TPE for AUTOMOTIVE INTERIORS

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WHAT'S YOUR BIGGEST CHALLENGE?

Are you looking to reduce weight or improve sustainability? Do you want a tactile surface in customised colours? Are you facing tougher demands from consumers and legislators?

With over 50 years' experience in flexible polymer compounding, we deliver material with added value. More than just a materials supplier, we want to be the easiest company for you to do business with.

We invest in our operations, teams and technologies to offer the most reliable, relevant and cost-effective TPEs, backed by highly responsive support, technical know-how and application expertise. We're building a trusted reputation working in partnership with companies across the globe to provide custom formulated, high-quality materials.

Our portfolio is designed to meet the highest standards, both for today and tomorrow. It's helping to create an enhanced aesthetic, functional and safe interior experience.

With the next 10 years predicted to be the most significant period of innovation in the last 100 years, we're supporting OEMs and suppliers to meet the challenges of this ever evolving market.

How can we help you?

LOW EMISSIONS & ODOUR

VOC





SUSTAINABILITY & LIGHTWEIGHTING

DESIGN & CUSTOMISATION



ELECTRIFICATION



OPTIMISED PROCESSING

LOW VOC EMISSIONS & ODOUR

To help meet stricter requirements for Vehicle Interior Air Quality (VIAQ) and legislation regarding odour, fogging and VOC we have developed **Dryflex Interior**, a range of TPEs specifically optimised for low emissions.

They offer on average a 75% reduction in emissions compared to other TPEs for interior applications in the market. Representative grades have been tested externally at accredited test laboratories.

The materials display low odour with results 2.0 to 3.0 in standards such as VDA 270. According to gravimetric fogging standard ISO 6452 they

achieve condensate < 1.0 mg and VOC from 60 to 120 μ g/g and Fog from 200 to 600 μ g/g.

They have also passed additional interior tests for lightfastness, flammability and mechanical performance.

Dryflex Interior TPEs can be used in applications such as inlay mats in the dashboard, door, middle console or glove box. They are also well suited for thumb wheels, switches, cup holder liners, interior trim and HVAC components.

They surpass existing requirements and future proof for emerging global emissions standards.

on average

reduction in interior emissions

5%

Download DRYFLEX INTERIOR product data \rightarrow

EMISSIONS TESTING

| | MARKET MINIMUM EXPECTATION | PREVIOUS GENERATION TPEs | DRYFLEX INTERIOR TPEs |
|---|-------------------------------|-----------------------------|--------------------------|
| GRAVIMETRIC FOGGING ISO 6452 / DIN 75201-B | ≤ 2.0 mg | 1.0 - 2.0 mg | 0.3 - 0.7 mg |
| THERMODESORPTION (VOC) VDA 278 | ≤ 500 µg/g | 100 - 400 μg/g | 60 - 120 μg/g |
| THERMODESORPTION (FOG) VDA 278 | ≤ 1500 µg/g | 2000 - 3000 μg/g | 200 - 600 μg/g |
| ODOUR VDA 270, B3 | ≤ 3.0 | 3.5 - 4.0 | 2.0 - 3.0 |

See full emissions testing results for DRYFLEX INTERIOR TPEs ightarrow

THE LIGHTWEIGHT CHALLENGE

Using one of the lower density grades from our **Dryflex AM** range for a set of floor mats could save 1.5kg in weight when compared to mats produced from rubber compound.

If you multiply this for all the parts that could be produced from TPE, and then factor in the average life-span of the vehicle, you'll see how the numbers start to add-up.

This weight saving contributes to reduced CO₂ emissions and improved fuel efficiency. In the move from traditional powertrain to battery electric (BEV) and hybrid (HEV) weight reduction methods are becoming even more critical.

Processing efficiencies can be achieved with highflowing grades designed for complex mouldings with a large surface area. No pre-drying or vulcanisation also reduces energy consumption and manufacturing steps.

Multi-component designs mean soft and hard material combinations allow for lower-weight parts that combine the required stiffness with soft-touch haptics.

The **Dryflex 2K** range of TPEs for overmoulding and co-extrusion applications offer adhesion to a variety of hard substrates. 30% Bighter weight than comparable rubber

Learn more about DRYFLEX AM TPEs ightarrow

Learn more about DRYFLEX 2K TPEs \rightarrow

SUSTAINABILITY

With growing political discussion and increasing awareness about how we design, use and dispose of plastic products, the drive for sustainability and circular products continues to grow.

We're supporting customers with various initiatives; including Dryflex Green - a family of TPEs based on raw materials from renewable resources such as plant and vegetable crops.

To give the right balance between renewable content, performance and mechanical properties, we're continually testing new sources of raw materials. These include products and byproducts from agricultural that are rich in carbohydrates, especially saccharides such as grain, sugar beet and sugar cane. The Dryflex Green range includes grades that incorporate > 90% bio-based raw materials from certified sustainable sources (e.g. ISCC+).

Dryflex Green materials with low odour and emissions are available, for example a 75 Shore A compound with a renewable content of 20 % showed a very low amount of VOC (42,8 μ g/g) and Fog (474 μ g/g) in the thermodesorption test according to VDA 278.

