KiMFLEX®
Flexible Foam Systems

SUPERIOR LIVING COMFORT

KiMPUR

HR Foam Systems

KIMflex® HR FOAM SYSTEMS

People spend most of their time working in their offices or homes, seated in chairs as well as driving in their vehicles due to the increasing commute times and traffic density. Therefore, it is crucial for any office worker and driver to sit in ergonomical seats for a healthy life and high productivity.

To sit ergonomically, a chair perfectly supporting the body, should be chosen. Thanks to the flexibility and resilience of the polyurethane, a chair made of polyurethane foam easily takes the shape of the body to provide support, through an ergonomic seat, backrest and headrest, protecting the spine and increasing comfort. In addition to these benefits, polyurethane's smooth texture provides an aesthetic appearance to the end products. These features make polyurethane commonly used in the furniture and automotive industry. Polyurethane is also used in the production of some medical products as it provides orthopedic properties to them.

High Resilience (HR) polyurethane foam is the most suitable type of foam for the production of ergonomic products, with its versatile and open cell structure. It provides more comfort and durability than other foams, which become more rigid and tend to be compressed over time, unlike polyurethane.

Kimpur has developed **KIMflex® HR Foam Systems** to boost human health and increase comfort. Our systems are developed to be used in various applications in furniture, automotive and medical industries.

KIMFLEX®
Flexible Foam Systems

KIMflex® HR Foam Systems for Furniture Industry

AREAS OF USAGE

- Office chairs
- Café, restaurant and bar seats
- Theater, cinema and amphitheater seats
- Sofas

ADVANTAGES

- Highly flexibility
- Low free density
- Adjustable hardness range
- Fast curing
- Short demolding time
- Wide operating (rate) range
- Optimum accommodation coefficient (SAG Factor)
- Smooth skin
- Uniform structure
- Resistant to hard process conditions
- Wide (molded) density range
- High flowability and filling

KIMflex® HR Foam Systems	Description	Recommended Minimum Demolding Time (Min)	Certificate
KIMflex FC 004 - Izokim FC 001	Used in the production of office furniture. Recommended for aluminum mold applications. More suitable for hard part production.	5	ECE R 118.01 Flammability of materials used in the interiors of moto vehicles (Annex 4 , Annex 6)
KIMflex FC 016 - Izokim FC 010	Used in the production of office furniture. Recommended for both aluminum and polyester mold applications. More suitable for low density part production.	4	-
KIMflex FC 035 - Izokim FC 010	Recommended for both aluminum and polyester mold applications. It is more suitable for the production of low density hard parts under harsh process conditions.	4	ECE R 118.03 Flammability of materials used in the interiors of motor vehicles (Annex 6, Annex 7, Annex 8)
KIMflex FC 035-S - Izokim FC 010	Used in the production of office furniture. Long start-up time (18 sec), more suitable for large part molds. Recommended for both aluminum and polyester mold applications.	6	-
KIMflex FC 046 - Izokim FC 032	Used in the production of office furniture. Recommended for both aluminum and polyester mold applications. More suitable for high elasticity, short mold opening time and wide hardness range.	3	-
KIMflex FC 046 - Izokim FC 033	Used in the production of conference and cinema seats. It offers a suitable solution for fabric coating. It provides excellent adhesion to the fabric and offers high production efficiency with short mold opening time.	4	CAL 117:2013 Upholstered Furniture Flammability
KIMflex FC 081 - Izokim FC 034	Used in the production of office furniture. Suitable for use in models with complex geometries. Ideal for working with a wide range of proportions in large molds. Provides high durability and superior surface quality. Self-crushing feature regulates gas evacuation.	5	CAL 117:2013 Upholstered Furniture Flammability
KIMflex FC 092 - Izokim FC 010	Used in the production of office furniture. This product meets European standards. Minimizes the use of harmful chemicals and complies with international health and environmental standards. Long-term durability is ensured for both flexible and molded polyurethane foam material properties of the product. It offers comfort by maintaining its physical and mechanical properties even in repeated use. It has a structure in accordance with environmentally sensitive design and production principles. It provides advantage with its velvet skin structure and high durability.	4	-

