When is it to toothy or to polished?
Posted by coryschnaufer - 21 Oct 2012 21:35

I know that the push cut guys are going to say that it can never be to polished but, I find if I really polish a knife it dulls a lot faster. Right now I'm using a buck vantage pro with S30V at 15, 17, then finishing at 20 degrees. I'm running them through 1000 diamond at all angles and finishing with both 5 and 3.5 on either balsa or leather at both15 and 20. I'm getting a super sharp knife but if I'm cutting zip ties it sucks. If I'm peeling of sealant it is fabulous. Is there a happy medium? Should I go back and hit the edge with a stone for a couple of strokes after I have stropped? Where do I go from here?

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Re: When is it to toothy or to polished?
Posted by wickededge - 21 Oct 2012 21:41

You could try a very light micro-bevel using just a few strokes with your 1000 grit stones.

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Re: When is it to toothy or to polished?
Posted by Geocyclist - 21 Oct 2012 22:47

For me the question is do "polished" edges really go dull easier? Or is this just a misconception? A toothy edge should "slice" better, so if a user is slicing with a polished edge is he incorrectly thinking the edge is dull?

The other day I had to cut a heavy duty tie strap. BTW, my opinion is tie straps are one of the harder, more damaging materials to cut. I reached for my leatherman to avoid using my good Benchmade blade. I didn't have my tool pouch on so all I had my my Benchmade in s30v. I made sure to line the cut perpendicular to avoid rolling the edge. I checked it after the cut and the edge was fine, but I stropped when I got home anyway. My point is I normally use a beater to cut tie straps and I strop to maintain the edge.

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Re: When is it to toothy or to polished?
Posted by PhilipPasteur - 23 Oct 2012 09:21

Geocyclist wrote:

For me the question is do "polished" edges really go dull easier? Or is this just a misconception? A toothy edge should "slice" better, so if a user is slicing with a polished edge is he incorrectly thinking the edge is dull?

The common wisdom seems to be (from lots of discussions with my peers and many, many hours of reading books and online posts...as well as my personal experience) that a refined edge will stay sharp longer than one with more "tooth". The theory is that you have more metal at the edge on a blade, with the proper geometry, and honed with a finer abrasive than on one with tooth. It continues in the thought that the "teeth" on a toothy edge are more easily, dulled or deformed than a more solid refined edge would be.

Of course this is relative. If you have an edge that will hardly cut tie wraps well fresh off of the stone, it won't take long before it appears very dull in that application. If you buy the theory though, that blade should push cut or shave considerably longer than a toothy edge after the same amount of use.

I guess it is about sharpening for a task. I have knives that I use for some things such as cutting cardboard, reinforced strapping tape and tie wraps. I leave them pretty toothy, usually stopping with the 1000 grit diamonds and 6 micron strops for a few passes. Works great. Then sometimes I go nuts through all of my stones in my progression and strop down to 0.025 on nanocloth for whittling hair. This kind of edge (on good steel)will keep that edge for quite a long time. It will continue push cutting and doing things like wittling longer than its toothy cousin.

Just my thoughts..

Phil

EDIT: I also sharpen the "utility blades at around 22 to 24 degrees per side, while the "show off" blades are 16 to 18 degrees per side depending on what the steel will support.

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Re: When is it to toothy or to polished?
Posted by coryschnaufer - 23 Oct 2012 09:46

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Thank you guys for the replies. The problem is I keep rolling my edge because I'm not careful when I'm using my knife. It is just another tool and when I'm in the middle of a job I don't slow down and be careful. So I'm going to try a little more tooth at a broader angle and see if that works a little better for me.

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Re: When is it to toothy or to polished?
Posted by PhilipPasteur - 23 Oct 2012 10:06

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Just curious. What kind of steel does the knife in question use. Do you know the Rockwell hardness number that the blade is rated at? What angle are you sharpening at? What is the final grit/media that you used?

Lots of the time, premature edge rolling is caused by the wrong geometry for the knife steel. Of course, any steel in any geometry and with any degree of edge refinement, can experience edge rolling if too much pressure is applied through the edge to a hard enough material.

Phil

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Re: When is it to toothy or to polished?

Posted by coryschnaufer - 23 Oct 2012 10:22

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I had a benchmade triage with I believe N680 and I really didn't like that steel very much. I rolled that edge all the time at just a standard 22 degrees.

I have since started carrying a buck vantage force pro with an s30v blade. It seems to hold up a lot better and I've adjusted my sharpening to 15, 17, and a final, 20 degrees. My last stone is the 1000 diamond and then I'm stropping with 5 and 3.5.

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Re: When is it to toothy or to polished?

Posted by cbwx34 - 23 Oct 2012 11:24

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Some of my sharpest knives are highly polished... some of my dullest knives are highly polished. I like a refined edge, I don't really care about the polish... it's just a side benefit. I think some of the issues with polished edges not cutting, has to do with rounding the edge, (which is why I'm so interested in Clay's microscope studies).

A few years ago, I did a "rope cut" test in another forum, in part to demonstrate that a "polished" edge could cut rope...

The knife was finished on a 10,000g waterstone (in the picture). The knife made 400 cuts (and then I quit, not the knife), and at the end could still slice thru the paper and packing foam (seen on top of the rope pile), and even shave arm hair. I think I learned more from this than anyone. (Mostly that cutting rope is a pain in the ...)

(BTW, this was in response to a post that claimed a 280g finish cut the most rope, and a 1000g (yes one thousand) Arkansas stone finish, wouldn't cut rope at all!)

Like Geocyclist said, I think there's a lot of misconceptions in the "polished vs. toothy" debate. I think a properly sharpened refined or polished edge will last longer than a toothy edge, if done right (easier said than done, but one of the advantages of using the WE). It can also not cut anything if done wrong.

I recently bought a "tomato knife", just to see how it cut. It's a small serrated knife. I compared it to a small "Kitchen Aid" knife that had a 6000g waterstone finish. I cut a bunch of small tomatoes with it. The 6K finish easily outperformed the tomato knife... even "sawing" thru tomatoes with the serrations, the knife didn't cut well at all compared to the 6K knife, that some will say is too "polished" for tomatoes. This tells me that blade geometry may have more to do with it, than the actual edge.

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Re: When is it to toothy or to polished?

Posted by PhilipPasteur - 23 Oct 2012 11:58

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Over the last year or so I have ended up with several S30V knives. I can't say that I have seen edge rolling with this steel, but honestly I haven't used any of them that hard. The shallowest angle that I have tried is 18 degrees per side fo a Manix 2 XL. With light use this has not been a problem. The knife with S30 V that I have used the hardest is a Spyderco Paramilitary 2. That one I sharpened at 20 degrees per side with a microbevel at 23 degrees. I have seen any edge rolling on it and I have cut quite a few tie (sorry I have been misspelling that) wraps and plastic pallet bands with it... besides breaking down cardboard boxes and other typical stuff.

My first thought would be to try leaving the edge a bit thicker by making the bevel more like 20 degrees per side or more. A bit of trial and error.

BTW, the biggest complaint that people seem to have with S30V is that it chips more easily than say VG10...

What are you cutting that rolls your edge??

If you are rolling the edge, you are applying more force than the strength of the steel can withstand at that particular thickness.

Phil

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Re: When is it to toothy or to polished?

Posted by PhilipPasteur - 23 Oct 2012 13:10

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Cory,

If you have the time take a look at this:

www.bladeforums.com/forums/showthread.ph...etry-cross-sectional

It is quite an interesting thread with some very interesting photos. It looks at burr formation, wire edges, and edge rolling. I found it quite interesting.

Phil

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