Subject: Black dye WSF & PWSF
Posted by tomrust on Mon, 17 Dec 2012 22:32:37 GMT
View Forum Message <> Reply to Message

We've been unhappy with the general evenness & surface quality of the black SF material. 1/2 of our customers want black products to match their phones, so it's become a high priority to try to find a better black material.
We also REALLY like the surface quality of the PWSF material, and so do our customers. Its smoother & has less of a gritty feel.

So we've started running some tests of dyes.
We first tried Rit dye Black, using a formula of 8 cups water, an 8 oz liquid bottle, and 8 teaspoons of vinegar. We heated to 60C (that was the recommended temp) and immersed parts for up to 6 hours. The WSF got quite dark, but always had a bluish cast - not a true black. PWSF was much worse - a nice navy blue but NOT black.

Today we tried iDye Poly from Jacquard Products in Healsburg, CA, bought at a local Joanne's Fabrics. About $4 per packet, which includes the powder dye & the brightener. Again the formula was poured into 8 cups water - just a bit more than needed to cover the parts

This we ran at 80C for 1 hour on a WSF, and 40m on 2 PWSF parts. The photo of the result is enclosed - the PWSF parts on the left, the WSF on the right.
You may need to adjust the brightness to see the engraved Nautlius logo. But we were reasonably pleased with these initial results.

One issue - for some reason the PWSF parts had a buildup of dye on the surface after removal. Hot water and detergent cleaned it off nicely, no change to the color. I spoke with Monty Witherby (sp?) at the company who recommended running at 100C (keep it at boiling) but we kept it below 80C as the data sheets recommended 80C max temps, even though the softening point of the nylon is much higher.

Note the WSF & pWSF are just slightly less dense than water, so parts float (barely). We stirred the baths every 5-10m, & had the logo faced down. Yet all sides were covered quite evenly.

File Attachments

1) dyepix.jpg, downloaded 986 times

Subject: Re: Black dye WSF & PWSF
Posted by thomashuang.net on Tue, 18 Dec 2012 20:06:18 GMT

View Forum Message <> Reply to Message

I also did my own tests. Minimum boil time was 1 hour. I always boiled. It makes the plastic softer though, but I think shapeways, sculpteo, and materialise all boil too.

Acid dye needs PH 5.0 while Lanaset Dye needs PH 4.5. The Acid and Lanaset turned out the best, but they still were not exactly black. I used 40mL/1L of vinegar (5%) for Lanaset, and 15mL/1L for the Acid. I tried the Acid dye again with 40mL/1L but this turned out red.

I made a mistake in the iDye Poly + clearcoat label. This was 2 hours, not 1 hour, and it was much darker than the 1 hour, but it uneven with patches of red. The 1 hour was clearly reddish. The Lanaset is slightly blue. The Acid was more neutral, but a bit gray.

I may just change my desire for black and go with gray or some other color that doesn't give customers an expectation.

adding a clear coat really darkens the color.

File Attachments

1) _DSC7098-1.jpg, downloaded 971 times

Subject: Re: Black dye WSF & PWSF
Posted by tomrust on Tue, 18 Dec 2012 23:26:58 GMT
View Forum Message <> Reply to Message

Great work. Interesting results. We used only 8 cups of water and the entire packet of dye plus brightener. Also a different (lower) temperature, although I would think it should not make that much difference. However, the tech person at Jacquard indicated the process involved swelling the fibers with the increased temperature, so its possible there may be some temperature effect. How much water did you use for your iPoly tests?

What I noticed as the dying progressed was the color was initially greenish, then turned grey then completely black.

The PWSF versions after drying had the look and feel similar to black leather. The WSF versions just looked VERY black, almost perfect blackbody.

Subject: Re: Black dye WSF & PWSF
Posted by stannum on Wed, 19 Dec 2012 00:07:27 GMT
View Forum Message <> Reply to Message

How deep into the item is the dye penetrating? There are some white areas in the top right item. Lots of sanding to fit the part? Or normal wear?