KIMFLEX®
Flexible Foam Systems

KIMflex® HR Foam Systems for Automotive Industry

AREAS OF USAGE

- Motor vehicle seats
- Motor vehicle headrests
- Motorcycle seat pad
- Motor vehicle soundproofing

ADVANTAGES

- Highly flexibility
- Low permanent deformation
- Adjustable hardness range
- High tear & tensile - rupture resistance
- Optimum compressive strength
- Silky skin
- Uniform structure
- Fast curing
- Short demolding times
- Self-crushing
- Excellent soundproofing
- High flowability and filling

KIMflex® HR Foam Systems	Description	Recommended Minimum Demolding Time (Min)	Certificate
KIMflex FC 005 - Izokim FC 003	Recommended for automotive applications using aluminum molds. It is more suitable for the production of low density parts.	5	-
KIMflex FC 005-S - Izokim FC 001	Recommended for automotive applications using aluminum molds. The reaction profile is slightly slower than KIMflex FC 005 system. It is more suitable for the production of low density parts.	5	ECE R 118.02 Flammability of materials used in the interiors of motor vehicles (Annex 6, Annex 7, Annex 8)
KIMflex FC 006-S - Izokim FC 003	Recommended for automotive applications using aluminum molds. It is more suitable for the production of elastic parts with high density.	5	-
KIMflex FC 008 - Izokim FC 001	Recommended for automotive applications using aluminum molds. It is more suitable for the production of hard parts with low density.	3	-

KIMflex® HR Foam Systems	Description	Recommended Minimum Demolding Time (min)	Certificate
KIMflex FC 010 - Izokim FC 003	Recommended for car soundproofing applications using aluminum molds.	4	-
KIMflex FC 011-W - Izokim FC 003	Recommended for automotive applications using aluminum molds. It is more suitable for the production of elastic parts with high density.	5	ECE 118.03 & TYPE Approval (Annex 6, Annex 7, Annex 8) *Burning Behavior Tests
KIMflex FC 035 - Izokim FC 010	Recommended for motorcycle pad applications using both aluminum and polyester molds. It is more suitable for the production of low density and harder parts.	4	ECE 118.02 (Annex 6, Annex 7, Annex 8) * Burning Behavior Tests
KIMflex FC 036 - Izokim FC 010	Recommended for automotive applications using both aluminum and polyester molds. It is more suitable for the production of parts with high elasticity and lower density.	4	ECE R 118.02 Flammability of materials used in the interiors of motor vehicles (Annex 6, Annex 7, Annex 8)
KIMflex FC 039 - Izokim FC 010	Recommended for low VOC automotive applications using both aluminum and polyester molds. It is more suitable for the production of harder parts with low density.	5	RENAULT D423109/C Materials for passenger car assessment of VOC amount by thermal / GC / MS (FID)
KIMflex FC 049 - Izokim FC 017	Recommended for high density car soundproofing applications using aluminum molds.	3	-
KIMflex FC 085 - Izokim FC 040	It is designed for use in automotive seat headrest production. Its wide working ratio range offers a versatile solution compatible with various molds. The short demolding time ensures high production efficiency. With high durability and a velvet skin texture, it delivers superior performance and an aesthetic appearance. The volatile organic compounds (VOC) content is low, making it environmentally friendly.	3	ECE R118 (EK 6,7,8)

KIMflex® HR Foam Systems Developed for Railway Seating Applications

USAGE AREAS

- Train Seat

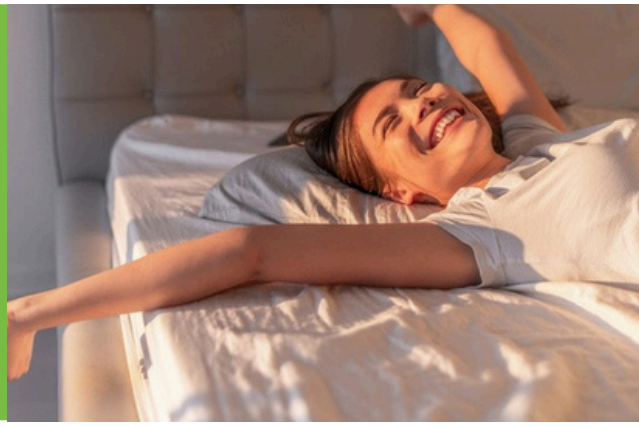
ADVANTAGES

- Low VOC Emissions
- Shape Retention
- Low Smoke & Low Toxicity Performance
- High Resilience Comfort
- Intensive Use Performance

