Why water stones?

Posted by Scott Sherman - 20 Oct 2012 08:42

I just recently became a devotee of self sharpening a couple of months ago. Before that, I thought only experts could sharpen my knives because there was such a dizzying array of methods and materials by which it could be done and until somewhat recently, it was all done freehand by craftsmen who probably learned at the hand of other experienced craftsmen.

Enter guided systems like WE (and others) which made expert results obtainable by inexperienced, unskilled knife collectors or someone with a collection of dull kitchen knives which is what got me started. So now I have bought into this WE system and decided to get a PP2. The PP2 was put together at a time when the 1200-1600 ceramic stone was not available due to some production problems (which now seem to have been resolved). This left a gap in the progression of abrasives between the 1000 grit diamond stone and the next available micro fine ceramic stone which shipped as part of the PP2.

Because of that gap, I began to consider the available options including the Chosera water stones made for the Wicked Edge guided rod system. The 2000-3000 and 5000 -10000 sets would very capably fill that gap but going from the proprietary (easy to use) WE stones to the Japanese water stones was messy and the stones have different dimensions making it more complicated to set the bevel etc.

However, having said all that, I have noticed among some here in this forum, there is a preference for using the water stones and I could not help but wonder why. So I would love to hear from those who prefer and use the water stones or who are considering buying them or perhaps you bought them to fill the gap and no longer use them because the 1200-1600 ceramic stone is now available. I would appreciate it if you could share your thoughts and experiences. What do you like about them? Do you regret getting them or if you did would you never consider using the diamond and ceramics. Perhaps you only use water stones, would you also get some of the diamond or ceramics now to supplement your water stones?

I know there is a different feedback and user experience with water stones , but to my untrained eye, you seem to be able to obtain about the same results with the dry, easier to use diamond and ceramic stones, or am I missing something? I am guessing that some here only used water stones freehand before the guided rods were introduced and liked being able to use them with the new rod system and just stuck with the water stones. If so, what is your feelings about diamond and ceramic stones vs water stones?

Thanks for your feedback and insight I am hoping others here are also curious and may learn something here.

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Re: Why water stones?
Posted by Geocyclist - 13 Jan 2013 21:56

Thanks guys, good information.

Phil, very good write up.

Ken, based on what you just said how would you describe the ceramics (offered by WE). True grit? No polish?

What does the "mud" or "slurry" or "schwarf" on the water stones do? Polish, abrade, both?

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Re: Why water stones?
Posted by KenBuzbee - 13 Jan 2013 22:05

Geocyclist wrote:

Ken, based on what you just said how would you describe the ceramics (offered by WE). True grit? No polish?

They seem to be mid way in between, like the Choseras but they don't do either quite as well. I find Choseras cut better and polish better.

But the ceramics are convenient and easy to use.

Geocyclist wrote:

What does the "mud" or "slurry" or "schwarf" on the water stones do? Polish, abrade, both?

Mud/slurry speeds your cutting by freeing full abrasive particles so the full particle can cut, not just the exposed part. But this also means your grooves will be slightly deeper, and need more time to work out.

I often start with some slurry but finish without it before moving on.

Swarf is different/bad.

Ken

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Re: Why water stones?
Posted by BluntCut - 13 Jan 2013 22:40

Geocyclist wrote:

What does the "mud" or "slurry" or "schwarf" on the water stones do? Polish, abrade, both?

IMO

mud/slurry = more polishing and much less abrasion than fixed abrasives because loose particles interact in a lapping fashion.

swarf (super fine pieces of abraded steel & carbides) = polishing, except for VERY (0.0001%) rare large carbide pull out chunk which is undersirable (i.e. big scratchy). I wouldn't worry about them at all just like you're not worried about those black stuff on your strops.

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Re: Why water stones?
Posted by PhilipPasteur - 13 Jan 2013 23:09

BluntCut wrote:

Geocyclist wrote:

What does the "mud" or "slurry" or "schwarf" on the water stones do? Polish, abrade, both?

IMO

mud/slurry = more polishing and much less abrasion than fixed abrasives because loose particles interact in a lapping fashion.

This is not what my experience is. Using mud with a water stone increases its ability to abrade metal.

Below is an excerpt form something Tom wrote in relation to a Water Stone maintenance thread. The method he describes is one fairly widely accepted to work. It supports my thoughts (and Ken's original statement) on this. I use lots of mud on my coarser water stones to speed up material (scratch) removal. I minimize it one the fine stones... because I want a fine finish.