We're also working with suppliers and customers to discuss how we can support the circular economy and end of life directives, here we're developing our range of TPEs containing polymer recyclate.

Grades available with

Biobased content

Learn more about DRYFLEX GREEN Biobased TPEs ightarrow

LOOK & FEEL

With many of us spending more than an hour a day in our cars and next generation connected and autonomous drive vehicles, the interior experience is becoming even more important.

It needs to look good, feel good and operate smoothly both inside and out.

TPEs are used for soft-touch features and to enhance haptics and passenger comfort. For added luxury, the **Dryflex Touch** range is designed to give an extra silky feeling and touchably soft sensation.

These materials are formulated with aesthetics in mind, with grades that resist heat, scratches and UV rays. They are also non-sticky, which helps to prevent the build-up of dirt. We match OEM colours to supply fully compounded materials, meaning fewer production steps for the processer and a consistent colour without any loss to properties.

Our TPEs offer excellent processability, with the possibility of finely structured surfaces and intricate graining effects.

We've tested materials for long-term performance and durability, including ageing resistance for heat, UV and ozone.

The Dryflex 2K range of TPEs for multi-component applications opens up further possibilities for tactile qualities. We offer grades that display very good adhesion to PP, PE, ABS, ABS/PC and PA.

CREATING THE

Learn more about DRYFLEX TOUCH TPEs \rightarrow

SPECIFICATIONS INCLUDE

VOC

FOG

ODOUR

LIGHTFASTNESS

FLAMMABILITY

OZONE RESISTANCE

ABRASION RESISTANCE

| -ICAHONS | | | CHRYSLER | |
|--|---------|--------|----------|--------|
| DE | DAIMLER | FIAD | Fird | |
| VDA 277 / VDA 278 / VW PV3341 / VOLVO VCS 1027, 2749 | | | | |
| ISO 6452 / VDA 278 / SAE J1756-B / DIN 75201 | | HONDA | JAGUAR | -ROVER |
| VDA 270 | | NISSAN | | S |
| ISO 105-B06 / VW PV1303 | | | | |
| ISO 1431-1 | | | | |
| ISO 3795 / FMVSS 302 / DIN 75200 / VW TL 1010 | | | | |
| ISO 4649 / DIN 53516 | | ΤΟΥΌΤΑ | VOLVO | |



APPLICATION: Floor mats & trunk liners

TYPICAL PROPERTIES:



Low VOC VOC



High flowability



Fast processing

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Low density grades



Custom colours



Scratch resistance

TYPICAL MATERIAL: Dryflex AM TPEs ightarrow



APPLICATION: Cup holder liners & inlay mats

TYPICAL PROPERTIES:





Customised colours



2K





Adhesion to PP



Soft touch haptics



Easy processing



MATERIALS: Dryflex AM TPEs \rightarrow Dryflex Interior TPEs \rightarrow Dryflex Green TPEs \rightarrow APPLICATION: HVAC flap seals and components

TYPICAL PROPERTIES:



TYPICAL MATERIAL: Dryflex Interior TPEs \rightarrow





APPLICATION: Buttons, handles & mounts

TYPICAL PROPERTIES:



Scratch Resistance Soft touch haptics



Low odour



Low emissions



Adhesion to polyolefins



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Biobased grades

Easy colo



Efficient processing

TYPICAL MATERIAL: Dryflex Interior TPEs \rightarrow Dryflex Green TPEs \rightarrow

APPLICATION: Thumb wheels

TYPICAL PROPERTIES



Soft touch haptics



Scrap recyclable



Abrasion

resistance



Fast Processing





Customised colours



TYPICAL MATERIAL: Dryflex 2K TPEs \rightarrow





APPLICATION: Pedal covers

TYPICAL PROPERTIES:



Abrasion resistance

Non-slip / wet-grip



Scratch resistance р Р

Easy processing



Recyclable

Lightweight

TYPICAL MATERIAL: Dryflex SE TPEs \rightarrow

ABOUT HEXPOL TPE

info@hexpolTPE.com www.hexpolTPE.com

300+ EMPLOYEES WORLDWIDE PRODUCTION PLANTS Sweden, UK, Germany, China, USA GLOBAL CAPACITY > 80,000 tonnes p.a. HEXPOL GROUP

HEADQUARTERS

Malmö, Sweden

34,796+

PROPRIFTARY

FORMULATIONS



KEY MARKETS Consumer, automotive, medical, construction, industrial

All the information about chemical and physical properties consists of values measured in tests on injection moulded test specimens. We provide written and illustrated advice in good faith. This should only be regarded as being advisory and does not absolve the customers from doing their own full-scale tests to determine the suitability of the material for the intended applications. You assume all risk and liability arising from your use of the information and/or use or handling of any product. Figures are indicative and can vary depending on the specific grade selected and the production site. HEXPOL TPE makes no representations, guarantees, or warranties of any kind with respect to the information contained in this document about its accuracy, suitability for particular applications, or the results obtained or obtainable using the information. We retain the right to make changes without prior notice. HEXPOL TPE makes no warranties or guarantees, express or implied, respecting suitability of HEXPOL TPE's products for your process or end-use application. Dryflex[®] is a registered trademark, property of the HEXPOL TPE group of companies.