2017

Innovatint version 3 Standard characterization mixtures Lab

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1. Overview

All mixtures are to be made in volume.
Always use the exact density on the colorant can to make the mixtures in the lab.
All mixtures to be made on 250 microns.

2. Clear base characterization

2.1 Bootstrap

The bootstrap is a set of mixtures to characterize your system white, system black and the transparent base. These 3 components will be used in the characterization of all other colorants.

The mixtures are determined based on the maximum colorant addition.

	Mix Ratio	*Part (%)*	
		Black	*White*
Mixture 1	Mass tone black colorant	*100*	*0*
Mixture 2	5/95	*5*	*95*
Mixture 3	15/85	*15*	*85*
Mixture 4	40/60	*40*	*60*
Mixture 5	80/20	*80*	*20*
Mixture 6	100/0	*100*	*0*
Mixture 7	40/0	*40*	*0*
Mixture 8	15/0	*15*	*0*
Mixture 9	Mass tone white colorant	*0*	*100*
Mixture 10	Mass tone clear base	*0*	*0*

Example where the maximum colorant addition is 7% and the base has a fill level of 93%.

	Mix Ratio	*Part (ml)*		
		Black	*White*	*Clear base*
Mixture 1	Mass tone black colorant	*70*	*0*	*930*
Mixture 2	5/95	*3,5*	*66.5*	*930*
Mixture 3	15/85	*10,5*	*59,5*	*930*
Mixture 4	40/60	*28*	*42*	*930*
Mixture 5	80/20	*56*	*14*	*930*
Mixture 6	100/0	*70*	*0*	*930*
Mixture 7	40/0	*28*	*0*	*930*
Mixture 8	15/0	*10,5*	*0*	*930*
Mixture 9	Mass tone white colorant	*0*	*70*	*930*
Mixture 10	Mass tone clear base	*0*	*0*	*930*

All mixtures have to be activated.

2.2 Colorants

The mixtures are determined based on the fill level of the base and maximum colorant addition.
For blue and green colorant use a double amount of black -> 98% colorant and 2% of black.

	Mix Ratio	*Part (%)*		
		COL	*Black*	*White*
Mixture 1	Mass tone	*100*	*0*	*0*
Mixture 2	5/95 %	*5*	*0*	*95*
Mixture 3	15/85 %	*15*	*0*	*85*
Mixture 4	40/60 %	*40*	*0*	*60*
Mixture 5	80/20 %	*80*	*0*	*20*
Mixture 6	99/1 %	*99*	*1*	*0*

Example where the maximum colorant addition is 7% and the base has a fill level of 93%.

	Mix Ratio	*Part (ml)*			
		COL	*Black*	*White*	*Clear base*
Mixture 1	Mass tone	*70*	*0*	*0*	*930*
Mixture 2	5/95 %	*3,5*	*0*	*66,5*	*930*
Mixture 3	15/85 %	*10,5*	*0*	*59,5*	*930*
Mixture 4	40/60 %	*28*	*0*	*42*	*930*
Mixture 5	80/20 %	*56*	*0*	*14*	*930*
Mixture 6	99/1 %	*69,3*	*0,7*	*0*	*930*

2.3 White bases

Additional white bases can be characterized with the following mixtures.
The mixtures are determined based on the maximum colorant addition.

	Mix Ratio	*Part (%)*
		Black
Mixture 1	Max. Col. Ad.	*100*
Mixture 2	Black Addition 40 %	*40*
Mixture 3	Black Addition 15 %	*15*
Mixture 4	Black Addition 10 %	*10*
Mixture 5	Black Addition 5 %	*5*
Mixture 6	Mass tone white base	*0*

Example where the maximum colorant addition is 1,6% and the base has a fill level of 100%.

	Mix Ratio	Part (ml)	
		Black	White base
Mixture 1	Max. Col. Ad.	16	1000
Mixture 2	Black Addition 40 %	6,4	1000
Mixture 3	Black Addition 15 %	2,4	1000
Mixture 4	Black Addition 10 %	1,6	1000
Mixture 5	Black Addition 5 %	0,8	1000
Mixture 6	Mass tone white base	0	1000

2.4 Clear bases

Additional clear bases can be characterized with the following mixtures.
The mixtures are determined based on the maximum colorant addition.

	Mix Ratio	Part (%)	
		Black	White
Mixture 1	Black Addition 100%	100	0
Mixture 2	Black Addition 40 %	40	0
Mixture 3	Black Addition 15 %	15	0
Mixture 4	White Addition 100%	0	100
Mixture 5	Mass tone clear base	0	0

Example where the maximum colorant addition is 7% and the base has a fill level of 93%.

	Mix Ratio	Part (ml)		
		Black	White	Clear base
Mixture 1	Black Addition 100%	70	0	930
Mixture 2	Black Addition 40 %	28	0	930
Mixture 3	Black Addition 15 %	10,5	0	930
Mixture 4	White Addition 100%	0	70	930
Mixture 5	Mass tone clear base	0	0	930

2.5 Colored bases

Additional colored bases can be characterized with the following mixtures.

The mixtures are determined based on the maximum colorant addition.

	Mix Ratio	*Part (%)*	
		White	*Black*
Mixture 1	1/99 %	*1*	*0*
Mixture 2	15/85 %	*15*	*0*
Mixture 3	40/60 %	*40*	*0*
Mixture 4	80/20 %	*80*	*0*
Mixture 5	100/0 %	*100*	*0*
Mixture 6	98/2 %	*0*	*2*
Mixture 7	Mass tone colored base	*0*	*0*

Example where the maximum colorant addition is 7% and the base has a fill level of 93%.