Subject: Re: Black dye WSF & PWSF
Posted by tomrust on Wed, 19 Dec 2012 00:52:16 GMT
View Forum Message <> Reply to Message

Another thing Im wondering is if we are using a different dye from Jacquard - the tag on the envelope says BLACK JID1454. Which one did you use?
Im running another test now, and after only 20m it looks quite dark already.

Subject: Re: Black dye WSF & PWSF
Posted by tomrust on Wed, 19 Dec 2012 02:40:43 GMT
View Forum Message <> Reply to Message

In running another test, started by boiling the dye. After 30m checked. Interestingly, i am seeing the reddish tint thomas huang saw.
Two possibilities i can think of.
One- not fresh batch dye. Left over from last run.
Two- high temps swell the nylon particles so much they close off too much area, so dye doesn't penetrate. The surface seemed shinier than the previous run
So seems plausible.

Have put back in bath and am running at low (60c) temp.

Subject: Re: Black dye WSF & PWSF
Posted by tomrust on Wed, 19 Dec 2012 03:50:10 GMT
View Forum Message <> Reply to Message

More time only made it worse! More reddish.
Will try fresh batch low temps tomorrow.

Subject: Re: Black dye WSF & PWSF
Posted by thomashuang.net on Wed, 19 Dec 2012 11:09:17 GMT
View Forum Message <> Reply to Message

I used just 1/5 of the iDye Poly with 1L of water. It was boiling for 1 hour. That resulted in the red. A similar mixture with 2 hours resulted in a darker red, but still red. I'm a bit surprised you were able to get black with just 60C, although I'm not sure whether using the whole packet of dye made that difference. I won't be able to make more tests until next year, but I would be interested in seeing your results. It sounds difficult to get the same results everytime without knowing what factors affect the outcome.

Subject: Re: Black dye WSF & PWSF
Posted by tomrust on Wed, 19 Dec 2012 20:27:19 GMT
View Forum Message <> Reply to Message

I spoke with Monty again. He indicated it was likely that the bath needs to be fresh. Apparently different sized molecules deposit at different times. Once depleted the color balance shifts.
He also recommended trying their acid dye 639.
He's also willing to run tests for us to ensure the best results!
Nice to offer. Won't happen till after new year though they're shutting down after tomorrow.
Maybe Shapeways can provide some test pieces too?

Subject: Re: Black dye WSF & PWSF
Posted by tomrust on Thu, 20 Dec 2012 01:16:51 GMT
View Forum Message <> Reply to Message

So I ran another batch of dye, this time fresh made, kept temps 60-70c, ran for 40m. I used one pwsf case & the two cases that came out reddish before] to try to get them blacker.
The virgin case came out nicely black as in the first test. The other two (right side pix) got a bit darker, but still reddish & more glossy.
So fresh dye is key, temps also.

File Attachments
1) 2012-12-19_14-21-58_648.jpg, downloaded 889 times

Subject: Re: Black dye WSF & PWSF
Posted by woody64 on Fri, 21 Dec 2012 12:14:48 GMT

View Forum Message <> Reply to Message

I have to agree a pWSF with a black glossy surface would be a great push for selling ...
Woody64

Subject: Re: Black dye WSF & PWSF
Posted by thomashuang.net on Sun, 23 Dec 2012 22:50:00 GMT
View Forum Message <> Reply to Message

Is the black you're getting at 60-70C really black, or does it have a slight tint? On my screen, your photo looks a bit purple, but this could just be the color balance of your photo.

It would be interesting to test the acid dye at a lower temperature again, but i won't be able to do this until the middle of January when I come back.

Subject: Re: Black dye WSF & PWSF
Posted by tomrust on Mon, 24 Dec 2012 17:57:18 GMT
View Forum Message <> Reply to Message

I see what you mean about the purple tint. May be the lighting/camera. In sunlight it looks quite black. There is a glossy reflection that changes depending on the lighting.

