

# FlexoDay<sup>®</sup> Sud 2018

## Il valore della caratterizzazione

Nicolò Albani & Stefano d'Andrea

Comitato Tecnico Atif

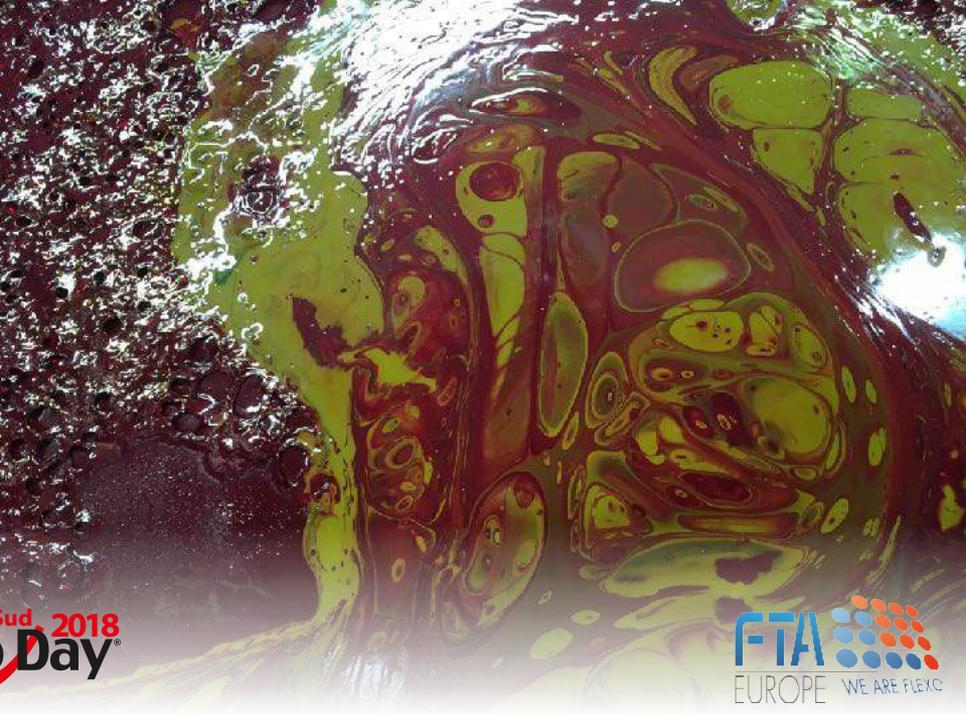






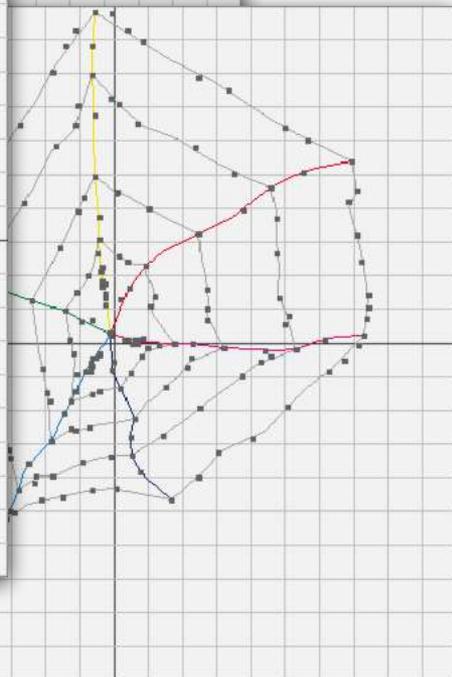
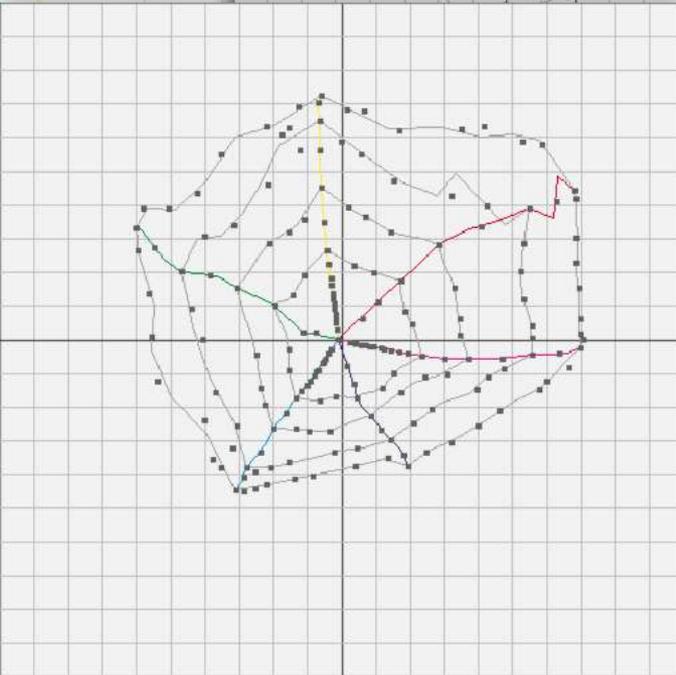
