Super and Micro ceramics progression

Posted by LukasPop - 24 Oct 2012 16:42

I am waiting for micro ceramics, now I have 800/1000 diamonds and super ceramics. I think that you have some experimences with micro ceramics already, what progression do you recommend? Micro coarse > 1200 > 1600 > Micro fine, or 1200 > 1600 > Micro coarse > Micro fine? Or it doesn't matter? I read Clay used progression 600 > Micro coarse > Micro fine, which works well, on the other hand, Scott have 800/1000 diamond, super and micro ceramics, and still think, that adding choseras between super and micro ceramis would be useful, so I am little confused

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Re: Super and Micro ceramics progression

Posted by LukasPop - 28 Oct 2012 15:05

Thanks for elaborate answer.

So the question here is, what do you mean by "improve the edge"??

"Improve" means two things for me:

1. "Sharpness" - how well the edge can do some push - cutting tests (push cutting paper, shave hair, whittle hair)

2."Polish" - how clear is mirror reflection from the edge.

Now I use progression 100-1000 diamonds < 1200 and 1600 super ceramics < 5 and 3.5 um leather strops. And I think that each step improves both sharpness and polish.

If it is the ultimate in edge refinement with no scratches visible at 800X, I would think that you have to go beyond either of these progressions to some submicron stropping materials.

Yes, I think that stropping is irreplaceable, and it produces polish unattainable with stones. The sharpness after 3.5 leather strops seems to be also better than after 1600 super ceramics. But strops are soft, and therefore not so "precise" as stones, so stropping can lead to rounding the edge, which reduces sharpness. So I recommend to progress to the finest stone available, and then you will need less strokes with strops.

We would say that the fine microfine stone is a prep stone for a bunch of stropping, perhaps down to o.025 micron spray in four or five stages.

If I look at pictures at Grits Comparison Chart www.wickededgeusa.com/index.php?option=c...eneral&Itemid=46 , I can't say that the edge after 0.25 um diamond spray looks better than after 5 um diamond paste. So It doesn't seem to me that stropping with many different sizes of diamonds pastes and sprays has any visible effect.

So, what is your goal? If it is to get a highly refined edge with submicron scratches at the edge, as quickly as possible, the full ceramic progresstion is essential. You may get there after a very large amount of strokes with the microfine stones only. But that is very time consuming.

It seems that grit sizes of 1200 super, 1600 super and coarse micro are very similar, so I think that using only coarse micro can't take distinctly more time than all of them.

Then I think there are three "similar fine" stones: fine micro ceramics, 10K Choseras and 15K Shaptons. I haven't experience with either, but according other people on this forum it seems to me that:

1. Waterstones have better "feedback" during sharpening

2. Choseras are the most messy, micro the least

3. Choseras produce the best polish, polish of Shaptons and micro ceramics is similar

4. All three stones produce similar sharpness

5. Micro ceramics are the least expensive, then Choseras, then Shaptons (I take 5K + 15 K Shaptons + blank paddles, this combination should be similar to micro ceramics set)

So micro ceramics look quite fine for me, but it depends what your preferences are.

This is how I understand different abrasives now

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Re: Super and Micro ceramics progression
Posted by Scott Sherman - 28 Oct 2012 16:36

Not to complicate an already somewhat complicated topic, there is at least one other set of dynamics you can add which may not be easily quantifiable. That is the amount of pressure and stroke dynamics such as direction you drag the stone over the metal and of course how many strokes per stone.

I guess that is why knife sharpening is frequently referred to as an art.

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Re: Super and Micro ceramics progression
Posted by LukasPop - 28 Oct 2012 16:55

Scott Sherman wrote:

Not to complicate an already somewhat complicated topic, there is at least one other set of dynamics you can add which may not be easily quantifiable. That is the amount of pressure and stroke dynamics such as direction you drag the stone over the metal and of course how many strokes per stone.

I guess that is why knife sharpening is frequently referred to as an art.

Stroke direction is a good point. And you can use different directions with different stones. There exists general agreement and I can confirm that best results are with very light pressure. Number of strokes should be sufficient to remove scratches from previous stone, more strokes shouldn't significantly affect the results. But number of strokes may be important in case of stropping or creating toothy microbevel.

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Re: Super and Micro ceramics progression
Posted by Geocyclist - 28 Oct 2012 16:55

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Luka,

Thanks for the summary. This is a good list of pros/cons of the stones.

