

HUNTSMAN

Enriching lives through innovation

Polyurethanes

RUBIFLEX[®] seating solutions

Lightweight comfort with innovative chemistry



The comfort of driving

How can you provide the ultimate comfort experience for drivers and passengers? Our RUBIFLEX® MDI-based product line offers innovative automotive seating solutions, providing you distinct benefits in terms of processability and foam properties for a unique driving experience.

Why RUBIFLEX® product line?



Cleaner
Control odour and VOC emissions depending on your market requirements, while complying with global regulations.



Lighter
Create thin yet highly resilient seating solutions that provide more space with less weight.



Comfortable
Provide soft-feeling product surfaces, distinctive comfort and enhanced body support.



Towards circularity
Our MDI-based polyurethane technologies enable you to maintain technical performance while considering bio-based or recycled material content.

Versatile solutions for advanced seating

The range of RUBIFLEX® fully formulated systems, polyurethane components and prepolymers produce a wide range of seating applications. This versatility allows you to expand your production capabilities while reducing your inventory.

Enabling design freedom and cost-efficiency, the RUBIFLEX® MDI-based product line offers a robust processing window for manufacturing methods including cut-and-sew, foam-in-place and cold cure moulding. Globally available and compliant with the specifications of major Original Equipment Manufacturers (OEMs), the RUBIFLEX® product line helps you to achieve the right balance of improved comfort, durability and differentiation, whilst striving to optimise processing and total part cost.

Targeted application areas:

- Seat cushions
- Seat backs
- Center consoles
- Armrests
- Headrests
- Industrial vehicle seating
- Motorcycle and power sports saddles



Introducing the next generation of the RUBIFLEX® product line

Building on our 40 years of experience providing solutions for automotive seating, we have added a new generation of comfort with three technologies: **RUBIFLEX® HR AC** system, **RUBIFLEX® HR GH** system and **RUBIFLEX® HR VP** pre-polymer.

1 NEW RUBIFLEX® HR AC

polyurethane system developed for **Advanced Comfort (AC)** for thin seats

- High Resilience (HR) response
- Dynamic Advanced Comfort (AC)
- Standardised manufacturing processes
- Fully formulated system

2 NEW RUBIFLEX® Gradient Hardness™

polyurethane system – developed for next generation of comfort

- Single-shot manufacturing capability
- Soft cushioning top
- Firm bottom layer for overall support
- Better pressure distribution and rolling stability

3 NEW RUBIFLEX® HR VP

polyurethane pre-polymer for self-formulators looking to improve comfort

- High Resilience (HR) response
- Very good Vibration Performance (VP)
- Enables thinner seat design possibilities
- Pre-polymer



4 RUBIFLEX® H

polyurethane system with low emission, developed for flexible foam for moulded headrests and armrests

- Very good physical properties
- Low emissions
- Fast cycle time and robust processability

NEW RUBIFLEX® H FD

polyurethane system with faster processability, developed for flexible foam for moulded headrests and armrests

- 20% faster demould time vs. conventional system
- Meet physical properties requirements
- Low emission system

RUBIFLEX® H BIO

polyurethane system with bio-content, developed for flexible foam for moulded headrests and armrests

- Robust foam made with bio-polyol
- Low odour performance
- Meets robust processing requirements

5 RUBIFLEX® HR

polyurethane system with low emission, developed for flexible foam for seat cushions

- High Resilience (HR) response
- Low emissions and low odour
- Reliability enables less rejects and downtime

RUBIFLEX® HR BIO

polyurethane system with circular content, developed for flexible foam for seat cushions and seat backs

- High quality foam made with bio and/or recycled polyol
- Meets emissions requirements
- No extra components required
- Contributes to up to 25%* reduction in CO₂ footprint of seat foam

* COMPARED TO INCUMBENT RUBIFLEX® POLYURETHANE SYSTEMS, INTERNAL LCA STUDY, CML GWP INCLUDING BIOGENIC CO₂ INDICATOR

THE PROPERTIES ON ALL LISTED PRODUCTS CAN BE ACHIEVED WHEN COMBINED WITH A SUITABLE PROCESS AND DESIGN

A lighter, cleaner, and comfortable future

MDI-based foam solutions create the opportunity to improve operational efficiency, reduce environmental impact and create a cleaner, more durable end-product without sacrificing performance.