Phil

For example, a popular honing method for straights using a coticule, called the "Dilucot" method, starts off with a heavy slurry concentration and gradually adds water to dilute the concentration, thus slowing down the action so that it polishes more than it cuts, ultimately ending with stone and clean water only. With no lose abrasive, it is the least invasive abrading, which is good for finishing an edge.

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Re: Why water stones?
Posted by Mikedoh - 13 Jan 2013 23:32

Hey Phil (re phone #/ email)

Just being a wise guy. No mean intent. Just goofing off. Embarrassed to say the number of times I couldn't find my glasses

till I slipped another pair on, only to realize that the pair I was looking for we're perched on top of my head.

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Re: Why water stones?
Posted by BluntCut - 13 Jan 2013 23:33

PhilipPasteur wrote:

This is not what my experience is. Using mud with a water stone increases its ability to abrade metal.

Below is an excerpt form something Tom wrote in relation to a Water Stone maintenance thread. The method he describes is one fairly widely accepted to work. It supports my thoughts (and Ken's original statement) on this. I use lots of mud on my coarser water stones to speed up material (scratch) removal. I minimize it one the fine stones... because I want a fine finish.

Phil

Hi Phil,

A moderate amt of mud in conjunction with fixed abrasives indeed would abrade & polish faster. My answer was for mud only (i.e. only loose abrasives), thus it's lapping not? For a same grit, lapping yield finer finishes - just like stropping is one directional lapping. I don't think we disagree, just viewing this matter at a different angle.

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Re: Why water stones?

Posted by Geocyclist - 13 Jan 2013 23:43

I was following this almost. What is the difference between lapping and not lapping (what ever "not lapping" is called)?

When you talk about starting with mud, exactly what does this mean? Do you wash the stone off or just quick making more?

I start the coarse grit choseras by making mud first, rubbing the together, this lasts until the first wetting. After that it just starts to dissipate, past the 2nd or 3rd wetting it's gone. By wetting I mean when the stones are still moist I squirt about 4 drops of water to keep them wet.

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Re: Why water stones?

Posted by BluntCut - 14 Jan 2013 00:14

You can generate mud by rubbing nagura stone or small diamond plate with your stone. Soft stone gets muddy fairly fast on regular sharpening interaction.

Because WE stones in-use are almost vertical, so mud & water have tendency to drip down. Similar to EP where stone is facing down.

I am speaking as a freehander. I had about 6 yrs with EP, zero with WE. So my opinion in this forum are of 1/2 cent type

Pure lapping = loose particles tumble along the blade/bevel surface.

Stropping is sort like lapping except most particles are loosely embeded, along with tumbling particles. Of course a lot depend on backing material (hard/soft e.g. glass/leather).

More about mud = binder (resin/clay/etc) + broken down abrasives. If abrasive is high friable (like Alox/SiC), it usual get broken up during the course of collision. Easy test, just create some mud, take it, put on leather and strop for a while, you'll see the scratch pattern should be finer than the scratch from the stone directly.

I've rough language skills, so please don't mind my fumbling english.

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Re: Why water stones?

Posted by KenBuzbee - 14 Jan 2013 07:03

Geocyclist wrote:

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Essentially what I was talking about. If I want to skip the mud cycle I just give them a quick rinse after rubbing them together. You're there, brother!

Ken

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Re: Why water stones?

Posted by PhilipPasteur - 14 Jan 2013 09:05

Geocyclist wrote:

I was following this almost. What is the difference between lapping and not lapping (what ever "not lapping" is called)?

When you talk about starting with mud, exactly what does this mean? Do you wash the stone off or just quick making more?

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I am not sure how Blunt Cut is using the word lapping. I am pretty sure it is not in the way that we typically talk about lapping to flatten a stone (or anything else), but maybe I am missing something.

On the coarser stones, up to 1000 grit, or sometimes when I want more cutting power from it, the 2000 grit Chosera, I not only rub the stones together uner running water, but once the angles are set I use some relatively high pressure fast perpindicular strokes on the entire blade for a few minutes. This gets a fast start on removing scratches from the previous grit AND it builds a nice bit of mud. As I go to the sweeping strokes, I stop about every 20 to 25 strokes and ad a drop or two of water and mix it with the remaining mud and swarf while spreading it accross the whole stone. There is still mud on the stone after 100 strokes...if you do not put so much water on the stone that it all drips off. As you are getting close to removing the scratches from the previous grit, you might even find that you want to clean the stones before proceeding to do another 25 or so strokes, so that you can obtain the finest possible finish from them.

Phil

BTW Blunt Cut, here is an article that talks about lapping in the terms that define it as I use the word. Is this what you are talking about whan you write "lapping"? Just trying to define terms so that we all understand the terms in the same way.

en.wikipedia.org/wiki/Lapping

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