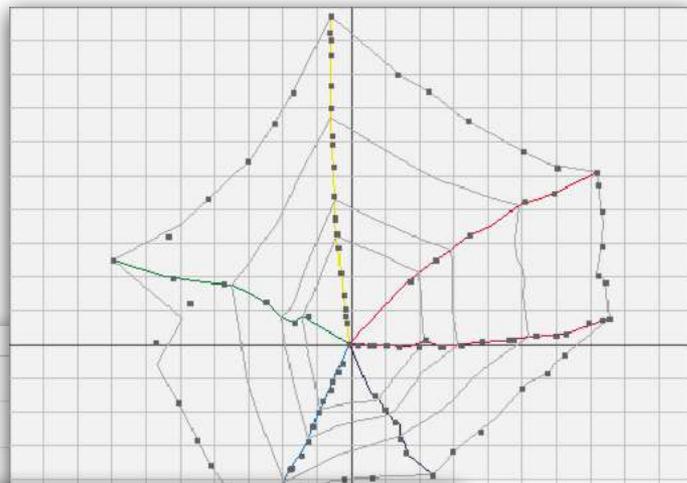
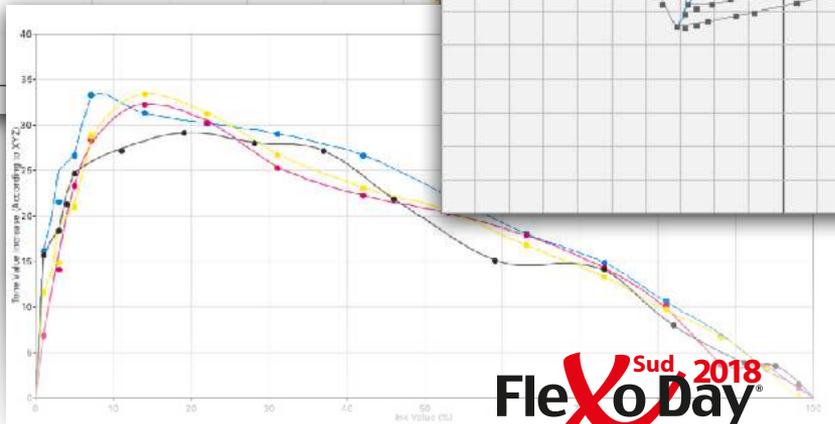
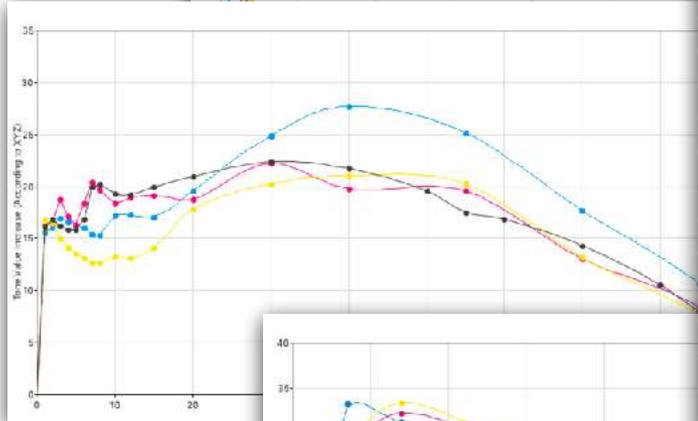
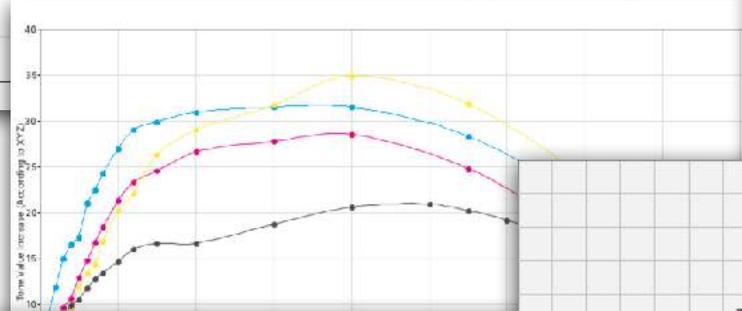
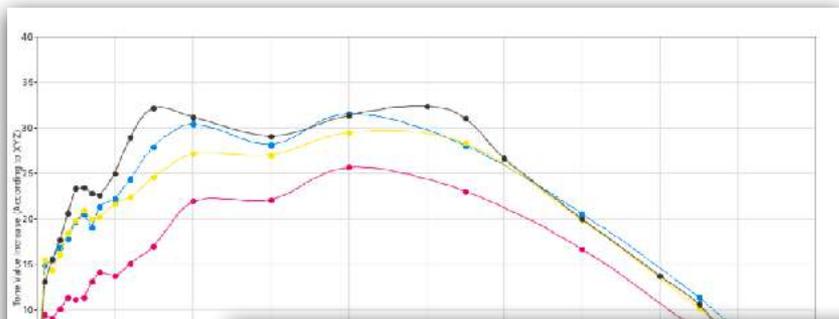
**FlexoDay**<sup>Sud, 2018</sup>

