Delta-E

Delta-E Measurements over time: UltraChrome Vs G-Chrome

Delta-E is used to describe (mathmatically) the distance between two colors. To calculate the delta-E of any two colors, you need to know their LAB values. Once you have these values, all that you need to do to calculate delta-E is to calculate the distance between the two points in the Lab color space.

The average, casual viewer can notice the difference between two colors that are 5 to 6 Delta-E apart. We ahve plotted the Delta-E readings below for each color of printed swatches of Cyan, Magenta, Yellow, Red, Green, Blue and Composite Black

	C	M	Y	R	G	B	Composite Black
UltraChrome							
Hours							
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.80	2.20	2.30	2.20	0.60	2.70	0.60
50	1.00	2.80	2.30	2.80	0.70	3.40	0.90
100	1.00	3.60	2.30	2.80	1.70	4.30	0.90
200	1.60	4.00	2.40	2.80	3.20	4.80	0.90
300	1.50	5.40	2.30	2.70	6.60	5.60	0.90
400	1.40	5.50	2.30	2.60	9.90	6.70	0.90
500	1.40	5.40	3.00	2.50	13.00	6.60	1.40
Generations G-Chrome							
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.90	0.70	2.50	0.90	1.30	1.50	0.80
50	0.80	1.10	3.80	1.00	1.60	1.80	1.10
100	0.80	1.00	3.90	1.20	1.50	1.70	1.50
200	1.20	1.10	4.00	1.20	1.90	1.30	1.80
300	1.50	0.40	1.60	1.20	1.50	1.20	1.70
400	1.50	0.50	1.40	0.80	1.50	1.00	1.80
500	1.70	0.50	1.00	1.00	1.70	1.60	1.70

1) Test run on an Atlas Suntest XLS+
2) Emulation: Florida sun through a single pai ane of window glass
3) Media: microporous glossy
4) Printer: Epson C-82 2880 dpi

Tests are performed using an Atlas Suntest XLS+

Measurements were taken after a certain amount hours (see under "Hours" column) in an Atlas Suntest XLS+ Chamber and the measurements were plotted above (under each color listed above). An X-Rite 530 SpectroDensitometer was used to measure the density (DMAX), as well as to measure the Delta E changes over time.