Polyurethanes

RUBIFLEX® Cocoon technology

All that matters combined in one mattress

HEAT REGULATION

HUMIDITY CONTROL

PRESSURE DISTRIBUTION
All that matters combined in one mattress

What defines optimal comfort, as far as mattress foam technology goes?
Is it heat regulation?
The best possible humidity control?
Or ultimate pressure distribution?
At Huntsman polyurethanes, we believe it is all these things...

The foam technology used in our innovative RUBIFLEX® Cocoon flexible foam system is a different class of technology, beyond the foam technology used in High Resilience and Visco Elastic (memory) foams. It combines the main end user benefits of both technologies as well as processing and supply chain benefits for mattress producers;
Its excellent physical properties make the foam easier to roll/vacuum pack, store and transport. The low ambient temperature sensitivity enables easier conversion. The technology in our RUBIFLEX® Cocoon flexible foam system offers a wide range of formulation options.
Do you think all of this sounds too good to be true?

Learn more about the RUBIFLEX® Cocoon flexible foam system on the following pages.

Enabling mattresses to breathe, means allowing the whole body to breathe. The foam created in RUBIFLEX® Cocoon flexible foam system has an open cell structure that creates better breathability and allows for high and constant airflow. This assists in transporting heat away from the body’s surface, reducing the build-up of body heat during sleep, thereby keeping a comfortable body temperature.

HEAT REGULATION

Temperature build up in mattress during sleep (1cm under body)

Learn more about the RUBIFLEX® Cocoon flexible foam system on the following pages.
Maximizing the dissipation of moisture means minimizing build-up of humidity near the body. The foam created in RUBIFLEX® Cocoon flexible foam system has a special polymer structure which offers a good balance of hydrophilic and hydrophobic polymer segments, enabling both water vapour permeability and moisture transmission. This way, the natural build-up of humidity generated by the body is dissipated very effectively, enriching the overall quality of sleep.

Minimizing pressure points means maximizing comfort. This can only be achieved by optimally cradling the body whilst still enabling natural body movement during the night. The technology in RUBIFLEX® Cocoon flexible foam systems makes it possible to manufacture foams that provide precisely this well-balanced level of support and pressure distribution resulting in improved blood circulation, deeper, more restful sleep and general sense of wellbeing.
All advantages at a glance

- Heat regulation
- Humidity control
- Pressure distribution

And also

- High block yield and consistent foam density and hardness – improve mattress conversion efficiency
- Durable and resilient – retain original feel, thickness and shape
- Very low compression set – enabling vacuum packing
- Low ambient temperature sensitivity – enabling easier conversion
- Very high tear strength – suitable for adjustable bed mattresses
- Meeting low VOC requirements – LGA, CertiPUR, IKEA specifications

Possible application areas

RUBIFLEX® Cocoon flexible foam system offers a broad range of density and hardness combinations. We are dedicated to the development of sustainable solutions that can support the industry’s environmental ambitions.

As 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 work in the bedding and upholstered furniture sectors.

Striving for sustainability

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Slabstock & Batchblock typical properties

RUBIFLEX® Cocoon flexible foam system offers a broad range of density and hardness combinations.

<table>
<thead>
<tr>
<th>SLABSTOCK</th>
<th>UNIT</th>
<th>Density (kg/m³)</th>
<th>40</th>
<th>42</th>
<th>44</th>
<th>48</th>
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<tr>
<td>Hardness ILD 40%</td>
<td>N</td>
<td>76</td>
<td>222</td>
<td>97</td>
<td>192</td>
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<td>Tear strength</td>
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<td>Compression set</td>
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<td>3.0</td>
<td>1.3</td>
<td>2.3</td>
<td>2.4</td>
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<tr>
<td>Resilience</td>
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<tr>
<td>Thickness Loss</td>
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<td>137</td>
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<tr>
<td>Tear strength</td>
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*All physical properties measured according to ISO standards.