



December 2017

Fluoropolymers: Automotive

Introduction

The Automotive industry is of strategic importance to the European socio-economic landscape. It accounts for 6.5% of the EU GDP and employs around 12.2 million people in Europe. With more than Euro 45 billion invested annually in R&D it is also a true innovator producing cars that are recognised globally as the best in class for engine efficiency, emission reduction and safety.

Thanks to the unique set of mechanical, temperature, chemical and dielectric properties of Fluoropolymer they are material of choice for crucial parts and coatings of a number of electronic and functional components in various automotive applications

As a striking example, modern legal requirements related to road transport emission standards, such as “Euro 6” and “Euro 7” could not have been achieved without fluoropolymers. The Euro emission standards aim to reduce the significant health impacts from road transport emissions, which have been estimated to cause economic costs of about \$364 billion (bn) in the EU-24 in 2010.

Applications

- Turbocharger hoses
- Multilayer fuel hoses
- Hydraulic hoses
- ABS break lines
- O-rings used as seals in fuel containment systems and fuel injectors.
- Shaft seals and valve stem seals
- Air intake manifold gaskets
- Cylinder head gaskets
- Automotive venting products
- Lambda oxygen sensors in exhaust systems
- Reliable Electronic systems
- Wires and cables

Benefits

- Lower fuel emissions
- Better fuel economy from weight saving
- Lower exhaust emissions (both carbon and NOx gasses)

For more information:

<http://www.plasticseurope.org/fluoropolymers>



- Increased lifetime and reliability of components
- Better engine performance
- Increased comfort (and noise reduction)
- Permits use of alternative fuels (like bio-diesel)
- Increased safety (e.g. through reliable performance of parts)
- Cleaner environment by avoiding leakage (e.g. oil or coolant leaks)

Innovations

Electromobility will be critical tomorrow to fight global warming and resource depletion. Fluoropolymers are key components and enablers for the novel types of batteries and fuel cells that are being developed and tested currently to address this challenge. High performance cathode binders, battery gaskets, fuel cell membranes are just a few but critical examples where fluoropolymers are unavoidable.

Disclaimer

The document cannot be reproduced for external distribution in any form without express written permission of PlasticsEurope Fluoropolymers Group. The information contained in this document is provided in good faith and, while it is accurate as far as the authors are aware, no representations or warranties are made with regards to its completeness and no liability will be accepted for damages of any nature whatsoever resulting from the use of or reliance on the information contained in this document.