

SAFE AND SUSTAINABLE STRUCTURES



KIMPUR

Sandwich Panel Systems

KIMrigid[®] SANDWICH PANEL SYSTEMS

With ever increasing energy consumption in the world, current energy sources should be used in the most effective and productive ways to meet such demand. Energy efficiency has become an indispensable part of sustainable development since it directly affects our future and the environment. Energy savings also means long term cost saving for the consumer.

In studies on energy efficiency, the share of buildings in energy consumption have been determined as very significant and sandwich panels that provide high thermal insulation have started widespread use creating critical impact on energy efficiency.

Sandwich panels used in the construction sector provide buildings with thermal insulation as well as protection against external factors and supply a solid, firm barrier. They are composed of composite, high resistance, low density foam filling material. While the inner and outer metal sheets provide protection from external factors and prevent corrosion, the foam filling material ensures thermal insulation.

The core material used in the sandwich panel has significant importance regarding energy saving with thermal insulation. Polyurethane foam provides high insulation performance for the buildings with its low conductivity coefficient. Furthermore, it provides the opportunity to achieve more living space in the buildings through allowing the manufacture of thinner panels. Due to these superior features, polyurethane has become the ideal and indispensable filling material used in sandwich panel manufacture.

Kimpur developed **KIMrigid**[®] Sandwich Panel Systems for the production of polyurethane foam that ensures safe and sustainable structures with very high fire resistance and excellent thermal insulation properties.

Our systems are divided into two groups as **continue (PIR and PUR)** and **discontinue sandwich panel systems**. Continue systems can be composed of 2, 4 or 5-components depending on the production line; while discontinue systems offer solutions with different reaction times depending on the machine flow rate and demolding time. The systems are formulated in different fire resistance levels according to requirements.



AREAS OF USAGE

- Pitched Roofs
- Flat Roofs
- Facades
- Insulation Boards
- Cold Storage Room Panels
- Refrigerated Containers



ADVANTAGES

- High fire resistance and dimensional stability
- Superior mechanical and thermal features
- Excellent insulation with low thermal conductivity coefficient ($\lambda: 21 \text{mW/mK}$)
- High productivity with excellent curing feature
- Minimum scrap with excellent processability
- Good adhesion on appropriate process conditions
- Extending the life of the building with its light feature
- Use of 100% pure raw materials
- Systems designed for different flammability classes (PIR, B2, B3)

KIMrigid[®] Continue Sandwich Panel Systems

Material Code	Certificate	Definition	Applied Density (kg / m ³)	Double Band Temperature (°C)	Reaction to Fire Class (DIN 4102)	Primer Application
KIMrigid PIR 204	REACH	- It is a 4-component PIR continue system. - High Index PIR System (> 300 index) - It has a specially developed trimerization catalyst for high PIR molecule formation. - Primer application is mandatory to achieve the desired adhesion.	42	60-65	B2	Mandatory
KIMrigid PIR 205	TSEN 13501-1+A1:2013 (BS1,d0) Fire Reaction Classification Report FM Approval REACH	- It is a 5-component PIR continue system. - High Index PIR System (> 300 index) - It has a specially developed trimerization catalyst for high PIR molecule formation. - Primer application is mandatory to achieve the desired adhesion.	42	60-65	B2	Mandatory
KIMrigid RC 060	REACH	- It provides homogeneous foam distribution and minimum voids by high pentane solubility. - Formulated by Easy-PIR Technology	40	50-55	B2	Not mandatory
KIMrigid RC 060B	REACH	- It is a 5-component continue system for sandwich panel manufacture. - It has been specially developed for high mechanical properties. - It offers fast production thanks to its excellent curing feature.	40	40-45	B3	Not mandatory
KIMrigid RC 084	-	- It is a 2-component continue system for sandwich panel manufacture. -It has high mechanical and adhesion properties.	36	40-45	B3	Not mandatory
KIMrigid RC 092	-	- It is a 5-component B3 system for sandwich panel manufacture. - It has high mechanical and adhesion properties.	40	40-45	B3	Not mandatory
KIMrigid RC 093	-	-It is a 4-component continue system for sandwich panel manufacture. -It has high mechanical and adhesion properties.	40	50-55	B2	Not mandatory
KIMrigid RC 094	-	-It is a 4-component continue system for sandwich panel manufacture. -It has high pentan solubility. -It has high mechanical and adhesion properties.	40	50-55	B3	Not mandatory
KIMrigid RC 095	-	-It is a 5-component continue system for sandwich panel manufacture. -It has high pentan solubility. -It has high mechanical and adhesion properties.	40	40-45	B3	Not mandatory