KIMflex® HR Foam Systems for Train Seating	Description	Molded Density	Certificate
KIMflex FC 126 + İzoflex - 39	Fire resistant seat system for train seating applications	70–100 kg/m³	EN 45545-2

KIMFLEX®
Flexible Foam Systems

KIMflex® HR Foam System Developed for the Bedding Industry



AREAS OF USAGE

- Mattress Production

ADVANTAGES

- Ultra-Low Volatile Organic Compound (VOC) Content
- Suitable for Mattress Production with Spray Application
- Anti-Allergic Feature
- Glossy Skin Texture
- High Adhesion Strength

KIMflex® HR Foam Systems	Description	Curing Time (min)
KIMflex FC 090 - İzokim FC 021	It is designed for mattress production with spray application. Its anti-allergic feature ensures a healthy user experience. The glossy skin texture provides an aesthetic appearance, while the high adhesion strength ensures long-lasting durability. With ultra-low volatile organic compound (VOC) content, it offers an environmentally friendly and human- safe solution.	13

KIMFLEX®
Flexible Foam Systems

KIMflex® HR Foam Systems for Medical Industry

AREAS OF USAGE

Components of medical products

ADVANTAGES

- High accommodation coefficient (SAG Factor)
- Highly flexibility
- Adjustable hardness range
- High air permeability with a more open cell structure
- Anti-fungal
- Low VOC content
- Long service life

KIMflex® HR Foam Systems	Description	Recommended Minimum Demolding Time (Min)	Certificate
KIMflex FC 039 - Izokim FC 010	Recommended for applications using both aluminum and polyester molds, for the components of medical products requiring low VOC content.	5	RENAULT D423109/C Materials for passenger car assessment of VOC amount by thermal / GC / MS (FID)
KIMflex FC 048 - Izokim FC 015	Recommended for stress ball production applications in processes with conveyor furnaces.	6	ECE 118.03 & TYPE Approval (Annex 6, Annex 7, Annex 8) *Burning Behavior Tests

Graphene Based High Performance KIMflex® HR Foam System

By utilizing graphene, a carbon-based recycling material obtained from automotive tires, in the production of HR Foam Systems used in the production of automotive and office seats, Kimpur improves the mechanical properties of its products without requiring the use of extra materials, while both preventing material consumption and reducing carbon dioxide emissions in its production.

Improvements in the mechanical properties of HR foam systems obtained with the use of graphene compared to standard systems were observed, and the test results are given in Table 2.

Test	Standard HR Foam Systems	Graphene-Based HR Foam Systems	Improvement Rate
SAG Factor	4,36	4,62	%22,47
Tear Resistance (F^{break} N/cm^2)	1,05	1,12	%10
Compression Set (%)	13,48	10,45	%13,82

Table 2: Comparison of Test Results of Graphene-Based HR Foam Systems and Standard HR Foam Systems * Tests were performed at an operating ratio of 100/65 and a molded density of 50 kg/m3

Graphane Based KIMflex® HR Foam Systems	Description	Recomended Minimum Demolding Time (Min)	Certificate
KIMflex FC 050 - Izokim FC 015	Graphene Based HR Foam System. It is suitable for production of office chairs and automotive seats.	4	47

KiMFLEX®
Flexible Foam Systems

Low Temperature Resistant KIMflex® Prepolymer

AREAS OF USAGE

- Furniture and office chairs
- Motor vehicle seats
- Motor vehicle headrests

ADVANTAGES

- Resistant to low temperature
- The same hardness with lower weight
- Thick and smooth skin

KIMflex® Prepolymer	Description	Density (gr/cm^3)	Viscosity (mP a.s)	NCO Content (%)	Appearance
Izokim FC 012	It is a pre-polymerized methylene diphenyl diisocyanate (MDI). Recommended for furniture and automotive applications.	1,2	140	29,5	Liquid/Brown

