HEADING OFF PROBLEMS

Peltor Uses Objet 3D Printer for Form and Fit Testing

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— Henric Hansson,
Peltor AB

Peltor uses the Objet30 Pro to produce accurate, attractive prototypes to validate the product prior to production.

With more than 50 years of experience in developing and manufacturing hearing protectors, Peltor AB offers a wide range of products that are at the forefront of safety, comfort and aesthetics. Its line includes communication devices such as headphones and mouthpieces, safety glasses, hardhats and visors. The company's clients include the military and the manufacturing, aviation, forestry, agriculture and motor sports industries.

Peltor provides complete solutions that address the unique needs of each individual in an aesthetic way. During product development, Peltor focuses on both function and aesthetics to create comfortable and attractive communications and protection solutions.

Creating well-designed head and face protectors and communication devices requires testing with prototype materials that mimic the materials used in the final design. This ensures that functional testing returns accurate results.

Form and Fit Testing

Peltor depends on the Objet30 Pro™ 3D Printer to create attractive, accurate prototypes that function realistically and enable designers to see and touch the final product before production. Peltor uses Rigid Opaque material to simulate ABS, the material Peltor uses for some of its final products. This allows Peltor to perform accurate fit and form tests of its products before production.

Peltor used the Objet30 Pro to create a prototype of a headpiece used for hearing protection and then compared the performance of the prototype to the final product. Peltor found that there is little difference between the end product made from ABS material and the prototype printed on the Objet30 Pro for its testing purposes.

Peltor is a leading producer of hearing protectors.

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Peltor had previously tried other prototyping techniques such as selective laser sintering (SLS), but they did not meet the company's needs. Often, the problem was that the prototype did not look like the real product. The Objet30 Pro prints high-resolution models that can be painted directly after printing to look exactly like the final product, solving the look and feel replication problem.

Saving Time and Money

Originally Peltor's prototypes were produced by service bureaus, which made each design iteration a slow and laborious process. With the in-house 3D printer prototypes can be produced much faster. Timely feedback from the prototypes makes it possible to confirm and implement changes in a fraction of the time required in the past. Producing models in-house also saves the considerable costs of outsourcing.

"The Objet30 Pro helps Peltor with the difficult job of adapting hearing productors to the human head," said Henric Hansson, mechanical designer for Peltor. "In many cases, we can reduce the time required for a design iteration from weeks buying prototypes outside to days with an in-house Objet30 Pro. Peltor will not sell any product with known quality problems so finding problems with the prototype early in the process is perfect."

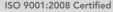*The Objet 30 Pro 3D Printer produces models that perform the same as the final product.*

Peltor has reduced the time per design iteration from weeks to days.

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