KIMrigid® Discontinue Sandwich Panel Systems

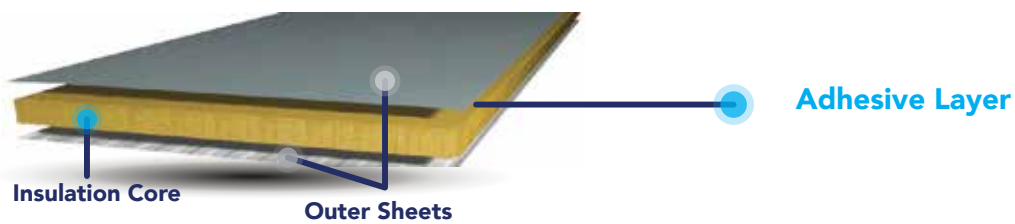
KIMrigid + İzokim RD 001	Certificate	Mixing Ratio (Polymix / Iso)	Applied Density (Kg/m ³)	Mould Temperature (°C)	Reaction to Fire (DIN 4102)
KIMrigid RD 068	-	140	42	40-45	B3
KIMrigid RD 075	-	120	42	35-40	B3
KIMrigid RD 077	TS EN 13501-1:2018 (CS3,d0) Fire Reaction Classification Report	140	42	35-40	B2
KIMrigid RD 078	TS EN 13501-1:2018 (BS3,d0) Fire Reaction Classification Report	160	44	35-40	B1



KIMrigid® MW/EPS SANDWICH PANEL ADHESIVE SYSTEMS

The inner bonding and outer metal sheets of the sandwich panel with the inner filling is very important for the performance of the panel. It is important for both the inner layer and outer layer to be strong. For this reason, a material with strong adhesion features should be preferred when selecting the right production for sandwich panels.

In order to extend the life of the structure and to obtain more living space, it is expected that the adhesive part in panel production should be thin, light in structure and it must obtain abrasion resistance for long-lasting use.



In addition to being used as a filling material in sandwich panel production with its high advantages, polyurethane is frequently preferred as an adhesive material with its very good adhesion to the surface, high abrasion resistance and lightness properties.

For the production of sandwich panels, **Kimpur** has developed the durable **KIMrigid®** MW/EPS Sandwich Panel Adhesive Systems, specially designed for the demands of our customers, with excellent adhesion properties to surfaces.

ADVANTAGES

- Excellent adhesion to metal sheet surfaces
- Compatible with EPS and rock wool
- Production at high line speed with fast adhesion
- High abrasion resistance
- Pure raw materials

