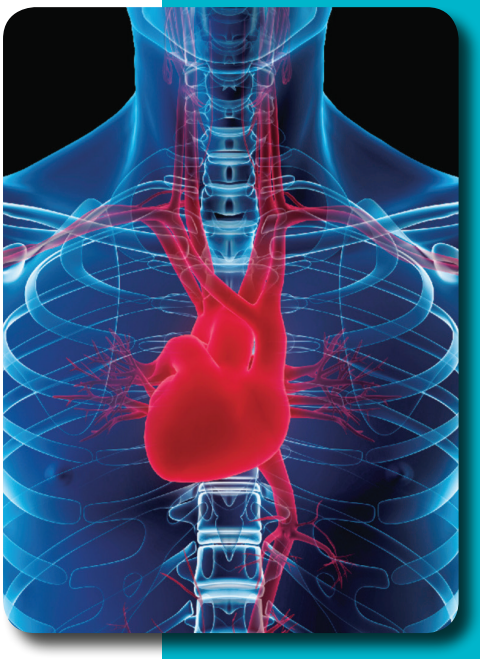
secant group

PARTNERS FROM INSPIRATION TO REALIZATION

CASE STUDY

Secant Group extrudes polymers to recreate polyester yarn and reverse-engineers woven textile component to prevent supply disruption of **cardiovascular device**



Challenge

The supply flow of an FDA-approved cardiovascular device was under threat. The polyester yarn used in the device had been discontinued, and the manufacturer that supplied the woven textile component could no longer dedicate resources to investigating a replacement yarn.

As device inventory dwindled, the original equipment manufacturer needed to find a partner capable of creating a replica yarn and woven textile that closely matched the physical properties of the original components. Failing that, the company risked having to make drastic changes to the device to appease regulatory requirements, further increasing the possibility of a disruption in supply.

Solution

The client chose Secant Group, a leading innovator in the development and transformation of next-generation biomaterials, structures, and medical textile designs for restoration of the human body.

Secant Group's team of engineers tackled the multilayered project by first focusing on the yarn. After a few rounds of polymer extrusion, Secant had successfully recreated the yarn and tested various properties of the polymer and the yarn itself, including spin-finish and resin compositions, elongation, yarn strength, denier, breaking tenacity, and shrinkage.

Next, Secant reverse-engineered the woven textile component based on the original sample. After reaching a consensus with the client on testing methods, the team met the specific requirements for the yarn, such as thickness, flat width, and tensile strength. Within two rounds of prototyping, Secant Group had recreated the original woven component almost exactly.

Result

With a new supply of yarn and woven textile components, the client moved the "restored" device through the regulatory process with minimal changes and resumed sales without disruption.

Bring your vision to market, from inspiration to realization.

To learn more about Secant Group's leading capabilities in advanced biomaterials, medical textiles, and biomedical structures, please visit ***secant.com.***

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