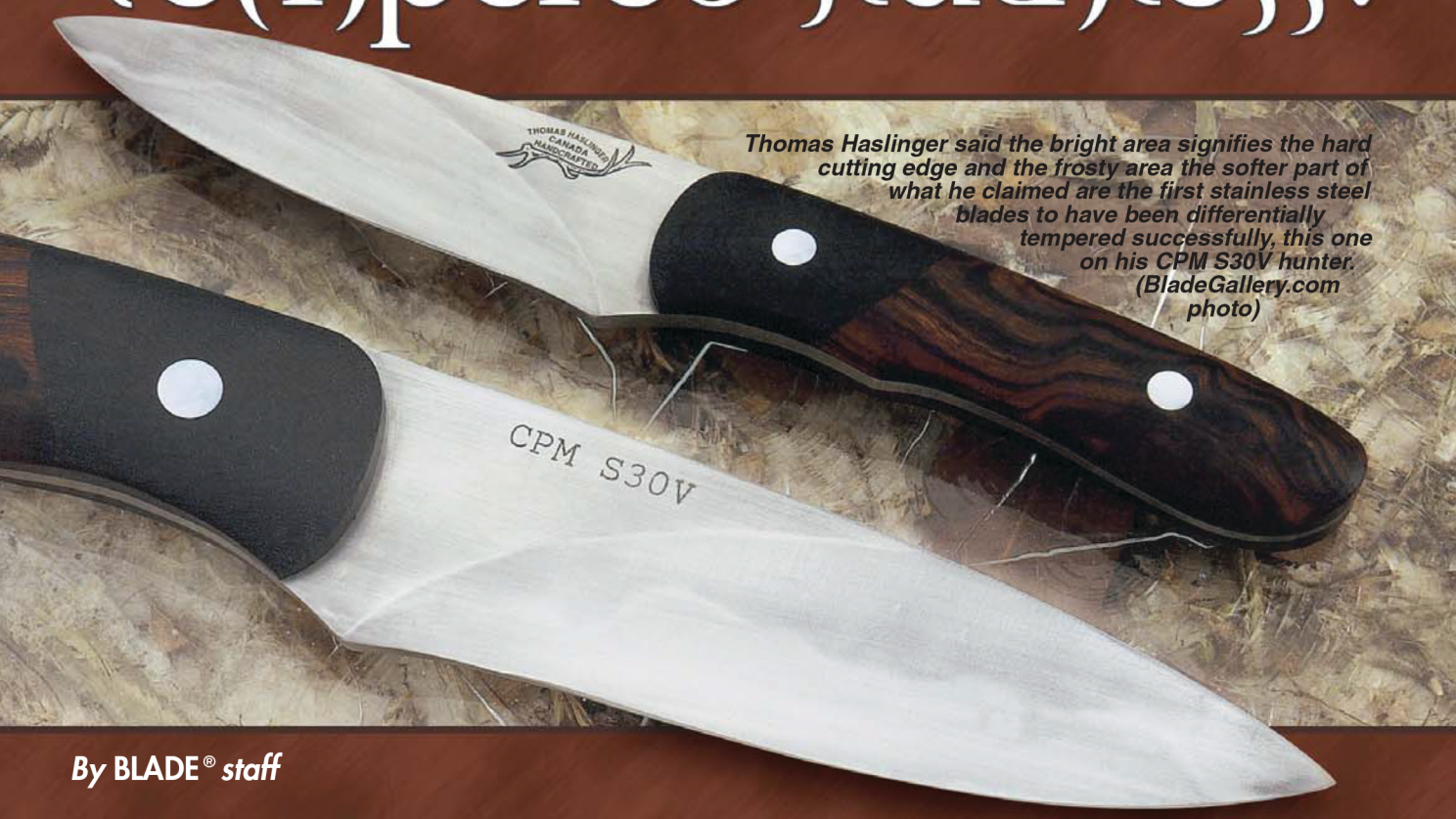
steel breakthrough

First Differentially Tempered Stainless?



Thomas Haslinger said the bright area signifies the hard cutting edge and the frosty area the softer part of what he claimed are the first stainless steel blades to have been differentially tempered successfully, this one on his CPM S30V hunter. (BladeGallery.com photo)

By BLADE® staff

Knifemaker Thomas Haslinger claims to have successfully applied a differential temper to four different stainless steels

Canadian knifemaker Thomas Haslinger indicated this past September that he's the first to differentially temper various stainless steels successfully.

At press time, he claimed to have differentially tempered CPM S30V, CPM S60V, BG-42 and ATS-34.

According to *BLADE*® field editor Ed Fowler, the traditional differential tempering process for carbon steel starts with a blade that's been fully hardened. From there, the spine, or back, of the blade is heated to make it softer than the cutting edge. The object is to provide greater toughness to the blade.

However, according to Haslinger, since most stainless steels for knives are air hardening, traditional tempering methods haven't worked well with them.

"Precise heat-treating cycles are a preliminary requisite to obtain the desired results of a softer spine and a fully hard cutting edge," he noted. He said the benefits imparted to the steel are improved toughness, as well as minimal to no loss of corrosion resistance and superior performance. He also claimed to have achieved repeatable and consistent results with the process.

Haslinger said he's able to bring out a visible and distinct temper line on the differentially tempered stainless blades via a special chemical etching process, though the resulting temper line is nothing like on a carbon steel blade. He stressed that stainless steel is inherently resistant to the traditional etching process that brings out the temper line in carbon steel blades. He said the etching was done at a slow rate employing numerous cycles. The result is a brighter finish for the harder cutting edge and a gray, frosted look for the softer blade area.

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