KIMrigid[®] Sandwich Panel Adhesive Systems

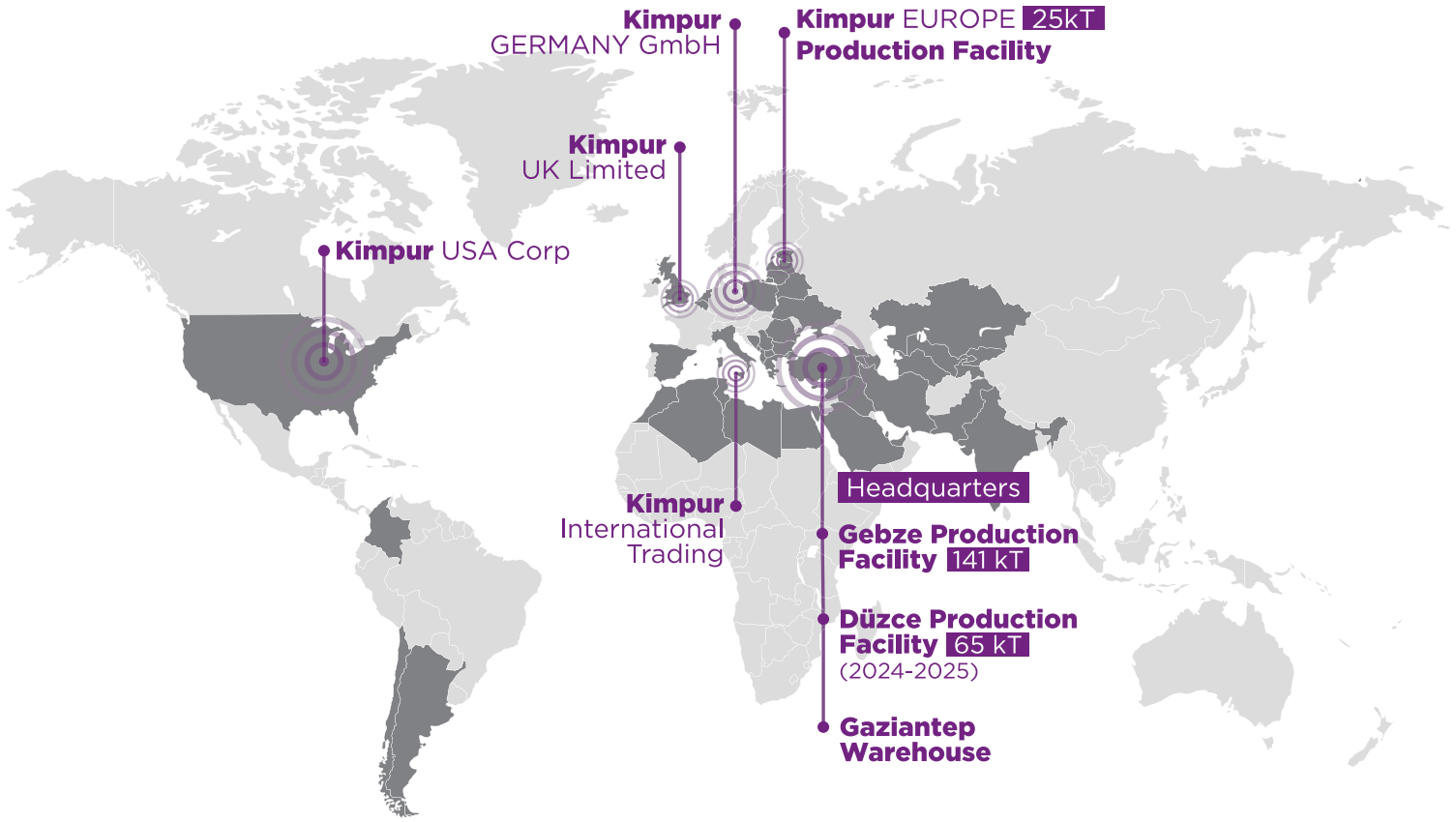
Material Code	Application Method	Mixing Ratio	Free Rise Density (kg/m ³)	Gel Time (20 °C) / (s)
KIMrigid RCG 004	Spray or Disc	100	115	47
KIMrigid RCG 007	Oscillating Poker	140	45	135
KIMrigid RCG 009	Whipining	115	50	35
KIMrigid RCG 010	Whipining	115	42	35
KIMrigid RCG 011	Whipining	115	48	22
KIMrigid RCG 012	Oscillating Poker	100	34	86
KIMrigid RCG 013	Spray or Disc	100	120	90
KIMrigid RCG 015	Whipining	140	105	25
KIMrigid RCG 016	Whipining	100	108	45
KIMrigid RCG 018	Oscillating Poker	100	40	85
KIMrigid RCG 019	Hand Mix	100	> 100	30 min
KIMrigid RCG 020	Oscillating Poker	110	38	65

You can contact our sales office for further detailed information about the products, TDS and MSDS documents.

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 50 countries on 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



United Nations
Global Compact



Kimpur Corporate Promotional Film
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LEGAL INFORMATION

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