Do ceramics have a break in period?
Posted by Scott Sherman - 19 Oct 2012 16:18

There has been much discussion of breaking in stones, especially diamond stones and water stones. Is there a break in period for ceramics? If so, is it different for the super fine vs the micro since they seem to be so different?

There was some discussion of how the super fine ceramic has some powder which comes off the surface. Is this the same as break in where it will perform better after several knives or is this just something that happens after the first few swipes and then it performs as it is supposed to from then on?

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Re: Do ceramics have a break in period?
Posted by wickededge - 19 Oct 2012 16:34

Scott Sherman wrote:

There has been much discussion of breaking in stones, especially diamond stones and water stones. Is there a break in period for ceramics? If so, is it different for the super fine vs the micro since they seem to be so different?

There was some discussion of how the super fine ceramic has some powder which comes off the surface. Is this the same as break in where it will perform better after several knives or is this just something that happens after the first few swipes and then it performs as it is supposed to from then on?

Another good question. You'll get some powdering at first with the Superfines but it does't seem to negatively impact performance and after a couple of knives the powder will stop coming off. I have really enjoyed my Micro-Fine stones after lapping the fine side to a nice finish. I like the coarse side to stay a little more coarse so that it's more handy for a touch up that requires a little more than straight honing.

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Re: Do ceramics have a break in period?
Posted by Scott Sherman - 19 Oct 2012 16:38

I read through your answer a couple of times and I am not quit clear although I think you are saying that the ceramics really do not have a break in period in the same sense as the diamonds. It sounds like you can just start using the ceramics on your favorite knife even when they are brand new out of the box for the first time and get pretty much peak performance and results. Am I right?

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Re: Do ceramics have a break in period?
Posted by wickededge - 19 Oct 2012 17:11

Scott Sherman wrote:

I read through your answer a couple of times and I am not quit clear although I think you are saying that the ceramics really do not have a break in period in the same sense as the diamonds. It sounds like you can just start using the ceramics on your favorite knife even when they are brand new out of the box for the first time and get pretty much peak performance and results. Am I right?

Well, now that you put it that way... I'd still stick with saying yes, you can use them right away on a good knife. I wouldn't hesitate.

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Re: Do ceramics have a break in period?
Posted by Scott Sherman - 19 Oct 2012 22:27

Well I had a good day today. I received my new 1200-1600 super fine ceramic stone set and a new curved medium fine ceramic stone set from WE. And to make things more interesting, yesterday, I received a set of 50-80 grit stones. So I now have everything in progression from 50 grit to 1000 grit diamond and the superfine and micro fine ceramics and leather strops from 5/3.5 micron to 1/.5 micron and a bare kangaroo leather strop.

I don't really qualify for a complete OCD diagnosis until I get my Chosera Stones (probably sooner than later, however).

So I have been experimenting since I got these stones this afternoon and here are some initial observations for anyone interested.

The 50-80 will be my most appreciated and least used stones. I have a dozen or so knives, most in the $100 to $400 range not including a nice set of Ken Onion Shuns in the kitchen. In each case I will do the first sharpening from 50 grit since there is really no way to exactly match the factory bevel, most of which were done on belt sanders and different angles on both sides of the blade edge shoulder. So once I set my own bevel and document it, I will probably not need the 50-80 any more until I buy a new knife. I could start with the 100 grit stone but it puts a high burden on these stones both in the life of the stone and the time it takes to profile my blades compared to the 50.

Now on to the ceramics, which is what you are here for I imagine.

Some discussion of powdering and chipping and wear has come out. I can now speak to these first hand from my own use. First the super fine 1200-1600 stone. I did not see very much powder come off the stone after a few strokes. What did come off was minimal and did not seem to effect the stones in any perceivable way. This stone set seemed to my touch to feel slightly softer more porous than the micro fine. The 1200 ceramic is the the 1000 what the 1000 is to the 800. That is, the difference is perceptible in the same way. The 1600 is to the 1200 what the 1200 is to the 1000 and so on up to the fine side of the micro fine. So the difference in the abrasive texture to my fingers on the ceramics felt symmetric and smoother as the stones progressed pretty much as you would expect. I think it would be difficult to get a diamond stone to be as smooth as the 1200 ceramic and beyond stones are. Which is why I think the vitrified ceramic is used, instead of going to a 1200 diamond stone but the texture feels as if it were just a smoother version of the diamond stones until you get to the micro which feels harder and smoother and denser or heavier than the super fine.

