

Heads-up: Foundation is gold standard for helmet tests

BY CLINT SWETT

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— The staff of the Snell Memorial Foundation is dedicated to finding failure.

Helmet failure, that is.

At the nonprofit's offices, technicians perform what helmet makers and retailers consider the most rigorous testing in the industry to weed out products that won't protect the noggin of motorcycle riders and race car drivers.

"I always recommend Snell," said Dwight Stratton, who runs a motorcycle safety training program in Sacramento, and whose Snell-protected head survived a crash on Highway 50 six years ago. "I prefer Snell because they do better testing."

Helmet manufacturers aren't required to submit their products for the Snell testing, and many sell models that meet less rigorous standards set by the U.S. Department of Transportation. DOT-certified helmets are required attire for motorcyclists in many states.

But the DOT does very little testing and relies on manufacturers using the honor system to meet its standards.

About half the helmets sold by Korea-based manufacturer HJC are Snell-certified, said George Hong, president of the company's American operations in Southern California.

"A lot of customers look for it, but some don't," he said, adding that some consumers consider

Snell-certified helmets too heavy or bulky. "We just try to meet the demands of the marketplace."

No one would estimate how much a Snell certification adds to the retail price of a helmet. However, J.D. Dodge, manager of the Helmet Source, a motorcycle helmet and clothing store in Rocklin, Calif., said his DOT-approved full-face helmets start at about \$70, with Snell-certified models beginning at \$140 and climbing to more than \$700.

Part of that price difference comes from the exhaustive testing that takes place in Snell's no-frills lab in North Highlands. There, technicians repeatedly drop motorcycle helmets from 10 feet onto steel orbs to test their protective qualities.

Sharp projectiles simulating rocks are slammed into the helmets to see if they pierce the plastic covering, foam layer and protective liner.

A weight jerks down on chinstraps to test the strength of stitching, rivets or D-rings that hold the straps in place.

Technicians even fire a pellet gun at a helmet's faceplate to test its ability to withstand gravel thrown up by other vehicles.

"Our goal is to fail any helmet that doesn't deserve a place in our certification program," said Hong Zhang, director of education for the 50-year-old foundation.

In all, five Snell lab techs about between 3,000 and 4,000 helmets each year. The testers

chart the effect of their various forms of torture with computerized equipment, and Snell denies certification to any model that doesn't pass.

To start the Snell process, manufacturers must submit five helmets for each size and model. Thus, if a manufacturer wants five helmet models certified, and each model comes in small, medium and large, they must send a total of 75 helmets for testing.

In each batch of five, one helmet is heated to 120 degrees and another chilled to 5 degrees before being tested to show how it would protect in extreme weather conditions. Another is dunked in water and tested wet, and a fourth is tested at room temperature. The fifth is stored undamaged as a "reference" model if questions ever arise about its construction or safety.

Once a model is certified, manufacturers can affix a Snell sticker to the inside as a seal of approval.

After the tests are complete and the helmets hit the market, Snell will then purchase the same models at retail stores and test them again to be sure they meet the same standards as the samples submitted by the manufacturer.

If they don't, the manufacturer is alerted and told to check for problems in their manufacturing, the materials they are using or other variables.

Such rigor has given Snell stickers clout in the marketplace

and allowed manufacturers to charge more for certified products.

"Anybody who knows anything about helmets always wants Snell," said Dodge of the Helmet Source. "We recommend it and most customers request it. Having the Snell sticker increases the product's value."

Snell raises revenue in two ways. It charges manufacturers \$960 to test each batch of five helmets. It also charges 60 cents for each Snell certification sticker issued to manufacturers to be pasted inside the helmets.

Snell officials declined to say how many stickers they sell to manufacturers each year, citing confidentiality agreements with helmet makers.

Edward Becker, Snell's executive director, said Snell generally breaks even on its testing program. The sticker sales support the rest of the operation, which also includes funding for helmet safety research. Recent contributions helped finance hospital and medical school research on head and neck injuries, especially for children.

Meanwhile, the Snell techs continue to pound away at the helmets, and consumers continue to value the certification — perhaps with a little prodding.

If customers at the Helmet Source balk at the higher prices, Dodge said he has one response: "We tell them if you have a \$5 head, then go ahead and buy a \$5 helmet."