MDI-based foam systems contain approximately 10 times less VOC (Volatile Organic Compound) content than TDI-based foam systems. This allows you to reduce emissions and odour to improve your working environment and customer experience, and comply with OEM requirements.

Why MDI?

- Reduce extraction costs
- Reduce final part emissions
- Reduce costs related to compliance with Environmental Health and Safety regulation

10x
less VOC content

Design success into your products

Huntsman Polyurethanes offers technical expertise and testing capabilities to support your product development. Our global Research and Technology (R&T) teams offer a personal approach to help you develop new solutions that meet your customers' needs and exceed drivers' and passengers' expectations for comfort in full compliance with Automotive ISO and Technical Standard.

How can we help?

- Increase environmental benefits
- Expand health and safety features
- Design and prototype lighter, comfortable and safe seats
- Speed up manufacturing start-up with the RUBIFLEX® product line
- Reduce Total Cost of Ownership

For more information: www.huntsman.com/polyurethanes
polyurethanes_eu@huntsman.com



Towards sustainability

As we move towards a more carbon neutral and circular society, automotive businesses are searching for alternative resources to fossil-based chemistry. This involves moving towards renewable bio-based, recycled materials and low carbon e-mobility. At Huntsman, we are dedicated to the development of sustainable solutions that support the industry's environmental ambitions.

As a signatory to the United Nations Global Compact (UNGC) – the world's largest voluntary corporate citizenship initiative – our work is guided by the UN's 17 Sustainable Development Goals. All 17 UN Sustainable Development Goals are important to our business – with three of particular relevance to our RUBIFLEX® product line.



- Increase safety and comfort
- Low VOC (volatile organic compound) emissions and low odour



- Optimal use of resources, improved productivity and lightweight design



- Reduce fuel consumption through lightweight design
- Reduce reliance to fossil-fuel based feedstock



Enriching lives through innovation

For further information please contact your automotive team for your region:

EUROPE

Huntsman Polyurethanes
Everslaan 45
3078 Everberg
Belgium
Tel.: +32 2 758 9211
polyurethanes_eu@huntsman.com

ASIA

Huntsman Polyurethanes
452 Wen Jing Road
Minhang Econ. & Tech. Dev. Zone
Shanghai 200245
P.R. China
Tel.: + 86 21 2403 7304
contactus_apac@huntsman.com

AMERICAS

Huntsman Polyurethanes
Auburn Hills Technical Center
2190 Executive Hills Boulevard
Auburn Hills, MI 4836
USA
Tel.: +1 248 322 7412

Huntsman Polyurethanes warrants only that its products meet the specifications agreed with the buyer. Typical properties, where stated, are to be considered as representative of current production and should not be treated as specifications.

While all the information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NO GUARANTY, WARRANTY OR REPRESENTATION IS MADE, INTENDED OR IMPLIED AS TO THE CORRECTNESS OR SUFFICIENCY OF ANY INFORMATION OR RECOMMENDATION OR AS TO THE MERCHANTABILITY, SUITABILITY OR FITNESS OF ANY PRODUCTS FOR ANY PARTICULAR USE OR PURPOSE.

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE. NOTHING IN THIS PUBLICATION IS TO BE CONSTRUED AS RECOMMENDING THE INFRINGEMENT OF ANY PATENT OR OTHER INTELLECTUAL PROPERTY RIGHT AND NO LIABILITY ARISING FROM ANY SUCH INFRINGEMENT IS ASSUMED. NOTHING IN THIS PUBLICATION IS TO BE VIEWED AS A LICENCE UNDER ANY INTELLECTUAL PROPERTY RIGHT.

Products may be toxic and require special precautions in handling. The user should obtain Safety Data Sheets from Huntsman Polyurethanes and Huntsman Performance Products containing detailed information on toxicity, together with proper shipping, handling and storage procedures, and should comply with all applicable safety and environmental standards.

Hazards, toxicity and behavior of the products may differ when used with other materials and are dependent on the manufacturing circumstances or other processes. Such hazards, toxicity and behavior should be determined by the user and made known to handlers, processors and end users.

RUBIFLEX® is a registered trademark of Huntsman Corporation or an affiliate thereof in one or more, but not all, countries, and Gradient Hardness™ is a trademark of Huntsman Corporation or an affiliate thereof.

© Copyright 2022. Huntsman Corporation or an affiliate thereof. All rights reserved.