For anyone who does not know what vitrified ceramic is, I pulled a short definition off the internet to help put it in perspective.

VITRIFICATION

The ultimate purpose of firing is to achieve some measure of bonding of the particles (for strength) and consolidation or reduction in porosity (e.g., for impermeability to fluids). In silicate-based ceramics, bonding and consolidation are accomplished by partial vitrification. Vitrification is the formation of glass, accomplished in this case through the melting of crystalline silicate compounds into the amorphous, noncrystalline atomic structure associated with glass. As the formed ware is heated in the kiln, the clay component turns into progressively larger amounts of glass.

This makes sense when you feel the ceramic stones. They probably start out the same but the degree of heating or vitrification determines the grittiness instead of the diamonds to get a smoother gritty surface than diamonds could provide in a stone. So it makes sense that the next natural progression from the micro fine is to put a paste with diamonds on a softer still medium like leather or balsa.

I hope I am making sense at this point. It can obviously get complicated.

I first used the super fine dry after moving past my 1000 grit diamond stone. It did act just like another (smoother diamond stone and made the scratches from the previous (1000 grit) stone smoother or finer although not mirror polished. I then used it after wetting the surface with a wet towel. This made a big difference as I think the water acted like a paste on a strop. I will probably always use water on the superfine. But the micro fine is so dense and smooth that it really did not benefit by water. The 1600 started to transition to polishing but was still leaving very, very fine scratches. These are apparent in the grit chart posted here somewhere. I will say that the super fine is a perfect set of stones to transition between the 1000 and the micro fine ceramic and I am very glad I purchased it.

I am not sure there is any need at this point to get the Chosera stones although, I can see that the Chosera stones offer a different sort of feedback and sharpening experience and I will probably get them sometime just to try them. I don't think (I am guessing here) that you will get any sharper or shinier a result with the Chosera's than with the WE progression I have discussed here.

I did not get any chipping along the edges although I did not try it on a recurve, so it was not really tested for that. I think these stones are very durable and should serve well for many, many sharpenings on par with all the other stones I have. I think I use less pressure with the ceramics since they are more of a transition into polishing than the diamond series.

The curved ceramics is another story however. They feel softer than the super fine and I believe they are listed as being the equivalent of about a 400-600 grit abrasive quality. To be fair, I haven't had a chance to test these very well yet so I will hold off judgment until I get it on my recurves. I don't know how much use this set will get however as it is not quite a polishing stone and not quite a sharpening stone as far as I can tell, (again just based on my first impression and appearances).

If I missed something or anyone has any questions I can answer, please don't hesitate to ask here.

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Re: Do ceramics have a break in period?
Posted by PhilipPasteur - 21 Oct 2012 12:55

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Scott,

A bit off topic here, but...

You (I think) posted a link to a discussion on abrasives. I scanned it but did not read it in depth. My impression was that it would be a very good resource to have on the WIKI. I also want to read it in depth. Sadly, I can't seem to find it now. Could you re-post that link, Please.

Phil

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Re: Do ceramics have a break in period?
Posted by Scott Sherman - 21 Oct 2012 13:08

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PhilipPasteur wrote:

Scott,

You (I think) posted a link to a discussion on abrasives. I scanned it but did not read it in depth. My impression was that it would be a very good resource to have on the WIKI. I also want to read it in depth. Sadly, I can't seem to find it now. Could you re-post that link, Please.

Phil

Hey Phil,

I kinda need a little bit more info to know which thread you are referring to. Many if not most of the threads I have started or participated in discuss abrasives or grits in some form.

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Re: Do ceramics have a break in period?

Posted by PhilipPasteur - 21 Oct 2012 14:11

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Scott,

If I knew that my friend I would have already found it. I looked through a couple of likley suspects, but could not find anything.

It was to an external site the OP did a nice treatise on abrasives, and even followed up with a list of other articles as reference. I may have saved it to my PC at work... not sure.

I figured that you would probably have some recollection of the piece as it was... at first glance, quite a good one.

Phil

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