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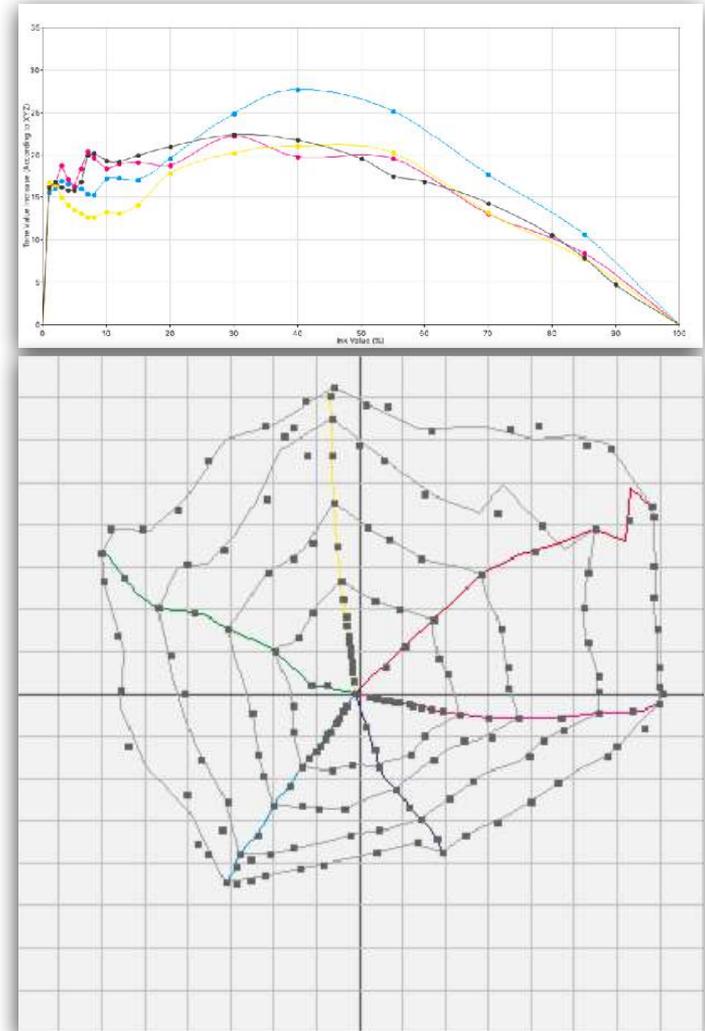


