



Orthobroker: Improving Patient Comfort & Product Quality with Vapor Smoothing



Industry

Medical – Orthotics



Material

HP PA11, manufactured using MJF (Multi Jet Fusion) technology

Orthobroker is redefining how orthotic devices are manufactured. Specializing in 3D-printed orthoses worn directly on the body for extended periods, the company prioritizes comfort, hygiene, and visual quality. By integrating AMT PostPro vapor smoothing into their additive manufacturing workflow, they ensure every orthosis delivers maximum comfort, a smooth and safe surface finish, as well as strong resistance to moisture.

About the Application

Orthobroker designs and manufactures 3D-printed orthoses. Through their online platform OrthoSolid, clients can order customised orthoses perfectly fitted to their patient's anatomy.

The products are intended for long-term daily use, making comfort and hygiene essential.

Challenge & Solution

Unprocessed parts printed with MJF, both in PA11 and TPU, are highly porous and rough. This will result in sweat being absorbed into the orthosis and skin being irritated due to the roughness. Both causing patient discomfort and decreasing the longevity of the orthosis.

Recognizing these limitations of unprocessed 3D-printed surfaces, Orthobroker made a clear decision: every orthosis they deliver would be vapor smoothed. This commitment guarantees a clean, sealed finish that not only looks professional but also protects the user's skin and enhances overall wearability.



Part's photo before PostPro Vapor Smoothing



Part's photo after PostPro Vapor Smoothing

The Difference Made by PostPro Vapor Smoothing:

By applying PostPro vapor smoothing, Orthobroker were able to turn unsterile parts with a rough, porous surface into sealed, smooth, patient-ready orthoses, ensuring these key benefits:

- **Patient comfort:** Smooth, non-abrasive surfaces minimize friction and skin irritation during daily wear.
- **Moisture resistance & better hygiene:** Vapor smoothing eliminates pores in the surface, making it sterilizable and reducing absorption of sweat. This prevents bacteria growth and improves hygiene.
- **Better appearance:** The sealed surface appears darker, as all powder is consolidated into the surface, and smoother. This enhances the visual appeal of the orthotic device.
- **Consistency at scale:** Vapor smoothing enables reliable, repeatable quality for custom and serial production.

Conclusion

Orthobroker's commitment to delivering only vapor smoothed orthoses reflects their focus on medical quality products and patient satisfaction and comfort. By integrating AMT vapor smoothing into their workflow, they have streamlined production while meeting their customers' expectations and medical health and safety standards.

Advantages of Vapor Smoothing for Orthotic Manufacturing:

- ✓ Easy-to-clean, sealed surfaces with better moisture resistance
- ✓ Improved skin contact comfort, critical for long-term use
- ✓ Professional, smooth aesthetic needed for wearable medical products
- ✓ Enables efficient, scalable production without compromising quality

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