortron® PPS 6162XF compared with the so far used Fortron® PPS 6165A6

Parameters	Unit	Fortron® PPS 6162XF	Fortron® PPS 6165A6
Relative density	g/cm ³	1.981	1.950
Melting temperature	10 °C/min	280	280
DTUL at 1.8 MPa	°C	277	270
Flexural modulus	MPa	18500	18800
Failure stress	MPa	135	130
Nominal fracture strain	%	1.1	1.2
Charpy impact strength	kJ/m ²	22	20

In processing, the material crystallizes faster and this permits shorter production cycles. However the flow remains unchanged and is comparable with the well-known Fortron® PPS 6165A6.

Weight change in exposure test at 90 °C in CM15A fuel

This polymer withstands acids and bases with pH values between 2 and 12 even at elevated temperatures. Fortron® PPS 6162XF shows outstanding resistance against CM15A fuel in exposure tests over 1,000 hours at 90 degrees Celsius.

Compared with Fortron® PPS 6165A6, there was a 45 % lower fuel gain after 1,000 hours' exposure at the tensile test specimen.