We've actually gotten to rather like the dark red glossy tint on the "failed " tests.
Has a rusty steampunk look.
The feel of the pwsf dyed cases is very different too. Rather like a polished hard shoe leather.

Subject: Re: Black dye WSF & PWSF
Posted by thomashuang.net on Tue, 08 Jan 2013 13:31:46 GMT
View Forum Message <> Reply to Message

Hi Tomrust,
Any news about the acid dye? Have you tried any other temperature, pH values with the iDye Poly?

Subject: Re: Black dye WSF & PWSF

Posted by tomrust on Thu, 10 Jan 2013 06:10:50 GMT
View Forum Message <> Reply to Message

Not yet. Our local supplier didn't have the acid dye but plenty of ipoly dye.

We've been communicating with EOS lately- maker of machines & materials we believe Shapeways uses. EOS has a black material similar to the white. Im surprised Shapeways Doesn't use it.
Also the alumide is a lot cheaper than the wsf, yet Shapeways charges more. Could be a demand issue.
I also tried to get Shapeways to provide some samples for Jacquard to run dye tests. They want us to pay for them.
Im frustrated as it feels like we're trying to help solve their problem but not getting any support

---

Subject: Re: Black dye WSF & PWSF
Posted by thomashuang.net on Thu, 10 Jan 2013 10:33:07 GMT
View Forum Message <> Reply to Message

I spoke with someone at Jaquard technical department, and he told me to always use rolling boil for polymide. He also recommended using 10% powder by mass, so my 60g (60m^3) part would use 6g of powder, or about half of the iDye packet. He said to me that the iDye Poly would work better than the Acid Dye and not to bother trying the iDye Natural.

The shop which sold me the powder in Germany was run by a guy who said he had a lot of experience in the textile industry, and said kind of the opposite, that the Acid Dye would be better than the iDye Poly.

I don't know who is right.

And I'm not sure why you were able to get a better result at 60-70C while the others are saying to use rolling boil.

Previously, I used just 1/5th of the packet on my 60g part, the iDye Poly which came out reddish, and the Acid Dye a bit gray. .I just have half a packet of each left, so I may try using them all at one time with rolling boil, but didn't you try this already before?

Where did you hear that the Alumide is cheaper than PA? I was told by the local printers that Alumide is at least 30% more expensive than PA. Their quote was 20-30% more.

They said they didn't like many different materials in the machines because they have to clean it out well before changing materials. Sometimes the next material gets contaminated with the

previous one, and ruins the print.

Subject: Re: Black dye WSF & PWSF
Posted by Mhagan on Thu, 10 Jan 2013 17:54:29 GMT
View Forum Message <> Reply to Message

Quote:EOS has a black material similar to the white. I'm surprised Shapeways
Doesn't use it.

We have seen the EOS black and it isn't nearly dark enough. Rest assured that Shapeways is working hard on this problem. :)

Subject: Re: Black dye WSF & PWSF
Posted by natalia on Fri, 11 Jan 2013 17:18:21 GMT
View Forum Message <> Reply to Message

Hi Tom,

I know Mitchell and Christel have been in touch from Customer Service, we'll keep everyone posted on what's happening.

As Matthew said above, we do know about EOS black powder, its just not dark enough.

We do really appreciate your testing, and everyone who experiments with all of our materials! Please keep posting your experiments and results, and know that we are doing a lot of R&D too!

Best,
Natalia

Subject: Re: Black dye WSF & PWSF
Posted by karwaing on Fri, 25 Jan 2013 06:24:57 GMT
View Forum Message <> Reply to Message

Even if the EOS black is not a dark black, I think you should make it available. Something like a dark grey is a very useful colour, and for my purposes preferable to a dyed black, even if the dyed BSF is a darker black.

If it's a marketing thing, you could just call it Grey Strong Flexible. It'd become my default material of choice. Or Polished Grey Strong Flexible!