KIMFLEX®
Flexible Foam Systems

KIMflex® Prepolymer with High Elasticity

AREAS OF USAGE

- Automotive Seat

ADVANTAGES

- High Elasticity
- Silky Skin

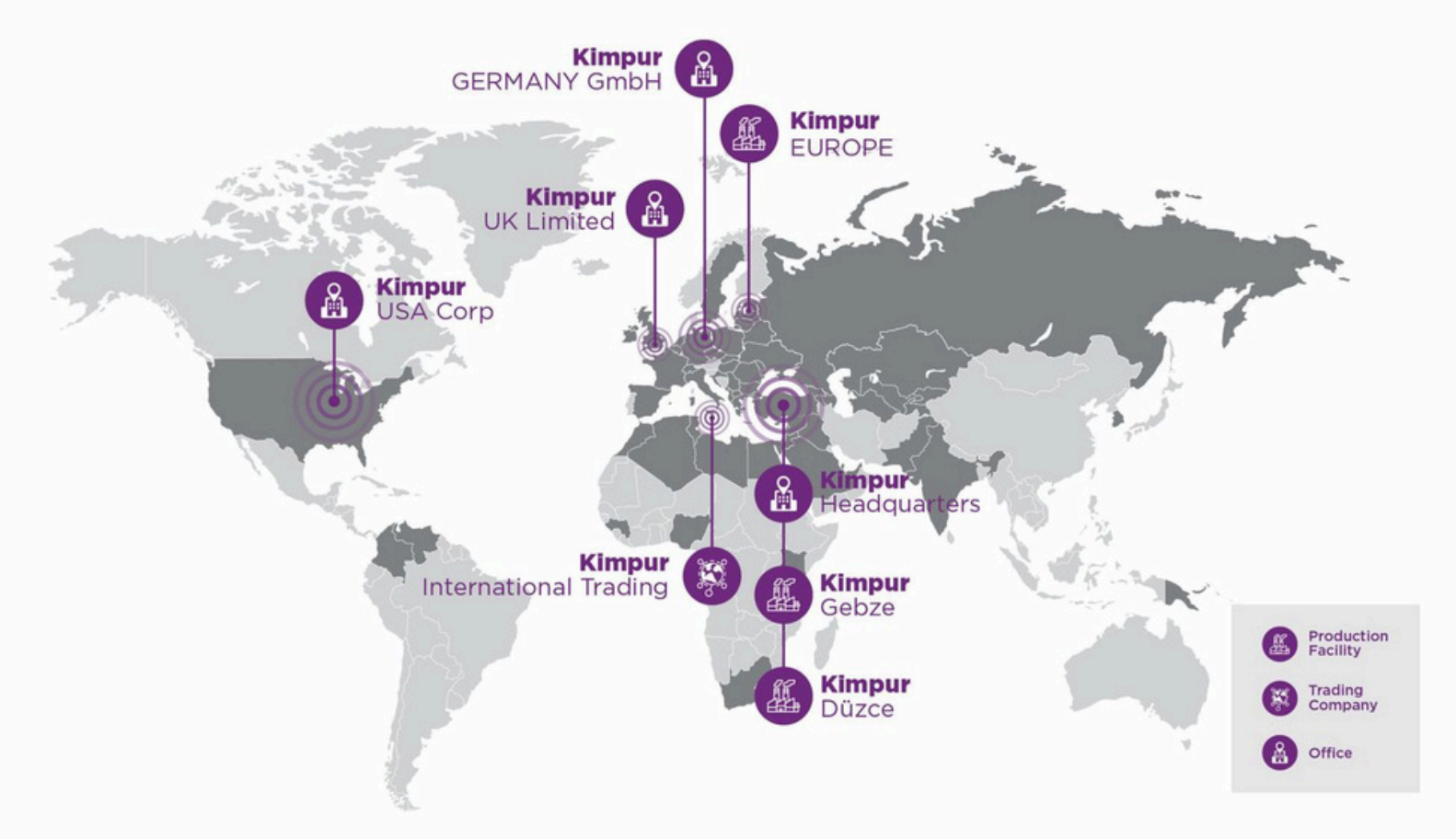
KIMflex® Prepolymer	Description	Density (gr/cm3)	Viscosity (Mp A.s)	NCO Content (%)	Appearance
Izokim FC 018	It is a mixture of different aromatic diisocyanates and isomers. It is available to produce highly elastic flexible molded foam for automotive seating.	1,2	60	32,3	Liquid/Brown

For more information on our products as well as TDS and MSDS documents please contact our Sales Office.