**FlexoDay**<sup>Sud, 2018</sup>



# La "*profilazione*" della macchina non risolve i problemi della mancata ottimizzazione

- I problemi su Curve TVI e gamut colore rimangono invariati
- Le operazioni di pre stampa fanno riferimento a una condizione critica e difficilmente copiabile
- La prova colore può anche simulare il risultato se la condizione è minimamente ripetibile
- Sono spesso necessari ripetuti e continui interventi durante la tiratura

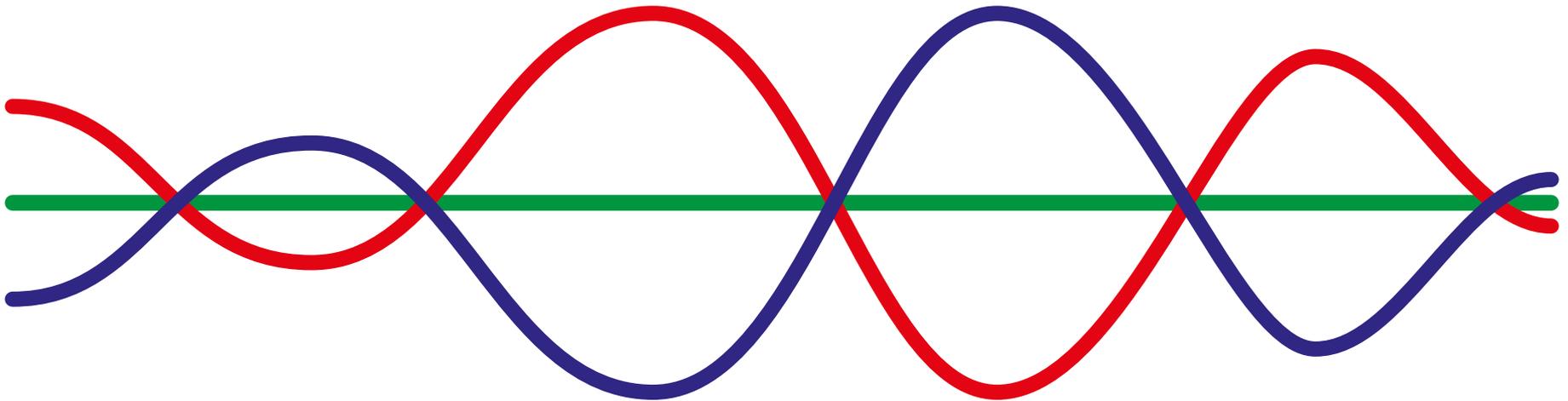


*"Ok, stampiamo con  
un altro sistema!"*



**FlexoDay**<sup>Sud. 2018</sup>







ASSOCIAZIONE TECNICA ITALIANA per lo SVILUPPO della FLESSOGRAFIA



Linee guida per la stampa flessografica

INTERNATIONAL STANDARD ISO 12647-6

Second edition 2013-12-15

Graphic technology — Process control for the production of half-tone colour separations, proofs and production prints —

Part 6: Flexographic printing

Technologie graphique — Contrôle des processus de composition et de séparation couleur à demi-tons et de tirage — Partie 6: Processus flexographique

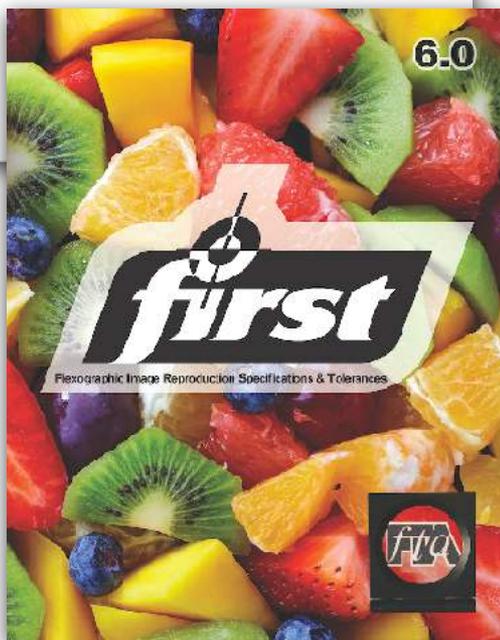


Parametri e sistemi di controllo di qualità delle lavorazioni e dei prodotti flessografici

rev. 03 - 2013

- Misurazione del colore
- Parametri colorimetrici e densitometrici
- Controllo di produzione
- Condizioni e dispositivi per la rilevazione dei dati, funzioni statistiche e rappresentazioni grafiche