Scott,

Excellent point about pressure. I think it is possible (not always the case) that too much pressure can make the edge worse. Using light pressure can be good, but it you don't do enough strokes you may not get the desired result (and incorrectly think as a result the stones don't work as well as they really can).

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Re: Super and Micro ceramics progression
Posted by Scott Sherman - 28 Oct 2012 17:52

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In my opinion, it is all these variables and inconsistencies that make knife sharpening so interesting and so much fun. If it was easy, there would be a simple inexpensive machine with minimal learning curve that would do it for you and anyone could do it.

But I don't think that is happening (yet).

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Re: Super and Micro ceramics progression
Posted by LukasPop - 28 Oct 2012 18:33

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Scott Sherman wrote:

In my opinion, it is all these variables and inconsistencies that make knife sharpening so interesting and so much fun. If it was easy, there would be a simple inexpensive machine with minimal learning curve that would do it for you and anyone could do it.

But I don't think that is happening (yet).

I think it is happening if you have enough money to regard WEPS as inexpensive.
My second knife on WEPS and all the following was very sharp, so results are very consistent and learning curve minimal (provided I don't count time I read this forum before purchasing WEPS). The challenge starts when you want to achieve the sharpest edge possible or think how to keep your working knives superbly sharp with minimal effort. It is true art and science

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Re: Super and Micro ceramics progression

Posted by PhilipPasteur - 28 Oct 2012 19:17

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Lukas,

It appears that you had the answer to your original question before you asked it ???

[quote="LukasPop" post=6470]["Improve" means two things for me:

1. "Sharpness" - how well the edge can do some push - cutting tests (push cutting paper, shave hair, whittle hair)

2."Polish" - how clear is mirror reflection from the edge.

Now I use progression 100-1000 diamonds < 1200 and 1600 super ceramics < 5 and 3.5 um leather strops. And I think that each step improves both sharpness and polish..[/quote]

OK, I agree and going further with the 1.4 micron and 0.6 micron ceramics will get you more polish. Going further with the strops, will get you a finer more reflective and more refined for push cutting edge. You can be happy with what you have, of course, but better tools with a controlled angle system will get closer to what you define as your goal. Because of the philosophy that goes into designing the Chosera stones, you will get more polish if you use them, and likely more edge refinement. I have used them, photographed the edge at 400X and done every cut testing procedure that I know. From experience, I can answer your original question, yes the Choseras will give you an improved edge from what you are using now. I have not exhaustively used or tested the Microfine ceramics yet, (at least I have used them) but I can say with a high level of confidence that they also would help you improve your edges...by your definition.

Perhaps you might check out this thread:

wickededgeusa.com/index.phpoption=com_ku...art=20&Itemid=63

The micrographs don't lie. Check the difference between the four ceramics in their scratch pattern

[/[quote="LukasPop" post=6470][But strops are soft, and therefore not so "precise" as stones, so stropping can lead to rounding the edge, which reduces sharpness. So I recommend to progress to the finest stone available, and then you will need less strokes with strops..[/quote]

If stropping is done correctly, as the WEPS allows you to do (with the proper technique), you will not "round" the edge. Many of the micrographs show a small bit of convexing of the shoulder **before**
the edge, not a rounded edge of the edge. The fact is that quite often a well stropped edge will be sharper, by any cutting test, than one that is not stropped. Certainly (see below) the edge will be "improved" by your definition after stropping.

I see the same statement many many times all over the Internet about rounding the edge by stropping. Again, if done properly, I just don't agree with it... nor do thousands of straight razor users...

☺

[quote="LukasPop" post=6470][If I look at pictures at Grits Comparison Chart http://www.wickededgeusa.com/index.php?option=com_content&view=article&id=74:grits-comparison-chart-for-the-wicked-edge-sharpener&catid=31:general&Itemid=46 , I can't say that the edge after 0.25 um diamond spray looks better than after 5 um diamond paste. So It doesn't seem to me that stropping with many different sizes of diamonds pastes and sprays has any visible effect.[/quote]

I mentioned going to **0.025** ...on nanocloth. At that level there is a huge difference. Even at 0.5 micron there is a big difference ...maybe not visibly, but certainly with magnification...and certainly in cutting tests!

