

Appendix A Dye recipe – thermochromic leuco dyes and permanent pigments

A.1 Recipe of base batches of permanent pigments

Pigment Yellow base (30/1000): 30g slurry imperon yellow K-R/1000g pigment binder

Pigment Red base (30/1000): 30g slurry Bricoprint red/1000g pigment binder

Pigment Orange base (30/1000): 30g slurry aquarine fluorescent orange/1000g pigment binder

Pigment Blue base: 30g slurry acramin blue/1000g pigment binder

A.2 Recipes of the pre-set colours, mixed from permanent pigments

Yellow (Y) = Yellow base (30/1000)

Orange (O): 28g yellow base (30/1000), 5g red base (30/1000), 10g orange base (30/1000)

Blue (B1): 2,5g blue base (30/1000), 0,5g red base (30/1000), 7g binder

A.3 Recipe of base batches of thermochromic leuco dye (TLD)

TLD Hallcrest Blue base 31 (10/40): 10g slurry Blue 31°C TLD/40g binder

TLD Hallcrest Blue base 47 (10/40): 10g slurry Blue 47°C TLD/40g binder

TLD Hallcrest Black base 31 (10/40): 10g slurry Black 31°C TLD/40g binder

TLD Hallcrest Black base 47 (10/40): 10g slurry Black 47°C TLD/40g binder

TLD Hallcrest Red base 31 (10/40): 10g slurry Red 31°C TLD/40g binder

TLD Hallcrest Red base 47 (10/40): 10g slurry Red 47°C TLD/40g binder

TLD Hallcrest Magenta base 31 (10/40): 10g slurry Magenta 31°C TLD/40g binder

TLD Hallcrest Magenta base 47 (10/40): 10g slurry Magenta 47°C TLD/40g binder

TLD Hallcrest Magenta base 31 (30/100): 30g slurry Magenta 31°C TLD/100g binder

TLD Hallcrest Magenta base 47 (30/100): 30g slurry Magenta 47°C TLD/100g binder

TLD Hallcrest Magenta/Black base 31: 5gr TLD Hallcrest Magenta 31°C; 0.14gr TLD Hallcrest Black 31°C; 30gr binder

TLD Hallcrest Magenta/Black base 47: 2gr TLD Hallcrest Magenta 47°C; 0.14gr TLD Hallcrest Black 47°C; 40gr Binder

TLD Hallcrest Orange base 22 (10/40): 10g slurry Orange 22°C TLD/40g binder

TLD Hallcrest Yellow base 20 (10/40): 10g slurry Yellow 20°C TLD/40g binder

TLD Matsui Brilliant green base 27 (10/40): 10gr slurry Brilliant green 27°C TLD/40gr binder

TLD Matsui Yellow base 27 (10/40): 10gr slurry Yellow 27°C Th.ch/40gr binder

TLD Matsui Magenta base 27 (30/100): 30gr slurry Magenta 27°C Th.ch/100gr binder

A.4 Recipes of the pre-set colours, mixed from thermochromic dyes some combined with permanent pigments

Magenta (M) 1 (M:100): 10gr slurry TLD Matsui Magenta 27°C/40gr binder

Magenta (M) 2 (M:100): 9gr slurry TLD Hallcrest Magenta/Black base 31; 0.04gr slurry Orange

Magenta (M) 3 (M:100): 9gr slurry TLD Hallcrest Magenta/Black base 47; 0.04gr slurry Orange

Light purple (LP) 1 (C: 50 M:100): 1gr slurry Blue, 9gr slurry TLD Matsui Magenta 27 base (30/100)

Light purple (LP) 2 (C: 50 M:100): 0.4g slurry Blue; 9gr slurry TLD Hallcrest Magenta/Black base 31; 0.04gr slurry TLD Hallcrest Black 31°C (without binder)

Light purple (LP) 3 (C: 50 M:100): 0.8gr slurry Blue; 18gr slurry TLD Hallcrest Magenta/Black base 47; 0.02gr slurry TLD Hallcrest Black 47 °C (without binder)

Dark purple (DP) 1 (Y:20 C:70 M:100): 2,5gr slurry Blue; 8,5gr slurry Magenta 27 base (30/100)

Dark purple (DP) 2 (Y:20 C: 70 M:100): 1g slurry Blue, 9g slurry TLD Hallcrest Magenta/Black base 31; 0.04gr slurry TLD Hallcrest Black 31°C (without binder)

Dark purple (DP) 3 (Y:20 C: 70 M:100): 1.1gr slurry Blue; 9gr slurry TLD Hallcrest Magenta/Black base 47; 0.02gr slurry TLD Hallcrest Black 47 °C (without binder)

Mint-green (MG) (Y:60 C:70): 20g slurry TLD Hallcrest Yellow base 20 (10/40), 8g slurry TLD Matsui Brilliant green 27 base (10/40), 3g slurry Blue

Blue-green (BG) (Y:50 C:100): 7g slurry TLD Hallcrest Yellow base 20 (10/40), 8g slurry TLD Matsui Brilliant green 27 base (10/40), 3g slurry Blue