TÜRKİYE'S LARGEST POLYURETHANE SYSTEM HOUSE

Kimpur is the polyurethane system house with the largest capacity in the region, with a production capacity exceeding 200,000 tons. It leads the sector by exporting to more than 60 countries in 5 continents. Polyurethane systems produced; It is used in different sectors such as shoes, automotive, furniture, heating and cooling, insulation-construction and defense industry.

GLOBAL ACTIVITIES



TÜRKİYE'S TOP 500 ISO INDUSTRIAL ENTERPRISES

1000 TİM TOP 1000 EXPORTERS OF TÜRKİYE (TİM: TURKISH EXPORTERS ASSEMBLY)

TÜRKİYE'S LARGEST 500 FORTUNE COMPANIES

İKMİB İstanbul Chemicals And Chemical Products Exporters' Association Stars of Exports

Turkishtime R&D 250 TURKISH COMPANIES WITH THE HIGHEST R&D EXPENSES

REACH COMPLIANCE

United Nations Global Compact

Responsible Care® OUR COMMITMENT TO SUSTAINABILITY

Kimpur Corporate Promotional Film
Click to watch

KİMTEKS POLİÜRETAN SANAYİ VE TİCARET A.Ş.

HEAD OFFICE:

İnkılap Mah. Dr. Adnan Büyükdeniz Cad.
No: 13, B Blok, Kat: 2, İç Kapı No: 6
34768 Ümraniye İstanbul TÜRKİYE
Phone : +90 212 809 15 50
Fax : +90 212 809 15 49

GEBZE PRODUCTION FACILITY:

Gebze Plastikçiler Organize
San. Bölgesi 7. Cadde No:43
41400 Gebze Kocaeli TÜRKİYE
Phone : +90 262 751 44 71
Fax : +90 262 751 02 57

DÜZCE PRODUCTION FACILITY:

OSB, Yakabaşı Mevki, 1. Cadde No:12,
81850 Gümüşova Düzce TÜRKİYE

KİMPUR EUROPE PRODUCTION FACILITY:

Brīvības iela 103, Liepāja,
LV-3401, LATVIA

For more information
uncommonsolutions@kimpur.com

/ Kimpurglobal

www.kimpur.com

LEGAL INFORMATION

At Kimpur, we strive to provide you with the highest quality polyurethane systems, backed by our expertise and dedication to innovation. The information provided in this brochure is a reflection of our expertise and knowledge. However, we highly recommend for users to conduct their own thorough assessments and tests to ensure the suitability and optimal performance of our products for their intended applications. While we strive to provide accurate and reliable information, Kimpur does not assume any liability or offer any warranty, whether expressed or implied, regarding the properties, performance, or fitness for a particular purpose of our products. Descriptions, specifications, and other details provided herein are subject to change without prior notice and should not be considered as binding contractual guarantees. As the recipient of our products, our customers assume full responsibility for compliance with all applicable laws, regulations, and intellectual property rights. We highly recommend obtaining comprehensive information on product toxicity, adhering to proper handling procedures, and ensuring compliance with safety and environmental standards. At Kimpur, we value our partnership with you and strive to provide exceptional support. However, it is important to emphasize that the application, use, and processing of our products are ultimately the sole responsibility of the user. Please note that the safety data provided in this brochure is for informational purposes only and does not constitute a legally binding Material Safety Data Sheet (MSDS). To obtain the relevant MSDS, kindly request it from your supplier or contact us directly at uncommonsolutions@kimpur.com. Our team is ready to assist you with any inquiries or specific safety information you may need.

Edition: 2024