Nano-Cloth Studies - Series 1

Posted by wickededge - 22 Aug 2012 14:52

Finally started today with some of the nano-cloth studies. I want to thank Ken Schwartz for generously providing enough nano-cloth strops mounted to aluminum blanks to conduct the study.

I started by preparing a bunch of samples with super polished bevels so we would be able to clearly see the effects of various abrasives. Here is the first sample polished clean (or clean enough):

I then used various abrasives on the nano-cloth, hoping to isolate pure abrasives, restoring the edge back to smooth in between each iteration.

Here they are in ascending grit size, fine to coarse:

.125um CBN

.5um CBN

.5um Diamond

More to come...

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Re: Nano-Cloth Studies - Series 1
Posted by wickededge - 24 Aug 2012 10:14

She hardly does

razoredgeknives wrote:

Very interesting Clay. I find Mark's observations to be on point... hopefully we can figure out what's going on! Thanks for spending the time on the different experiments... you have the dream job! lol, how does your wife ever put up w/ you?

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Re: Nano-Cloth Studies - Series 1
Posted by AnthonyYan - 25 Aug 2012 03:05

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wickededge wrote:

I started by preparing a bunch of samples with super polished bevels so we would be able to clearly see the effects of various abrasives.

Hi Clay,

Fascinating pictures! I'm curious, how did you "super polish" the edge to begin with?

Sincerely,

--Lagrangian

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Re: Nano-Cloth Studies - Series 1
Posted by BassLakeDan - 09 Sep 2012 23:14

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wickededge wrote:

.. super polished bevels..

..

Clay,

I have been meaning to ask, 1.) what steel is this that you were using for these tests, and 2.) what RC? Just curious ... thanks

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Re: Nano-Cloth Studies - Series 1

Posted by wickededge - 10 Sep 2012 09:54

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AnthonyYan wrote:

wickededge wrote:

I started by preparing a bunch of samples with super polished bevels so we would be able to clearly see the effects of various abrasives.

Hi Clay,

Fascinating pictures! I'm curious, how did you "super polish" the edge to begin with? 🙂

Sincerely,

--Lagrangian

I progressed through the usual diamond plates, then on to the Micro-Fine ceramics and then used 1um diamond on cow leather, .5um diamond on cow leather, .25um diamond on kangaroo and then .125 CBN on kangaroo. I didn't spend so much time as to remove every last scratch, just the vast majority.

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Re: Nano-Cloth Studies - Series 1

Posted by wickededge - 10 Sep 2012 09:56

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BassLakeDan wrote:

wickededge wrote:

.. super polished bevels..

..

Clay,

I have been meaning to ask, 1.) what steel is this that you were using for these tests, and 2.) what RC? Just curious ... thanks

I've been using a bunch of utility blades from the same 100 pc pack so that they are very similar. They're listed as "high carbon" though I don't know exactly what the composition or hardness is. If I had to guess, I'd put the hardness around 57-58 HRC.

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Re: Nano-Cloth Studies - Series 1

Posted by SvenSchläfke - 11 Sep 2012 10:22

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wickededge wrote:

AnthonyYan wrote:

wickededge wrote:

I started by preparing a bunch of samples with super polished bevels so we would be able to clearly see the effects of various abrasives.

Hi Clay,

Fascinating pictures! I'm curious, how did you "super polish" the edge to begin with? ☺

Sincerely,

--Lagrangian

I progressed through the usual diamond plates, then on to the Micro-Fine ceramics and then used 1um diamond on cow leather, .5um diamond on cow leather, .25um diamond on kangaroo and then .125 CBN on kangaroo. I didn't spend so much time as to remove every last scratch, just the vast majority.

So you did ship the Super fine 1200/1600 in this case? Did it take you much longer with the next ceramics since you did skip the fist?

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Re: Nano-Cloth Studies - Series 1

Posted by wickededge - 11 Sep 2012 10:28

SvenSchläfke wrote:

So you did ship the Super fine 1200/1600 in this case? Did it take you much longer with the next ceramics since you did skip the fist?

In this case I did skip them and it took a little longer, but not too bad, partly because my diamond plates are so well worn in now that they're already doing a lot of polishing before I even get to the ceramics.

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Re: Nano-Cloth Studies - Series 1

Posted by drmatt357 - 28 Sep 2012 19:53

Clay, is this your Dino-Lite 500 you took these pics with?

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Re: Nano-Cloth Studies - Series 1

Posted by wickededge - 28 Sep 2012 23:35

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drmatt357 wrote:

Clay, is this your Dino-Lite 500 you took these pics with?

Hey Doc,

These are with the 2000x metallurgical scope though only at 800x. I've only just started getting decent images at 2000x today. I'm hoping to get some more posted next week.

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