

EXPLAINING THE WOOL DYE SWATCHES

CUSHING'S Perfection DYES®

Following is an explanation for how we produced the multiple shades that are shown in our swatches. We did not use a graduated method for producing multiple shades in a single dyeing session; but rather dyed each of the swatches separately using a carefully measured amount of dye and material. We used Dorr White wool for every color and shade in order to have a consistent basis for comparison.

We began by dyeing each color at our standard ratio of 1/3 oz. (one envelope) of dye to one pound of material. We then dyed each color * at 1/4, 1/2, 3/4 and double strength, and this is what you see on each card arranged from light (1/4) to dark (double.)

For one pound of material, this means the following weight of dye will get you the shades in this book:

1/4 strength - 1/12 oz. of dye

1/2 strength - 1/6 oz of dye

3/4 strength - 1/4 oz. of dye

Full Strength - 1/3 oz. of dye

Double Strength - 2/3 oz. of dye

There are two ways to achieve accurate repeatable measures of dye. The first is to get a scale designed for very low weights. There are now small electronic scales that are not expensive that can weigh fractions of an ounce accurately. The second method is to dissolve a specific weight of dye in water, and then measure the water by volume. For accurate measurements of liquids use a graduated cylinder of appropriate volume. To do the dyeing for this book, we followed this second method using a 250 ml graduated cylinder.

Many people use small dye spoons. They work well for most purposes, but measuring by volume is not the best way to repeatedly measure dry substances. On the back of this sheet are two tables, one for weighing dry dye on a scale that will measure thousandths of an ounce, and the other for using a 250 ml graduated cylinder (We switched to metric as metric graduated cylinders are easier to find than liquid oz. cylinders.) They will help you calculate how much dye to use when dyeing less than one pound of material.

* We dyed black only at standard ratio. We do not recommend trying to achieve "light black" or gray using less dye. Black is a complex color made of multiple contrasting pigments, and dyeing at less than full strength does not offer repeatable results. Many people use small amounts of black in multiple dye formulas, and for that use it is reliable, but we recommend using our gray dyes for less than full black shades.

Weight of dry dye in decimal fractions of an ounce (for scale)

Weight of material in ounces	1/4 strength	1/2 strength	3/4 strength	Full strength	Double Strength
2	0.010	0.021	0.031	0.042	0.083
4	0.021	0.042	0.063	0.083	0.167
6	0.031	0.063	0.094	0.125	0.250
8	0.042	0.084	0.125	0.167	0.333
10	0.052	0.104	0.156	0.208	0.416
12	0.062	0.125	0.188	0.250	0.500
14	0.073	0.146	0.219	0.291	0.583
16	0.083	0.167	0.25	0.333	0.666

Number of milliliters (ml) of liquid dye solution

Based on dissolving 1/3 oz. dye in 250 milliliters of water

Weight of material in ounces	1/4 strength	1/2 strength	3/4 strength	Full strength	Double Strength
2	8	16	23	31	63
4	16	31	47	63	125
6	23	47	70	94	188
8	31	63	94	125	250
10	39	78	117	156	313 *
12	47	94	140	188	375 *
14	54	109	164	219	438 *
16	62	125	187	250	500 *

* NOTE: To achieve double strength for more than 8 oz. of material, you must dissolve 2/3 oz. of dye in 500 ml of water to use this table.