Subject: Re: Black dye WSF & PWSF
Posted by thomashuang.net on Fri, 25 Jan 2013 13:14:19 GMT
View Forum Message <> Reply to Message

I've heard that Jacquard is going to have a gunmetal iDye poly soon. I'll be trying this.

Subject: Re: Black dye WSF & PWSF
Posted by tomrust on Fri, 25 Jan 2013 16:49:29 GMT
View Forum Message <> Reply to Message

Mitchell at Shapeways went the extra mile and got us a credit to use to make some parts for dye testing. We've submitted the parts, which are primarily small pieces which are 1/2 polished, the other half unpolished, to Shapeways for fabrication. They've been printed & are in transit to us. When we get them we'll send to Jacquard for testing - should be sometime week.
We'll post the results as soon as we get them.

Subject: Re: Black dye WSF & PWSF
Posted by woody64 on Sat, 09 Feb 2013 17:48:05 GMT
View Forum Message <> Reply to Message

I really appreciate the efforts and tests for black dying. a polished black dye would be great. (also a grey would be fantastic)

Subject: Re: Black dye WSF & PWSF
Posted by tomrust on Sat, 09 Feb 2013 18:47:19 GMT
View Forum Message <> Reply to Message

We shipped off the samples to Jacquard to be test dyed. There are both polished and unpolished samples they will test.
We had equally good results with both polished and unpolished - the black polished had a quite nice look and feel.

Hopefully Monty at Jacquard will be able to replicate the results and/or find a better approach that

can be consistently used by all.
I'll let everyone know what the results are.

Subject: Re: Black dye WSF & PWSF
Posted by fly2future on Sun, 10 Feb 2013 23:40:05 GMT
View Forum Message <> Reply to Message

this is all very interesting testing happening here.

I am looking at selling many SLS parts into production manufacturing facilities for end us (to replace small lot runs of injection molded parts). What I have been requested by customers is that the white SLS parts get extremely dirty and greasy very fast... the mechanics handle these parts with dirty/greasy hands and the nylon just soaks it all up like a sponge. It is then very difficult to get the dirt/grease out.

So my customer has requested if the parts can come in a darker color to hide the dirt/grease. Instead of using a 'black sls powder' to begin with, I figure dyeing the parts would be the most cost effective means of achieving this.

A big concern of mine however are the following..

1.) the customers often autoclave the parts at 250 degrees for 30-60 minutes. The SLS nylon does soften up but it does not render the part unusable. Once the part cools it still seems to be very close dimensionally as it was before autoclaving. This sure beats the heck out of the prior method of making parts from extremely expensive PEEK material in order to be autoclaved. But will the dye 'bleed out' if autoclaved?

2.) customers also put the parts through their wash rooms under very hot water (I would guess close to boiling temps), sometimes submerging the parts for an hour to clean them of all dirt/grease, etc. My concerns are that if I give them dyed parts, will the dye 'bleed out' when submerged into boiling water?

If the dye is permanent and there is no way it bleeds out, then this would be an awesome outcome! sure would beat painting the parts, as painting is the last thing I want to do.

Subject: Re: Black dye WSF & PWSF
Posted by tomrust on Mon, 11 Feb 2013 05:51:47 GMT
View Forum Message <> Reply to Message

Im assuming you're talking degrees F. From what little experience i have with boiling the parts in dye, the dye seems to be permanent.
Once it dries completely it doesn't tend to come off unless exposed to some solvents.

Subject: Re: Black dye WSF & PWSF
Posted by tomrust on Wed, 20 Feb 2013 18:00:13 GMT
View Forum Message <> Reply to Message

I just talked with Monty and got a pix of the results from his dye tests. Couple of interesting points:
- acid dye did not work at all - he said he had never seen a material which repelled the dye as thoroughly
- he went with a much stronger concentration of iPoly dye than we used, and got a jet black result (see pix) Black is the most difficult "color" to achieve for ANY dying process.