FLEXOGRAPHY Principles and Practices 6.0



Rev. 04 - 2013

Procedura e check up di stampa Macchine flessografiche

- Procedura per l'esecuzione del collaudo delle macchine da stampa flessografica
- Condizioni operative, scelta del prodotto di riferimento, forma test, settaggio della macchina
- Parametri, modalità di analisi, valori attesi e tolleranze
- Analisi dei risultati e conclusioni



Rev. 01 - 2013

Caratterizzazione dei sistemi di stampa flessografica

- Procedura per l'esecuzione della caratterizzazione dei sistemi di stampa flessografica
- A cosa serve e come funziona
- Ottimizzazione delle condizioni di lavorazione
- Esecuzione delle prove in macchina, rilevazione dei dati e generazione del profilo colore

ATIF - Piazza Conciliazione 1, 20123 Milano, Tel. 02 4981051, www.atif.it, info@atif.it



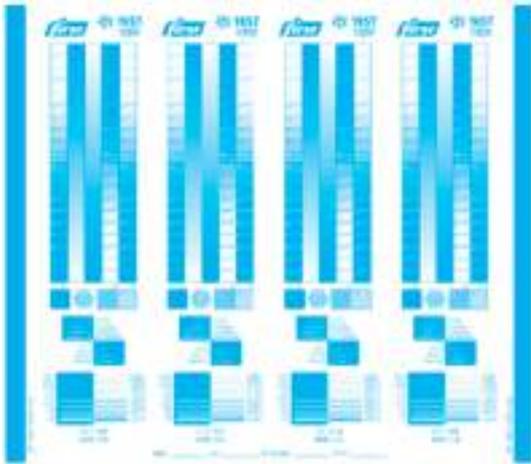
ATIF - Piazza Conciliazione 1, 20123 Milano, Tel. 02 4981051, www.atif.it, info@atif.it  
FlexoDay<sup>Sud, 2018</sup>