Take a look at this thread :

www.wickededgeusa.com/index.phpoption=co...rt=110&Itemid=63

Lots of good micrographs and info. You will see the scratch patterns from many of the stones, including the superfine ceramics and the 10K Choseras, and many types of strops. You can draw you own conclusions, but there is clear data showing there are big differences between 5 micron and 0.25 micron materials. These photos are much more revealing than the small ones on the WEPS grit chart. Look

Particularly at post 2642 copied below:

For each stage in the latest progression, I repeated the same tests - hanging hair test (HHT) and copy paper push cut (CPPC). Below are the results, in order of the progressions:

Medium HHT CPPC

1600# Ceramic Fail Pass, slight fraying of the edges

5k Chosera Fail Pass, slight fraying of the edges

10k Chosera Fail Pass, very smooth cut

1um Diamond on Balsa Fail Pass, very smooth cut

.5um Diamond on Balsa Fail Pass, very smooth cut

.25um Diamond on Horsebutt (Split) Fail Pass, very smooth cut

.125um Diamond on Horsebutt (Split) Fail Pass, very smooth cut

Plain Horsebutt (Top) Pass Pass, very smooth cut

.5um Diamond on Cow Leather (Top) Pass Pass, very smooth cut

Plain Cow Leather (Top) Pass Pass, very smooth cut

.125um CBN on Cow Leather (Top) Pass Pass, very smooth cut

Keep going to the end and check out the edges obtained using some of the diamond sprays and Kangaroo and Nanocloth. If you are not very impressed by what these media did after the stones, I will be very surprised.

[quote="LukasPop" post=6470] [It seems that grit sizes of 1200 super, 1600 super and coarse micro are very similar, so I think that using only coarse micro can't take distinctly more time than all of them.[/quote]

The Microfine coarse is half the grit size of the Fine Superfine ceramic 1.4 micron versus 2.85 microns. When we are getting to this level of grit size, this is significant. It will save time in scratch removal and refine the edge!

LukasPop wrote:

[Then I think there are three "similar fine" stones: fine micro ceramics, 10K Choseras and 15K Shaptons. [b]I haven't experience with either[/b], but according other people on this forum it seems to me that:

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So micro ceramics look quite fine for me, but it depends what your preferences are.

Number 1 I agree with. Number 2 may be true, but the mess it truly minimal when used per Tom's suggestions. Number 3, well the Choseras and the Superstones do polish better than the Shaptons. So far, I don't know that anyone has done the comparison between the Ceramics and Shaptons in an exhaustive manner. I do have the 5K and 15K Shaptons as well as all of the others you mention. One day when I have time I will try a direct comparison. Number 4, well I am not sure what similar means. So far, I like the edge with the Choseras, but if I am going to 10K, I usually do not stop there.

Number 5, Absolutely. The Microfine ceramics are a heck of a deal. If you get them, I think they will "improve" your edges. Get the Choseras and they will "improve" your edges. Get some of the Kangaroo and Nanocloth strops and sub micron "premium" (HA or Ken Schwartz) sprays and they will "improve" your edge. Now this is by your definition. The question for most people is whether they actually need this level of "improvement". First tie wrap you struggle to cut through will ruin all of that work...

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[quote="LukasPop" post=6470][This is how I understand different abrasives now :)[/quote]

We all have lots to learn. I think I can read and sharpen for the rest of my life and will never come

anywhere close to knowing it all!

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Re: Super and Micro ceramics progression
Posted by Scott Sherman - 28 Oct 2012 20:37

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PhilipPasteur wrote:

We all have lots to learn. I think I can read and sharpen for the rest of my life and will never come anywhere close to knowing it all!

That's what I was trying to say

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Re: Super and Micro ceramics progression
Posted by Billabong - 29 Oct 2012 01:33

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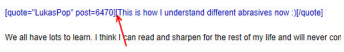
One for Phil.

When you break up a quote, leave the bracket out here.

The one before the "T". (arrow)



Apologies for the off-topic.

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Re: Super and Micro ceramics progression
Posted by LukasPop - 29 Oct 2012 07:11

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Thank you Phil,

your experiences seem to be very useful
It looks that I underestimated importance of different stroping abrasives, but you can't buy Kangaroo and Nanocloth strops and HA and KS diamond sprays in Europe and postage from USA is bloody expensive

I can't open your links, can you check it please?

The Microfine coarse is half the grit size of the Fine Superfine ceramic 1.4 micron versus 2.85 microns. When we are getting to this level of grit size, this is significant. It will save time in scratch removal and refine the edge!

I think that grit size comparison between different abrasives is tricky, and I heard several times that the Microfine coarse is coarser than you can deduce from the value 1.4 micron. Also 10K Choseras have grit size 1.74 micron, it is about three time as much as fine Microceramics (0.6 micron), and it doesn't seem that the edge after fine Microceramics are significantly more refined than after 10K Choseras. You have both, so you can confirm

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