So what he recommended was using 8-10% (he used 8%) by weight of iPoly dye and carrier, and running at a rolling boil (100C) for 30m. Running at a boil would prevent the gunk buildup issue we saw, and should allow for simple easy cleanup of the part in post dye rinsing. Use equal parts dye and carrier (or intensifier) in the mix.
By my math, this is 10X the concentration we were using! We used 8 cups of water, which is about 2 kilos. One packet is 14ml of dye, 14g carrier or about 0.7%.
He recommended we buy direct from them, and talk to Victoria Garcia to order the dye and carrier in bulk - buying the packets will be much more expensive otherwise.
Maybe a lower concentration would work, but we'll run some tests using this formula and see how well it works on our regular parts.
I would imagine with this strong concentration, one could dye quite a few parts before needing to change the bath.

File Attachments

1) dyetest1.jpg, downloaded 478 times

Subject: Re: Black dye WSF & PWSF
Posted by thomashuang.net on Wed, 20 Feb 2013 18:15:24 GMT
View Forum Message <> Reply to Message

Thanks for the update.

Do you mean 8-10% of dye per water, or per polymide?

I spoke to Monty a while ago and he told me to use 8-10% per weight of polymide, so with a 100g piece of 3D printed part, to use 10g of dye, or just dump the whole 14g pack in with it.

If you mean by concentration of water, then it would be hard to judge, like using 1.4kg of water with a 14g packet of dye for 10%, but what happens if you dye maybe 3x of 100g of polymide, instead of just 1 piece, and what happens if reusing the bath for multiple boils?

THanks
THomas

Subject: Re: Black dye WSF & PWSF
Posted by tomrust on Wed, 20 Feb 2013 19:12:05 GMT
View Forum Message <> Reply to Message

You are correct, I talked with Monty again and got the correction
I misunderstood - it should be 8% of dye relative to the weight of the parts you are dying, nothing to do with water volume.
SO for example with our parts which are about 34g each, in our original bath we were running 3 parts or about 100g with one packet of dye, 14g, or 14%.

My impression after talking with Monty is the trick was very high dye concentration - but it seems that's what we've been using already.
My impression was the WSF dyed black more readily than the PWSF.
He tested the WSF, but not the PWSF yet. He is going to run that this afternoon - may know more then.

Subject: Re: Black dye WSF & PWSF
Posted by tomrust on Wed, 27 Feb 2013 22:19:41 GMT
View Forum Message <> Reply to Message

I spoke with Monty again - he tried the same dye formula on the PWSF parts, and he could not tell any difference. Both were jet black.
We are going to be running some black parts in the next few days - I'll post the results after I try them with the boiling mode.

Subject: Re: Black dye WSF & PWSF

Posted by thomashuang.net on Wed, 27 Feb 2013 22:34:15 GMT
View Forum Message <> Reply to Message

It would be interesting to know whether boiling/dying the PA affects the surface.

I'm curious to know whether another round of polishing, or another sand blasting would help the surface finish after boiling/dying.

Subject: Re: Black dye WSF & PWSF
Posted by fly2future on Sun, 03 Mar 2013 15:10:53 GMT
View Forum Message <> Reply to Message

Has anybody determined if the soaking in dye changes the shape/size of the parts? if you say are trying to hold a critical I.D. measurement of 1", after SLS the I.D. measures exactly 1". After soaking in hot water and dyeing, will the I.D. still measure exactly 1" or does it change by .005 - .010" ?

Subject: Re: Black dye WSF & PWSF
Posted by tomrust on Sun, 03 Mar 2013 16:19:08 GMT
View Forum Message <> Reply to Message

We haven't tried any exact measurements, but our cases do require that the size doesn't change more than 50-100u, or we would see it in how tight the phones fit in the cases. We haven't seen any such change in the dimensions.