# #sapevatelo





# 1° Ottimizzazione



# 2° Fingerprint



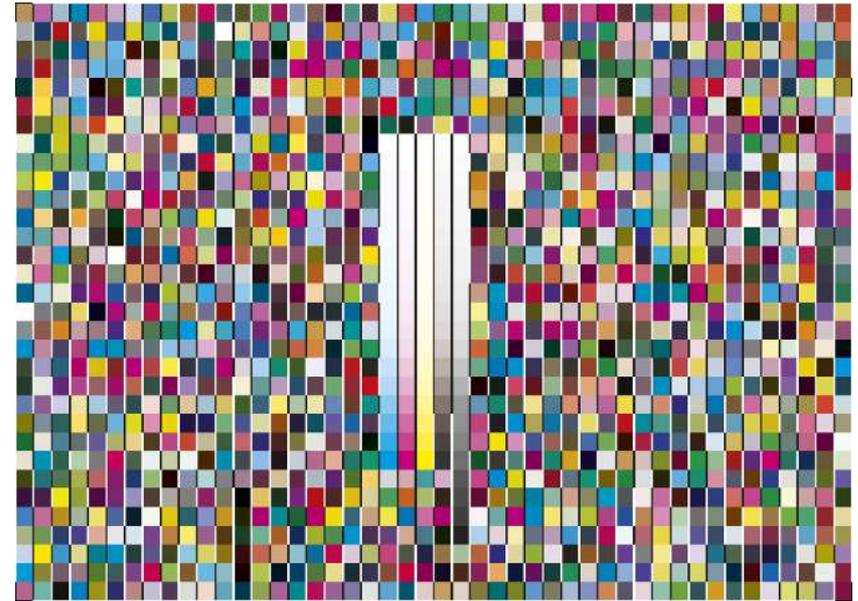
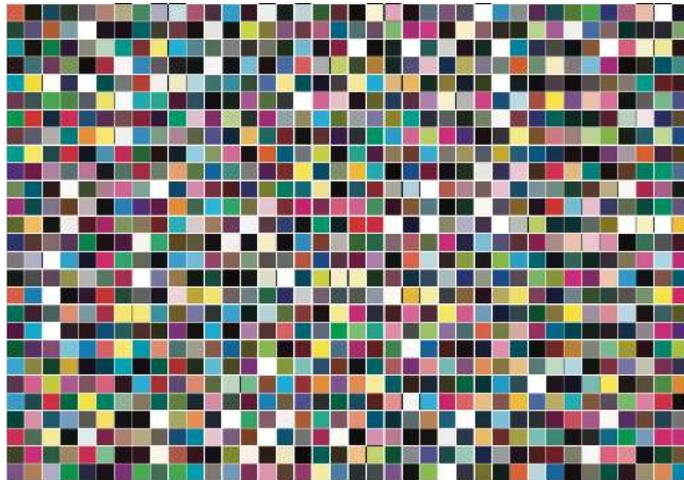
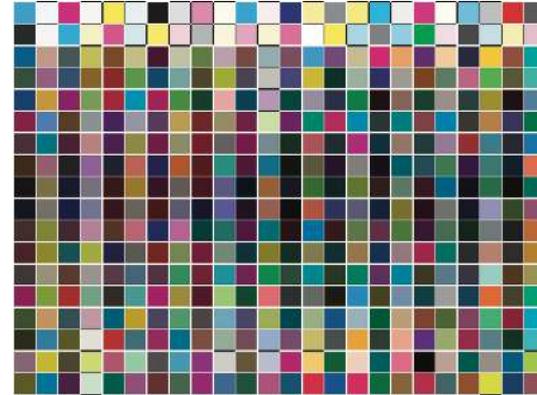
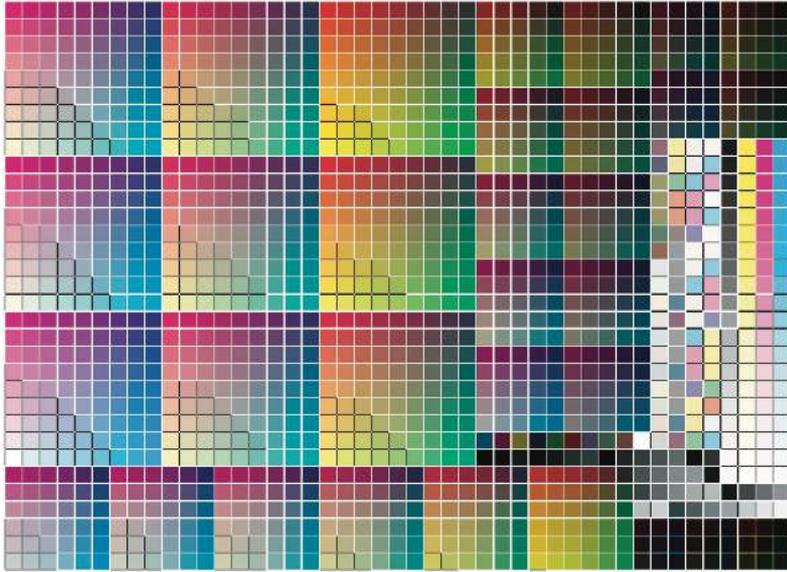
# 3° Caratterizzazione