	Mix Ratio	*Part (ml)*		
		White	*Black*	*Colored base*
Mixture 1	1/99 %	*0,7*	*0*	*930*
Mixture 2	15/85 %	*10,5*	*0*	*930*
Mixture 3	40/60 %	*28*	*0*	*930*
Mixture 4	80/20 %	*56*	*0*	*930*
Mixture 5	100/0 %	*70*	*0*	*930*
Mixture 6	98/2 %	*0*	*1,4*	*930*
Mixture 7	Mass tone colored base	*0*	*0*	*930*

3. White base characterization

3.1 Bootstrap

The characterization of colorants in the white base requires also the use a clear base. The white base will be used as a replacement of the white colorant.

	Mix Ratio	*Part (%)*
		Black
Mixture 1	Pure white base	*0*
Mixture 2	5 %	*5*
Mixture 3	15 %	*15*
Mixture 4	40 %	*40*
Mixture 5	80 %	*80*
Mixture 6	Mass tone white base	*100*
Mixture 7	Mass tone clear base	*100*
Mixture 8	Pure clear base	*0*

Example where the colorant addition is 3% in the white base (base is 100%) and 7% in the transparent base (base is 93%).

	Mix Ratio	*Part (ml)*		
		Black	*White base*	*Clear base*
Mixture 1	Pure white base	*0*	*1000*	*0*
Mixture 2	5 %	*1,5*	*1000*	*0*
Mixture 3	15 %	*4,5*	*1000*	*0*
Mixture 4	40 %	*12*	*1000*	*0*
Mixture 5	80 %	*24*	*1000*	*0*
Mixture 6	Mass tone white base	*30*	*1000*	*0*
Mixture 7	Mass tone clear base	*70*	*0*	*930*
Mixture 8	Pure clear base	*0*	*0*	*930*

3.2 Colorants

The mixtures are determined based on the fill level of the base and maximum colorant addition.

	Mix Ratio	Part (%)
		COL
Mixture 1	Mass tone	100
Mixture 2	5 %	5
Mixture 3	15 %	15
Mixture 4	40 %	40
Mixture 5	80 %	80
Mixture 6	Mass tone clear base	100

Example where the colorant addition is 3% in the white base (base is 100%) and 7% in the transparent base (base is 93%).

	Mix Ratio	Part (ml)		
		COL	White base	Clear base
Mixture 1	Mass tone	30	1000	0
Mixture 2	5 %	1,5	1000	0
Mixture 3	15 %	4,5	1000	0
Mixture 4	40 %	12	1000	0
Mixture 5	80 %	24	1000	0
Mixture 6	Mass tone clear base	70	0	930

3.3 White bases

Additional white bases can be characterized with the following mixtures.
The mixtures are determined based on the maximum colorant addition.

	Mix Ratio	Part (%)
		Black
Mixture 1	Max. Col. Ad.	100
Mixture 2	Black Addition 40 %	40
Mixture 3	Black Addition 15 %	15
Mixture 4	Black Addition 10 %	10
Mixture 5	Black Addition 5 %	5
Mixture 6	Mass tone white base	0

Example where the maximum colorant addition is 1,6% and the base has a fill level of 100%.

	Mix Ratio	Part (ml)	
		Black	White base
Mixture 1	Max. Col. Ad.	16	1000
Mixture 2	Black Addition 40 %	6,4	1000
Mixture 3	Black Addition 15 %	2,4	1000
Mixture 4	Black Addition 10 %	1,6	1000
Mixture 5	Black Addition 5 %	0,8	1000
Mixture 6	Mass tone white base	0	1000

3.4 Clear bases

Additional clear bases can be characterized with the following mixtures.
The mixtures are determined based on the maximum colorant addition.

	Mix Ratio	Part (%)	
		Black	White base
Mixture 1	Black Addition 100%	100	0
Mixture 2	Black Addition 40 %	40	0
Mixture 3	Black Addition 15 %	15	0
Mixture 4	Black Addition 10 %	10	0
Mixture 5	Black Addition 5 %	5	0
Mixture 6	White Addition 100%	0	100
Mixture 7	Mass tone clear base	0	0

Example where the maximum colorant addition is 7% and the base has a fill level of 93%.

	Mix Ratio	Part (ml)		
		Black	White base	Clear base
Mixture 1	Black Addition 100%	70	0	930
Mixture 2	Black Addition 40 %	28	0	930
Mixture 3	Black Addition 15 %	10,5	0	930
Mixture 4	Black Addition 10 %	7	0	930
Mixture 5	Black Addition 5 %	0,7	0	930
Mixture 6	White Addition 100%	0	70	930
Mixture 7	Mass tone clear base	0	0	930

3.5 Colored bases

Additional colored bases can be characterized with the following mixtures.

The mixtures are determined based on the fill level of the base.

	Mix Ratio	*Part (%)*	
		White base	*Black*
Mixture 1	80/20 %	*80*	*0*
Mixture 2	60/40 %	*60*	*0*
Mixture 3	20/80 %	*20*	*0*
Mixture 4	98/0.2 %	*0*	*2*
Mixture 5	Mass tone colored base	*0*	*0*

Example where the base has a fill level of 100%.

	Mix Ratio	*Part (ml)*		
		White base	*Black*	*Colored base*
Mixture 1	80/20 %	*800*	*0*	*200*
Mixture 2	60/40 %	*600*	*0*	*400*
Mixture 3	20/80 %	*200*	*0*	*800*
Mixture 4	98/0.2 %	*0*	*2*	*1000*
Mixture 5	Mass tone colored base	*0*	*0*	*1000*