Subject: Re: Black dye WSF & PWSF
Posted by smiteo on Wed, 05 Jun 2013 17:55:06 GMT
View Forum Message <> Reply to Message

I've attempted to dye some of my parts with the iPoly dye from Jacquard.
They look fantastic, but unfortunately, the amount of cleaning/scrubbing/soaking AFTER the dyeing process is daunting if one wanted to do this on a large amount of parts...

without the cleaning/scrubbing/soaking, the dye tends to bleed onto lighter colored parts, and onto ones fingers.

any advice?

Subject: Re: Black dye WSF & PWSF
Posted by tomrust on Wed, 05 Jun 2013 18:15:38 GMT
View Forum Message <> Reply to Message

The buildup of dye on the parts seems to be from the low temperature processing, and the long dye times. You may be able to minimize this with higher temperatures and shorter dye times.
We use a sponge, wear disposable gloves, and wipe the excess material off while running under warm water.
We then let the unit dry for at least one day - this tends to minimize bleed.

Subject: Re: Black dye WSF & PWSF
Posted by thomashuang.net on Wed, 05 Jun 2013 18:25:54 GMT
View Forum Message <> Reply to Message

the iDye poly rubs off too much. My hands get stained. I'm clear coating to add scratch protection and sealing in the pigments, but this would not work for low cost, high quantity parts.

I have tried acid dye before, but this was more than 6 months ago and i cant remember the results. I thought I got a better result though but you'll have to try it yourself to confirm.

I've had to go up to 1 hour of boiling with idye and acid to get them to stick though. To clean off the excess powder, you should wash them again at 60-80C with a bit of detergent or vinegar. But it won't fix the problem, just reduces the amount of staining.

I've also purchased an ultrasonic cleaner to try and get rid of as much loose powder from the parts before dying. It seems to get most of the powder off but not all. They work best with cleaning metal parts, but plastic is a bit different. I got one of those stainless steel rectangular units with a 120W power output. They're a bit more expensive than the small ones you find in electronic stores for cleaning eyeglasses and jewelry, and twice as expensive. My unit also comes with a heater, so it should be useful for the post-washing too.

I'll be experimenting with something called polymethcolours soon, manufactured by a company in Germany called BÃ¼fa. But I think they sell in large quantities to companies only. Their brochure claims to take only 15-20 minutes to work. The actual pigments don't work on their own. They require a catalyst to be added together with the pigments. The brochure also instructs to stay below 96C, because bubbles from the gassing water interferes with the bonding of the pigments to the parts.

I'll post some results in a week or so.

Subject: Re: Black dye WSF & PWSF
Posted by tomrust on Wed, 05 Jun 2013 18:47:08 GMT
View Forum Message <> Reply to Message

What did you use for the clear coat?

Subject: Re: Black dye WSF & PWSF
Posted by thomashuang.net on Wed, 05 Jun 2013 19:19:47 GMT
View Forum Message <> Reply to Message

I used a 2 component automotive clear coat. I think its a polish brand or somewhere from eastern europe called Profix CM 10 Matt, 2 to 1 mix with thinner. It makes a really hard coat, but it is a lot of labor, which is why I'm not sure it's good for large quantities of small parts.

One problem I'm having with the clear coat is that I'm trying to tumble my own polished parts, but I don't have the right media. The results I have is a fuzzy uniform surface, which looks nice when it's white, but when dyed, the ceramic powder from the media creates quite a lot of staining. So I may just resort to having the 3D print companies to polish the parts.

But if the surface is fuzzy and not smooth, the clear coat will harden the fuzzy fiber into a really bumpy ugly surface.

So the clear coat is appropriate only on hard surfaces. I've tried it on the default sandblasted surface and it's pretty good. I like the matt better than glossy because it doesn't highlight all the pores of the 3D printed parts. I'll be getting polished parts soon, so I can finally get on with further testing.

My plans for the next step is to test this polymethcolour, and if it works well without staining, I'll use this on pre-polished parts. For small parts, I won't use the clear coat. For larger parts that are part of a more expensive assembly, I will clear coat.