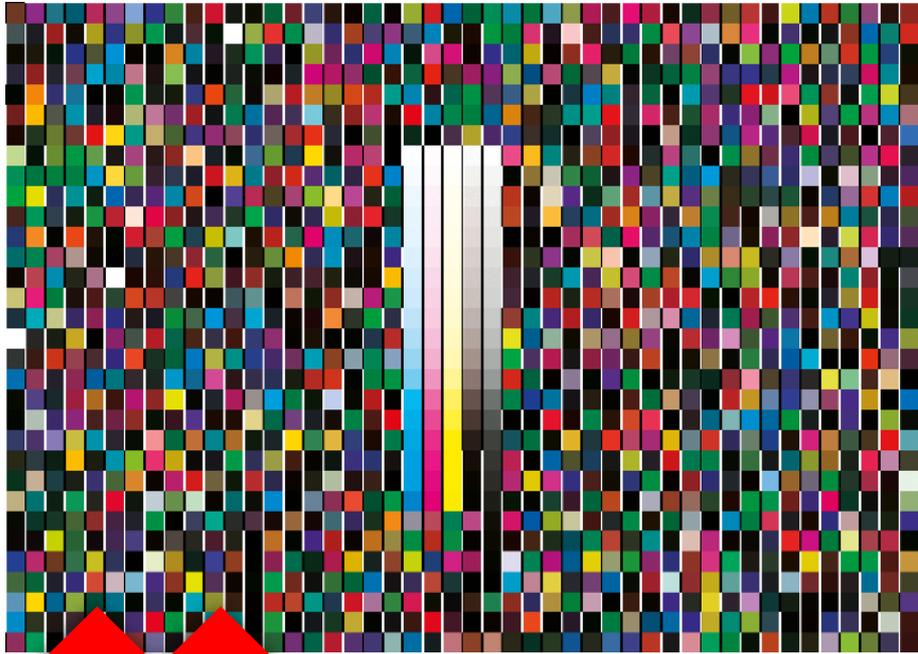
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# La caratterizzazione non è un favore che si fa al service che produce i cliché

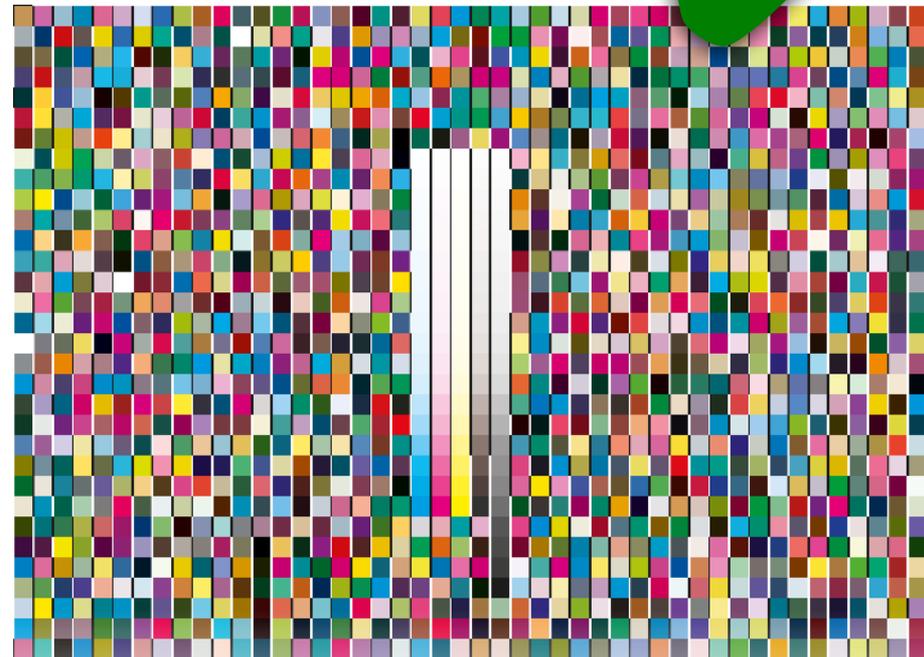
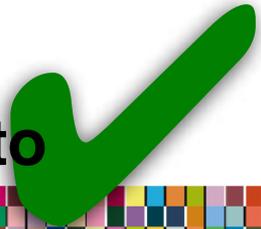


