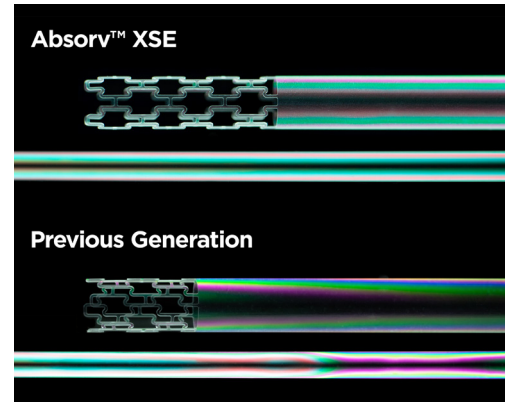


Getting More from Bioabsorbable Tubing with Absorv™ XSE

Bioresorbable Vascular Scaffolds (BRS) are typically produced by laser cutting oriented bioabsorbable tubing into a finished device. Historically, the bioabsorbable tubing from which these devices were produced had relatively large wall thicknesses when compared to their metallic stent counterparts. Additionally, previous generations of oriented bioabsorbable tubing had relatively poor wall uniformity, resulting in poor manufacturing efficiency when laser cutting the final scaffold.

Introducing Absorv™ XSE - With a combination of unmatched sizing, uniform wall thickness, and tailored absorption profiles, Absorv™ XSE oriented tubing is evolving BRS applications and giving designers more efficient and predictable options for replacing metallic stents in a wider variety of procedures.



Absorv™ XSE exhibits greater wall uniformity as seen under polarized light.

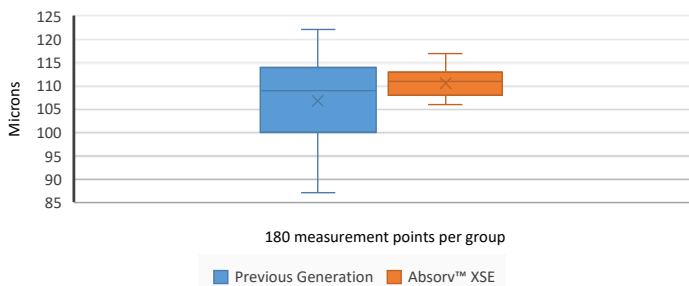
Testing Old vs. New

To test this new solution, samples of Absorv™ oriented tubing were produced. One set of samples was produced using the legacy process, while the second set of samples was produced using the new Absorv™ XSE process with improved uniformity. The samples were then laser cut into a generic scaffold design by MeKo, a global leader in precision laser cutting, to assess the number of usable scaffolds produced from the sample sets.

	Scaffold Material	Scaffold OD	Scaffold Length	Strut Thickness (Standard Deviation)	Lased Scaffolds	Rejected Scaffolds	Usable Scaffolds
Absorv™ (previous generation)	PLLA	3.0 mm	25.0 mm	106.8 µm (8.23 µm)	53	14	39
Absorv™ XSE (new process)	PLLA	3.0 mm	25.0 mm	110.6 µm (2.62 µm)	53	4	49

Data courtesy of MeKo. Scaffold disposition based on specific inspection criteria. Results may vary depending on inspection requirements.

Absolute Scaffold Strut Thickness Previous Generation vs. Absorv™ XSE



Data courtesy of MeKo.

Figure 1: 30 scaffolds produced from previous generation Absorv™ oriented tubing vs. 30 scaffolds produced from new Absorv™ XSE oriented tubing. For each scaffold, strut thickness measurements were taken at three distinct axial locations (left end, middle, and right end), wherein the minimum and maximum of four equidistant circumferential strut thickness measurements were recorded. Scaffolds produced from Absorv™ XSE oriented tubing exhibited vastly improved strut thickness uniformity.



MeKo is a global ISO-certified contract manufacturer specialized in high precision laser material processing. The company has more than 30 years of experience with laser cutting, drilling, welding and post processing services for medical products like stents and heart valve frames made of metal and bioresorbable materials.

The Results

Zeus' new Absorv™ XSE oriented tubing process, with longer available lengths and improved wall uniformity, **allowed for ~25% more usable scaffolds** to be cut from the same amount of tubing when compared to the previous generation.

These results suggest that the increased efficiency of Absorv™ XSE can provide substantial downstream benefits to customers, including reduced manufacturing costs and increased revenue potential.

Request A Prototype Run

To request prototypes of Absorv™ XSE for your next project, visit zeusinc.com/AbsorvXSE.

[Request Prototype Run](#) >

Disclaimer

This is a representative study based on Zeus' former Absorv™ tubing products compared to the new Absorv™ XSE products. Results may vary based on the material used, scaffold design, change in size, or inspection requirements. There are no guarantees or assurances implied, these are estimates based on one study.