

STAMP OF APPROVAL

All helmets look cool, but what sets them apart are the testing standards.

by Richard Sanders

At hills and resorts across the country, skiers get the opportunity to try the latest skis and bindings when manufacturers and their tech reps show up with a demo van full of their latest offerings. It's a great way to ensure that the skis we ultimately purchase are right for our ability, weight, style and so on.

Boots are inherently tougher to test and consequently result in few on-hill demos despite the fact the dynamics of skiing are vastly different on the hill than they are when standing and flexing in a nice warm retail store.

And although it's hard to believe, some helmets on the Canadian market choose to meet no standard at all—even some that have recognizable brand names on them.

But at least we get to try on the boots to ensure a good fit, and with some qualified input and adjustment from a knowledgeable boot tech, we can make sure we get something that meets our performance expectations.

With a little care and time spent it's tough to make a really bad purchase. No matter what we end up with, it's highly unlikely that the decision we make will have an impact on our personal safety.

But what about a helmet? Whether it's a safety concern over a collision or simply a fashion statement, lots of skiers and riders are wearing them

Photos: SEAN O'NEILL

these days. Pipe rats, freeriders, racers, moms, dads, kids...just about everyone. But how do you ensure that what you ultimately wear provides both comfort and, more important, a high level of protection for your noggin if you fall into something harder than snow—or get hit by someone else? The comfort factor is pretty easy to determine in the store after trying on a number of models and sizes. Crash performance, however, is a little tougher to determine.

Most manufacturers engineer ski and snowboard helmets to meet certain predetermined testing standards; which standard they choose to meet (and there are several), however, will ultimately determine just how well the helmet will perform in a crash situation. And although it's hard to believe, some helmets on the Canadian market choose to meet no standard at all—even some that have recognizable big-brand names on them. As one manufacturer who chose not to be named told me, some helmets don't provide any more protection than wearing a milk bag on your head. This comment may be a bit of a stretch, but it's clear that you need to know what the various standards mean when you see their certification stickers on the helmet.

Helmet standard testing generally calls for one or more heavy metal "anvils" of various shapes (emulating things that you may find on any ski hill: rocks, poles, trees, ice) to be dropped on the helmet being tested. The higher the standard the greater the number of anvil types used and the higher the anvil gets dropped.

The three main helmet standards used by manufacturers that you should look for are: CE 1077, ASTM F2040 and Snell RS-98. (Take note as well that the numbers are specific to ski helmets only; one number off and you may be safe windsurfing, but not necessarily in the glades.)

1. CENTRAL EUROPEAN NORM: CE 1077

This is the most elementary of the three main winter helmet standards, requiring one anvil drop test (flat anvil) from the lowest height required by any standard. The CE designation is usually found on helmets made in Europe. This standard is negotiated between a refereeing organization and different interested parties, such as head injury groups and the Italian government representing an industry.

2. AMERICAN SOCIETY OF TESTING AND MATERIALS: ASTM F2040

ASTM F2040 calls for three drop tests to be conducted: flat anvil, hemispherical anvil (curved) and edge anvil. This test offers

a helmet user one of the better assurances that the lid you choose is close to as good as one can get.

Although the ASTM F2040 standard is higher than the CE 1077, both remain "voluntary standards," meaning no proof of compliance is required by the manufacturer to show that it has actually met the standard. The consumer ultimately relies on the goodwill and name of the manufacturer for assurance that the helmet it manufactures meets the claim of CE or ASTM compliance.

This may seem like no big deal—after all we rely on brand names all the time to deliver products that meet our expectations. But what if there are manufacturing glitches? With no external arm's-length testing, we are exposed to manufacturing processes. The potential outcome of a helmet that has not been manufactured properly is quite different from a running shoe that has not had its sole glued on the right way or a jacket that has not had a seam properly sewn.

3. SNELL MEMORIAL FOUNDATION: SNELL RS-98

Both the Snell organization and its standards are different from CE or ASTM. First off, Snell does only two things: writes standards for all sorts of helmets (winter, motorcycle, bike, car racing and so on); and tests helmets to ensure that they comply with Snell standards. Unlike CE and ASTM, which establish testing standards for thousands of different things, Snell is dedicated to helmets only.

The Snell RS-98 winter helmet standard calls for the three same anvil tests required by ASTM (flat, hemispherical and edge). However, Snell performs its tests differently by placing a metal headform inside the helmet and then dropping the unit onto anvils at a given impact velocity. The Snell velocities are the greatest, followed by ASTM with CE coming in a distant third.

Snell also purchases its certified helmets at retail and then regularly tests them to ensure they continue to meet the tougher RS-98 standard. Helmets that fail to meet the standard purchased at retail must be recalled and submitted for new tests. (Testing of certified helmets continues for as long as the helmet is on the market.) According to Snell, only Leedom, Vigor and Boeri have helmets that meet the RS-98 standard, with Leedom and Vigor being the only manufacturers to offer Snell-approved helmets in North America.

Ed Becker, executive director and chief engineer at Snell Memorial Foundation (www.smf.org) agrees that standards are a huge marketing tool. However, many manufacturers equate different helmet standards and don't value a Snell label simply because the distinction is not considered important by the end user.

Although Snell regularly tests other helmets sold in North America, it remains mum over which ones do poorly. Becker muses, "I'd bet my salary that the majority of [ASTM certified helmets] wouldn't pass Snell standards." As well, some manufacturers claim the cost is significant because unlike company-supplied testing information, after initial certification, Snell buys helmets at retail to test. (Snell estimates this cost at US\$.60 per helmet.)

So what to do about purchasing a helmet for you or a family member? Follow these basic guidelines and remember, the safest products cost money. Is this really a product you want to scrimp on?

1. Don't let your kids con you into getting the one that has the best sticker package or the one that their favourite "rider" wears.
2. Read the "certification" labels. Major brand names on a helmet are no guarantee that they will meet the highest or any helmet standard.
3. Don't buy a helmet that does not have at least a CE 1077 sticker on it. ASTM F2040 is better, with Snell RS-98 being the best you can buy.
4. Check the features before trying it on. One of the most important comfort features you want is venting; staying warm in a helmet even on the coldest day is not tough. Active vents (you can open or close them) are better than passive vents that remain open.
5. Make sure the helmet you purchase fits. A shop that knows what it's doing will measure your head and let you try on several to ensure it's right. Fit pads that come with many helmets will allow the shop to customize it—just like a boot fit. A helmet has to be snug but comfortable in order to give you the best possible protection. ☞

