

Ultrathin-Wall Heat Shrink Tubing Ideal Solution for Microablation Device



CUSTOMER SITUATION

A small start-up company had an idea for a catheter-based device that would offer the first interventional approach to treating mitral valve regurgitation, a condition currently only treated with open surgery. The device would cut through cardiac tissue with minimal force using RF energy.

There were two main design challenges:

- *The device would cut by delivering RF energy; however, traditional insulation layers were too bulky or prone to ripping, and dielectric coatings were subject to gaps that could cause injury to surrounding heart tissue.*
- *To reach the treatment area, the catheter would have to be small enough to pass through a 0.018" opening (smallest microcatheters used are 0.04" in diameter).*



VENTION SOLUTION

The customer chose Vention because its exclusive PET heat shrink tubing offered a solution to the design challenges:

- Its high strength and insulative properties made it an ideal wire covering for this RF application
- Its ultrathin-walls would not add significant bulk to ensure the catheter could pass through the small opening.



OUTCOME

The customer was able to demonstrate successful use in preclinical testing, and the device is currently in human use for CE mark trials.