

I have started using more color in my turning projects, and I have become increasingly concerned about not using products that will fade with time, as some already have. MCW had a demonstration in which fading was not taken into proper consideration. I did some research and found this very practical article that the author was kind enough to agree to share with us. So this month we are pleased to host a Guest Article by Bill Blasic. Bill is a fine turner and colorist from Union City, PA. He has had articles published in *American Woodturner*, AAW's *Woodturning Fundamentals*, *More Woodturning*, *Woodturning Design*, and more. He is active on the Boards and is currently "Admin Two" on the World of Woodturners forum. Thanks, Bill!

Colored Wood: A Simple Test of Light Fastness by Bill Blasic

Let me first state that I am not a scientist, nor is what is being represented a scientific process. Being a woodturner who sometimes uses dyes to color wood I had often wondered, and ran across questions dealing with light fastness of coloring wood. It began with a hands-on with Jimmy Clewes many years ago where we used aniline dyes (I have no memory of the brand) on a small piece plus a small hollow that gold gilding was added. This piece was never exposed to direct lighting but the colors slowly disappeared. The gilding is still there but the color faded completely.

I started using metal-complex dyes and was somewhat assured that they would not fade. Questions were always coming up about different dyes, so I decided to do my own test of different types of dyes/coloring. I got ten different types of dyes/coloring products (see Photo 1).



Photo 1

I made three separate boards from the same piece of wood, with squares separated by slices in the wood. I then used the 10 different products to color three squares each with red, yellow and blue. From left to right 1) Sharpie, 2) Tombow ABT, 3) Behlen aniline, 4) Lockwood's Metal Complex, 5) Behlen Solar Lux, 6) Keystone Keyfast, 7) Keystone Nerosol, 8) Artisan (this was the old Artisan from Craft Supplies), 9) Chestnut Spirit Stains and 10) TransTint.

Each square was painted with three coats of each product, See Photo 2.



Photo 2

The number 1 board is the control board. This board was kept in a lightproof box and received no light of any kind for over three years. The number 2 board was on the window sill here in my computer room next to the closed venetian blinds for over three years. It received shuttered light from outside and daily light from room lights. The number 3 board was kept outside in the sun for well over 100 days three summers ago, sunrise to sunset. It was covered with a sheet of clear thin glass just in case it was to rain. This is what they look like after the periods of time exposed as they were (see Photo 3).



Photo 3

Here are the facts, as I see them, close up and personal. In a matter of days the Tombow red and blue disappeared, but surprisingly the yellow is still yellow on all test pieces. In a few weeks the Sharpies faded to where the yellow was gone, but blue and red faded to where they are now, a little color remains. The Behlen aniline faded over time where all three are almost completely gone except for a touch of blue. The Artisan dyes (the old Craft Supply product) was the biggest surprise to me, as they are aniline dyes. They faded but only a little. The Solar Lux also faded a little. The TransTint, the Lakewood, and the Keystone dyes are all metal-complex dyes and had virtually no loss of color. The Chestnut Spirit Stains were like the metal-complex dyes and also had virtually no loss of color. I assume that the Chestnut Stains may be metal-complex dyes also because of how they behave but I have no actual proof of that.

The TransTint dyes come in a very concentrated bottle, and a drop or two in an ounce of liquid is how they are mixed for use. I use acetone for my agent with the dyes I use. The Keystone Keyfast comes in powder form, and I mixed according to directions; the Keystone Nerosel comes in liquid form, which I used straight out of the bottle. Lockwood also came in powder form and was mixed per instructions. The Behlen aniline dyes come as a powder and the Behlen Solar Lux comes premixed. The Chestnut and Artisan dyes also come premixed. Craft Supplies says they now have a different formulation of the Artisan dyes, so I cannot vouch for those.

If you plan on using dyes, my suggestion for getting the best possible results is to get a metal-complex dye. They have proved to me to be very lightfast. Although the aniline dyes had two very different results, I myself will refrain from using them -- and the Sharpies and Tombows, well I wouldn't bother.

TransTint can be purchased at any Woodcraft or Amazon. Chestnut can be purchased at Craft Supply or also Amazon. Behlen Solar Lux at Woodcraft or Amazon also Behlen aniline at Amazon. Keystone products: call 1-800-522-4dye. Lockwood's dyes: 1-800-426-4213.

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*Always use common sense. Things that work in one situation may not work in another. Follow all Safety Rules. If it feels wrong, it probably is; stop and rethink. **Your Mileage May Vary***