

# Cushioning and impact absorbing foam

## Confor foam

Confor foams offer a unique combination of properties that are ideal for high energy-absorption applications, enabling them to absorb and dissipate shock and impact.

It is an open-celled urethane foam, which is breathable, non-irritating to dermal contact, and helps dissipate moisture and perspiration from the body, making it ideal for medical and body contact cushioning applications.

### Benefits:

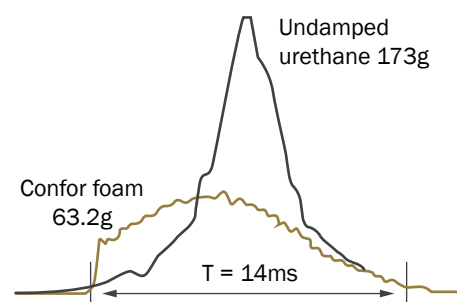
- **Exceptional damping properties**

It is the damping properties, engineered into Confor foam formulations that give the materials their uncompromising comfort and protection capabilities. Damping makes the foams rate-sensitive (displaying different properties under different rates of strain). Whilst Confor slowly deflect under sustained pressure, damping causes them to behave like stiffer foams when they receive an impact. The foams' ability to dissipate energy prevents them from bottoming out, or collapsing completely, and virtually no energy is returned to the impacting body.

**Ball bearing drop** - An undamped urethane returns nearly all of the impact energy, while Confor foam absorbs it.

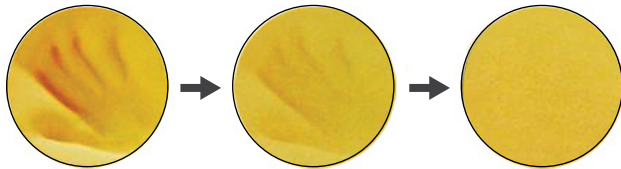


**Drop shock test** - A 7.6kg weight is dropped from a height of 61cm onto 25mm-thick material. This demonstrates Confor foams' energy-absorption capabilities. The peak acceleration response registers 173g with an undamped urethane foam, but only 63.2g with Confor foam.



## • Comfort and protection management

Confor foams enable designers to achieve comfort goals with less cushioning material, reducing the design profile and perhaps project costs. For impact-resistance, Confor foam composites often present a less costly solution when compared to structural or mechanical alternatives.



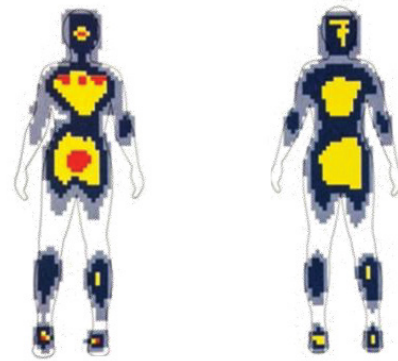
Self-adjusting comfort

## • Designed to absorb and dissipate shock and impact

Confor foams development is linked to NASA's Space Shuttle program for an ultra-comfortable, long-term seating material. Because of the materials damping properties and shock-absorption capabilities, the USA Air Force has repeatedly evaluated, and specified, the foams as padding for ejection seats - subjecting them to high G-forces on a vertical deceleration tower. Physical protection applications, such as athletic padding or race car head rests, also depend on Confor foams ability to absorb and dissipate shock energy internally, without hitting bottom, recoiling and amplifying the impact.

## • Pressure Maps

These two-dimensional pressure maps displays the distribution of weight of a recumbent person on a traditional support (left) and on a Confor foam (right). Light pressure is pale blue, moderate pressure is dark blue the greatest force is yellow and red. Confor foam distributes the pressure more evenly.



traditional support

Confor foam

## • Flexible

Available in different grades and dimensions depending on the application requirements. It is also easy to install.


## Applications:


- Motorsport – headrest and cockpit
- Gliders or Light Aircraft – seat cushions
- Child or baby car seats
- Aerospace – bulk protection and cruise seats
- Packaging – protect high value devices
- Sports equipment – helmets, body protection and footwear
- Medical – hospital bedding & wheelchair cushions

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## Contact us

Trelleborg Applied Technologies delivers innovative and reliable solutions, materials and smart systems that maximizes performance for our customers. Our dedicated and highly skilled staff are always on hand to provide seamless process support from initial idea, through to delivery and beyond.

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