OVERVIEW

1. Status Quo
   - Textile Ratio and Categories
   - Textile Designer and Printer
   - Problem?

2. Concept
   - „TextileRGB“ FOGRA58(beta)
   - Advantages, Requirements, Limitations
GLOBAL DIGITAL TEXTILE PRODUCTION RATIO

Textile Finished Goods

- Dyeing vs. Printing ~95%
- Conventional Printing vs. Digital Printing ~95%
- 0.25% digitally printed

**Dyeing**

*Yarn dyeing* of fibre or yarn which is then knitted or woven

*Piece fabric dyeing* of greige (undyed) woven or knitted yarns as a whole
TEXTILE CATEGORIES

Decorative

- Fashion, Activewear
- Swimwear, Underwear
- Footwear, Accessories
- Home Textiles, Décor
- Technical Textiles

Promotional

- Soft Signage

Hybrid:

- Sportswear, Direct-to-Garment (DTG)
STATUS QUO

Textile Designer

- Photoshop, Illustrator
- Soft- and Hard-Proof
- sRGB, AdobeRGB1998
- Pr. Substrate Unknown
- Pantone TCX, CSI, coloro

creates
STATUS QUO

Textile Digital Printer, PSP

- Cost Efficiency
- Design File Dependency
- Production Reliability
- Physical References
- Target: First Time Right

produces

Textile Digital Printer, PSP

STATUS QUO
Gamut Sizes of typical Digital Textile Printing (DTP)

sRGB

Disperse 8C

Pigment 4C

Reactive 8C

Dye Sub 4C

Acid 8C

AdobeRGB1998

PROBLEM?
PROBLEM?

Gamut Size

- Too large/small in certain regions
- Far out-of-gamut colors (OOG)
- Differences of profiling engines and conflicting situations leave room for interpretation
- B/W relatively „bad“, forcing non-abs.col. RI
- Some Pantone TCX colors are OOG of sRGB
CONCEPT

Color Space

- **CMYK**
  - made for 4C only, textile inksets often 4+C
  - black generation decision taken too early in the design process

- **LAB**
  - design capabilities in PS/AI limited or not possible
  - creates new problem (e.g. unreal colors)
  - RI almost forced to abs.col.

- **RGB**
  - OK...but which RGB?
CONCEPT

FOGRA58(beta)

- **TextileRGB** ICC RGB working space profile
- Compliancy with PS, AI, etc.
- Overarching Pantone TCX and typical DTP gamuts
- LUT-based, yet semi-synthetic, homogenous, integer
- Pleasing OOG mapping features (from sRGB, aRGB)
- Neutral gray axis, Black point L~15, White point L~94
- Made for „classical“ textile applications (D65/10°)

vs. sRGB

vs. AdobeRGB1998
Gamut Size Comparison with FOGRA58(beta)
Advantages

- Still slightly larger than Pantone TCX or current DTP spaces
- Realistic colors on monitor and (proof) paper, if calibrated
- Combining elements (photographic, spot colors, etc.) in pixel-based or flattened environments
- Correctly using spot color libraries and LAB (measurements)
- Realistic B/W points allow using minimally compressing RI’s (e.g. „percepsolute“) when printing
Color Workflow From Design/Source to Production

CONCEPT

- sRGB, AdobeRGB1998
- New Design
- Separated Channel Design
- FOGRA58 (beta)
- Pantone TCX, Measurements
- Monitor
- Proof Paper Printer
- Digital Textile Printer
Requirements, Limitations

- Adobe Color Settings should be set to RI = Absolute Colormetric
- Cannot solve measurement-related issues (geometry, measurement condition, illuminant, observer, differences between spectrophotometer brands or models, OBA)
Adobe Color Settings

... and don't forget to embed the ICC profile when saving the image 😞
THANK YOU!

If you wish to contribute to the FOGRA58(beta) project, please contact us!

ANY QUESTIONS?

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