SOLUTION SHOWCASE

Maximize patient mobility

High-strength polymers for orthotic support and fixations



Innovations in orthotic support materials for enhanced mobility and comfort

Orthotic supports and fixations are worn to restrict joint movement in a controlled manner after injury or surgery. These supports must be effective for therapy and comfortable for patients. They need to be made of strong and rigid materials to withstand being worn, keeping joints in place while also being lightweight and adjustable.

High-strength polymers for stronger supports and fixations

High stiffness for increased support and reduced pain

Reduced weight to help reduce patient fatigue

Low-friction clips and clamps for ease of use

Traditionally, orthotic supports have primarily used metal and glass-filled polymers. Celanese provides materials for traditional designs. It also offers advanced materials, enabling your team to develop more robust, comfortable, and easy-to-manufacture orthotic designs. These designs can further enhance patients' mobility and confidence. These include:

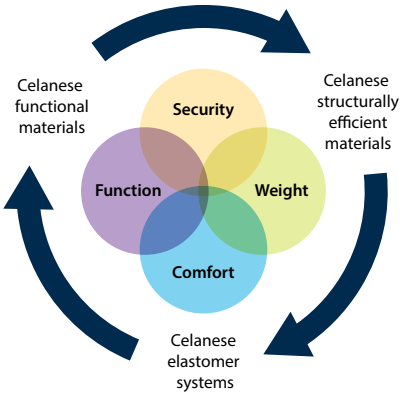
- Structural materials: **Zytel®** and **Celanyl® PA6/66/HTN** and **Celstan® LFRT.**
- Technical components: **Fortron® PPS, Hostaform® POM** and **Celanex® PBT.**
- Soft components and over-molding: **Ateva® EVA, Santoprene® TPV** and **Hytrel® TPC.**

Celanese

Smarter materials support smarter designs

Designing orthotics that live up to patient expectations starts with choosing the right materials. Celanese high performance polymers build in the right mix of properties for your specific fixation requirements.

- Less bulky materials for discrete, low-profile designs
- Smart use of soft materials for higher comfort and perceived quality



Learn more about Celanese materials for orthotics design challenges:

Zytel® and Celanyl® PA6/66/HTN
Highly structurally efficient materials for lower worn mass.

Ateva® EVA, Hytrel® TPC
Function is nothing without comfort. Let our elastomer systems provide the interface between your product and your customer.

Celstran® LFRT
Make your next generation product lighter, stronger, tougher and more cost effective with the Celstran® Long Fibre Reinforcement Technology



Hostaform® POM, Celanex® PBT
Design fastenings, adjusters and mechanical elements with low operating force and excellent user haptics.

Fortron® PPS
Very high performance mechanical systems and metal replacement e.g. movement limiters or offloading mechanisms.

Santoprene® TPV, Hytrel® TPC
Tough, robust wear and protection components with optimisation for over molding.

Supporting your developments – globally

Celanese Technical Services

Support Hubs
Support Centers
Laboratories

- CAE/Part design
- Material characterization
- Specialty processing
- Custom application testing
- Prototyping support
- Analytical testing
- Process optimization
- Field technical service

Discover more

For more information about **high-strength polymers** for healthcare and medical devices, contact your Celanese representative.

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