

The PA11 shell is the structural base of every Algeos 3D orthotic. Made from Polyamide 11, a strong and lightweight material derived from castor oil, it provides a durable, reliable foundation for daily clinical use. Produced through high-precision additive manufacturing, the shell offers accurate geometry, controlled stiffness and consistent performance over time.

The upper surface integrates the XFix fastening system, creating a textured layer that securely holds interchangeable top covers without glue. The underside remains smooth for comfort and a low-profile fit inside footwear.

Key Features

Strong, Lightweight Construction:

Delivers high strength without unnecessary bulk, helping produce comfortable, supportive orthoses for daily and active use.

Consistent Stiffness & Flex:

Engineered to maintain predictable rigidity across the device, supporting accurate biomechanical prescriptions.

Fatigue-Resistant & Long-Lasting:

PA11 offers excellent durability under repeated loading, reducing the risk of cracking or deformation in high-stress regions.

Precision Geometry:

Additive manufacturing ensures accurate shape reproduction, enabling pathology-specific design features and customised stiffness zones.





Key Features

Integrated XFix Surface

The textured upper layer allows top covers to attach securely without adhesives, supporting quick replacement and cleaner workflows.

Smooth, Low-Profile Underside

Designed for comfort, reduced friction and compatibility with a wide range of footwear.

Clinically Versatile

Suitable for a range of pathologies, such as heel pain, rearfoot instability, forefoot overload, tibialis posterior dysfunction, functional hallux limitus and mild-moderate flatfoot.

Why Choose Algeos 3D PA11 Shell

PA11 brings together a clinically proven material with modern 3D manufacturing, offering strength, controlled stiffness and reliable long-term performance. Its renewable origin, durable behaviour and seamless compatibility with the XFix system make it an ideal structural platform for high-quality custom orthoses.

Specification

Material: Polyamide 11 (PA11), castor-oil derived

Manufacturing Process: High-precision additive manufacturing (SLS/MJF)

Upper Surface: Integrated XFix textured fastening system **Lower Surface:** Smooth

Weight: Lightweight structure suitable for daily and active environments

Environmental Profile: Renewable bio-based material; reduced environmental impact

Recommended use: Broad biomechanical indications

Warranty: On-year limited warranty