Phillips Plastics Corporation®

INTERFACE

Phillips Comes Through Loud and Clear for Natus

Most parents wouldn't trust just anyone to care for their newborn. Natus is equally protective of each baby with its ALGO newborn hearing screen tests. The ALGO device by Natus is used to screen both of a newborn's ears simultaneously during an Auditory Brainstem Response (ABR) test.

Among the most critical parts of the ALGO device is its ear coupler, which comes directly into contact with the baby's tender skin during the 20-minute procedure. Since the test is typically performed on newborns while they are asleep, their comfort is critical to the accuracy and success of the test.

The Challenges

To achieve the softness necessary for comfort, the ALGO ear couplers are made of low-durometer elastomer. Manufacturing with this material posed significant tooling and molding challenges among the suppliers Natus initially approached to create the parts.

In addition, because health care professionals use two ear couplers per-test and dispose of them afterward, Natus needs to produce nearly four million ear couplers per year to keep up with demand. The initial suppliers Natus approached were unable to create a high-cavitation production mold that would be capable of producing the estimated annual program volumes in a cost-effective production environment.

The Solution

Natus presented their challenges to Phillips Plastics, a Company they recognized for its high-tech engineering, tooling and molding

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capabilities, and reputation for quality, according to Jill Bartholic, Senior Director of Operations, Natus.

Phillips Plastics and Natus significantly reduced overall costs and time-to-market by initially investing time and money into the creation of a single-cavity tool. They used the tool for process development and to prove out the tooling concept. Then, they incorporated the results of their investigation from the single-cavity tool into the high-volume, eight-cavity production tool.

"By getting the single-cavity tool right, we were able to successfully build an eight-cavity tool, with minimal design changes," says Dave Thoreson, Medical Molding and Assembly Plant Manager, Phillips Plastics.

This was no small feat, considering the part geometry, material selection, and cycle-time requirements, according to Thoreson. He says, "We incorporated special water-cooling circuits in order to cool the part at different rates. The tooling approach enables us to mold and eject the part from the tool at a cost-effective rate, while maintaining the part geometry with minimal warp in the critical areas."

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As a result of their efforts, Phillips Plastics delivered a cost-effective solution for Natus – from design through distribution. Most importantly, the parts fit comfortably on newborn ears, which was a primary design goal for Natus.

"We're extremely happy with Phillips Plastics. They help us provide our customers with a steady stream of quality parts that are in high demand, on-time, and within our budget," says Bartholic.

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