Subject: Re: Black dye WSF & PWSF
Posted by thomashuang.net on Mon, 17 Jun 2013 14:44:01 GMT
View Forum Message <> Reply to Message

I tested this Buefa dispersion dye. It is not black, it's more like purple, but I did this at 96-99C as directed. I'll try this again at 100-105 C later.
I used their Lavegal for pre and post wash, and it does not stain at all.

The rings on the left are normal sandblasted while the main part at the bottom is polished. The

polished part came out dyed much lighter, and the grinding pock marks are very visible. I'm not sure the polished surface looks so good when it's dark. It looks really nice when white, and also feels very well. But it looks to me like the normal sand blast surface looks better when dark.

I wonder if this Lavegal wash would work with iDye Poly or Lanaset dye to prevent staining. It could be similar to Synthrapol. iDye Poly is also a dispersion dye, just like the Buefa Polymeth that I tested today, but iDye Poly recommends roiling boil while Buefa says not to reach boil.

File Attachments

1) _DSC2275-2.jpg, downloaded 49 times

Subject: Re: Black dye WSF & PWSF
Posted by thomashuang.net on Mon, 17 Jun 2013 18:35:22 GMT
View Forum Message <> Reply to Message

I accidentally left a part in the dye bath for 3 hours off the stove, while cooling down back to room temp, and the part actually came out more black.

I wonder if the secret is to go from 80 to boil for 30min to 1 hour, then let it sit and cool down for maybe 1 hour.

But this was an unpolished part, just the standard sandblast, which looks much better when dyed black than a polished part.

I did another test and boiled it and it came out darker. However, my digital thermometer keeps fluctuating and may not be accurate. When I did my 1st test I kept it a reading of 96. When I boiled, the thermometer said 125 C which doesn't sound right. Can there be so much salt in the solution that the boiling temperature goes up so high?

Perhaps my first test was not so good because my thermometer is not working and I was maybe somewhere at 80C.

Also, for my post wash I am using the Lavegal from Buefa, with an ultrasonic cleaner. Without the ultrasonic cleaner, the cleaning bath actually stays quite clear, but with the ultrasonic bubbles, the excess dye immediately goes into the bath and it turns purple. But I wonder if it is also removing dye and making the color less dark?

After post wash, there is no staining of the hands.

I want to try this test again with acid dye and iDye poly, but I ran out and need to get more. I will try it with the method of going from 80C to boil and then down to room temp, then cleaning with the ultrasonic cleaner to get rid of excess dye to prevent staining.

Subject: Re: Black dye WSF & PWSF
Posted by thomashuang.net on Mon, 17 Jun 2013 22:23:57 GMT
View Forum Message <> Reply to Message

I found out that the cool down only makes the parts darker because the dye powder tends to cake to the part as it cools down. After post wash, that excess dye gets washed out and the color dulls back to it's pre cool down color.

However, boiling did make the color darker than non-boiling, but I have no idea what temperature I was using before as my thermometer is most likely cheap and broken.

The Buefa dye didn't make a good black, it's more blue. The blue is acceptably dark on non-polished parts, but not good enough on polished. But it doesn't stain after post washing with it's proprietary liquids.

Polished surface actually looks more like plywood chip board. It doesn't look pretty at all when dark. When it's white or light, it's not noticeable. The only way I think to hide the polished surface when dyed black is to clear coat it. When the surface if filled in or coated, the reflected light becomes more uniform instead of the "chipboard".

I'm going to try the acid and idye again. Anybody used the iDye natural, or only the Poly?

I may try the Lanaset again also, but they are really expensive, almost 2-4 times more than the Jacquard dyes, and I'm not sure where to find quantities of 1-5 LB to be shipped internationally.

Anybody asked i.Materialise what black dye they use? Their black is true black. They also don't give a discount on volume for dyeing, so it comes out very expensive.