

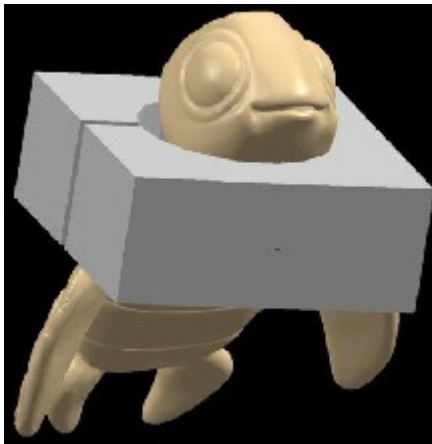


Creatia Promotion Protects Lives--and Saves Time--Using Virtual Choking Gauge Test

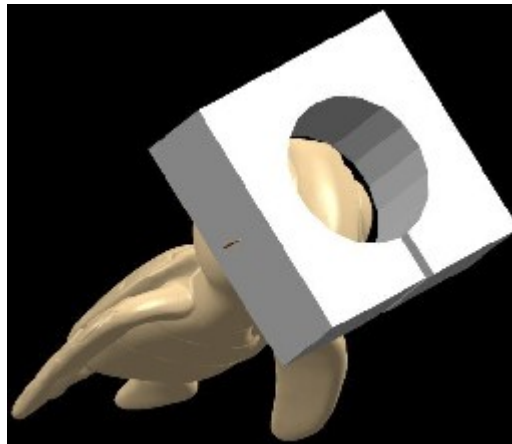
The Choking Test

The safety engineer grabs the gauge by its handle and holds it up over the toy model's head. The model, a sea turtle named Squirt from this summer's most popular animated movie Finding Nemo, is destined to become part of a McDonald's Happy Meal®. The design test, which McDonald's has mandated to be even more stringent than tests used by the U.S. Federal government, features a gauge with a 1.5-inch hole bored through its middle. The hole represents the mouth of a small child. Should any part of the model protrude through the hole, it means that part of the model could reach the back of a child's throat.

Surprisingly light to the touch, the steel gray gauge slips easily over the turtle's head, stopping only when it comes into contact with the flippers. Squirt's head protrudes through the gauge.



RAM Consulting, a leading consumer safety and consulting firm, designed and developed the choking gauge for Creatia and McDonald's.



Squirt's redesigned head is large enough so that it doesn't fit into the gauge, eliminating the potential choking hazard.

The verdict? The toy does not pass the design test. It presents a potential choking hazard.

What is remarkable about this test is that Creaa Promotion, who designs the toy, hasn't yet built a physical model of the toy. There isn't even a rapid prototype of Squirt yet. Nor is there an actual, physical gauge. In fact none of the components of this design test actually exists in physical form yet. The gauge, the model of the sea turtle, even the engineer's "feel" of the gauge as it is blocked by Squirt's flippers, all live only on the computer.

Almost as remarkable, the design test takes mere minutes to perform, using SensAble Technologies' FreeForm® Modeling™ system.

The Solution

So Squirt has flunked the simulated choking test. What happens next? In this case, the solution is pretty simple. The Creaa designers, using the same FreeForm Modeling system that enabled them to perform the choking test digitally, redesign Squirt by making the head wide enough that it can't fit into the gauge. Result: the design of a hazard-free toy destined to become a new member of the McDonald's Happy Meal family.



"Squirt" was just one in a line of Finding Nemo toys that appeared in the McDonald's Happy Meals.

The FreeForm Modeling system enabled Creaa to perform the choke test digitally before a physical prototype was even produced.

McDonald's is understandably pleased with the benefits of this virtual testing. Rhonda Urbik, McDonald's Director of Safety & Security: "This new technology allows McDonald's to focus on minimizing product-related hazards in the early stages of the product development process so we can continue on our mission of delivering the safest, highest quality products to our most important customers, the children."

Speed As Well As Safety

The FreeForm Modeling system helps make the process of going from design to market faster and easier, too. Creaa is taking the lead in incorporating a "digital pipeline" into its business. The development of Squirt is an excellent example. Rather than producing physical models of the toy and shipping them to the different offices of all the parties involved in its development-McDonald's, the licensor, the safety lab, engineering, etc. -Creaa sends electronic files to all these parties, who concurrently review the model from their perspectives of aesthetics, safety, and manufacturability.

Dr. Tao Xu, Creaa's Executive Vice President, Global Supply Chain and Product Integrity, estimates that product design and model development using the FreeForm Modeling system instead of physical sculpting saves weeks during the entire design and development process. Time is saved in two different ways. First, the number of rounds of physical models is reduced because the models are developed more accurately, meeting all their requirements. Second, reviews and revisions can be accomplished much faster because, using the FreeForm Modeling system, they can be done simultaneously. In other words, there are fewer review cycles and faster turnarounds for those cycles.

The combination of speed and safety has become vital to Creaa's way of operating. Says Tao Xu: "Design for safety is essential to the success of our business. The FreeForm Modeling system's technology enables Creaa and McDonald's to assess potential choking hazards at the very early stages of concept design, which reduces iterations, saves costs, and speeds time to market."

Protecting the Children

Reducing time-to-market is a key benefit to Creaa and its business partners, and protecting children is always a priority. Peter Schaefer, McDonald's Corporate Vice President, Safety and Security, is most impressed with how using the FreeForm Modeling system helps make kids toys safer. "There is nothing more important than the safety of children," he says. "McDonald's is proud to partner with Creaa and SensAble in taking toy safety to a higher level."



Finding Nemo is the most popular animated film of the summer of 2003. The Happy Meal toys are based on the characters from the movie and are equally popular with children.