# Assicurati che sia stata applicata una curva di compensazione prima di stampare un color target

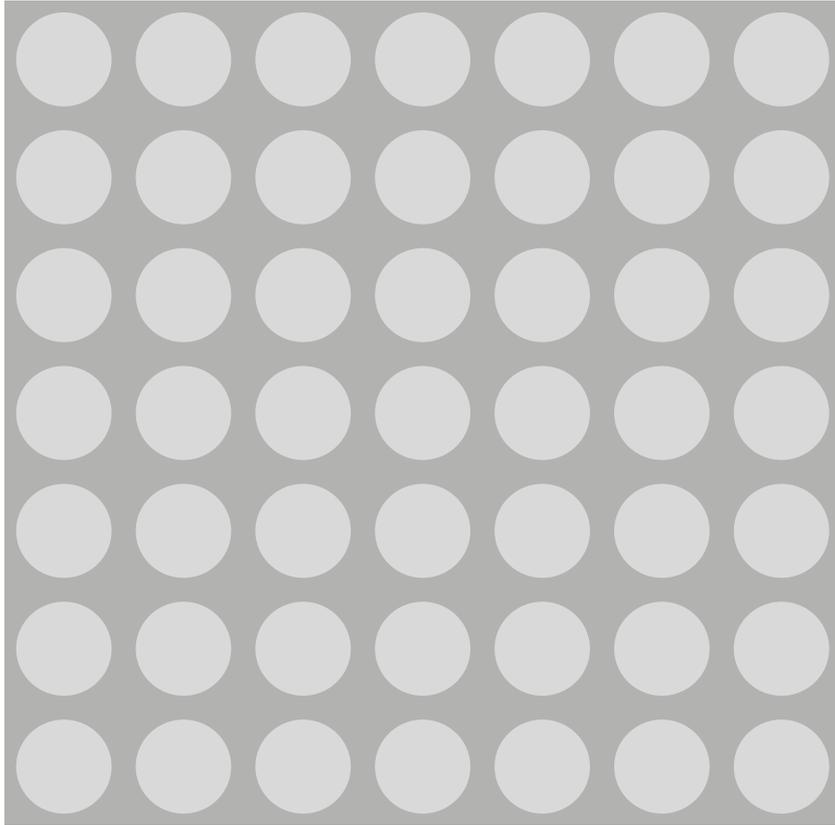


Stampa con  
testform **lineare**

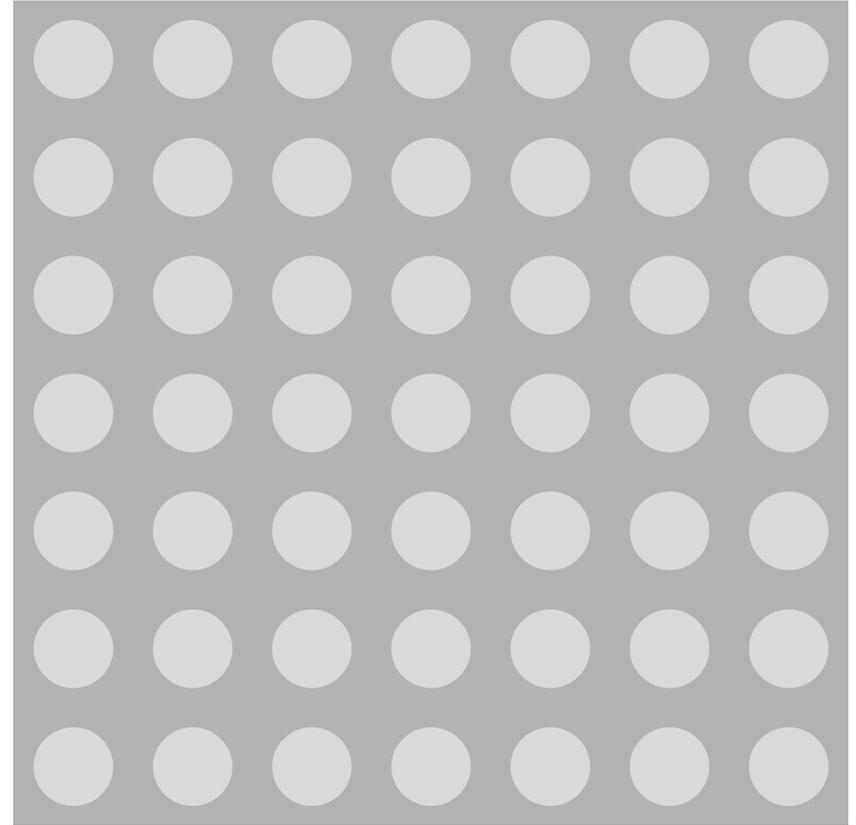
Stampa con  
testform **compensato**



# Verificare che il 50% su lastra sia compensato



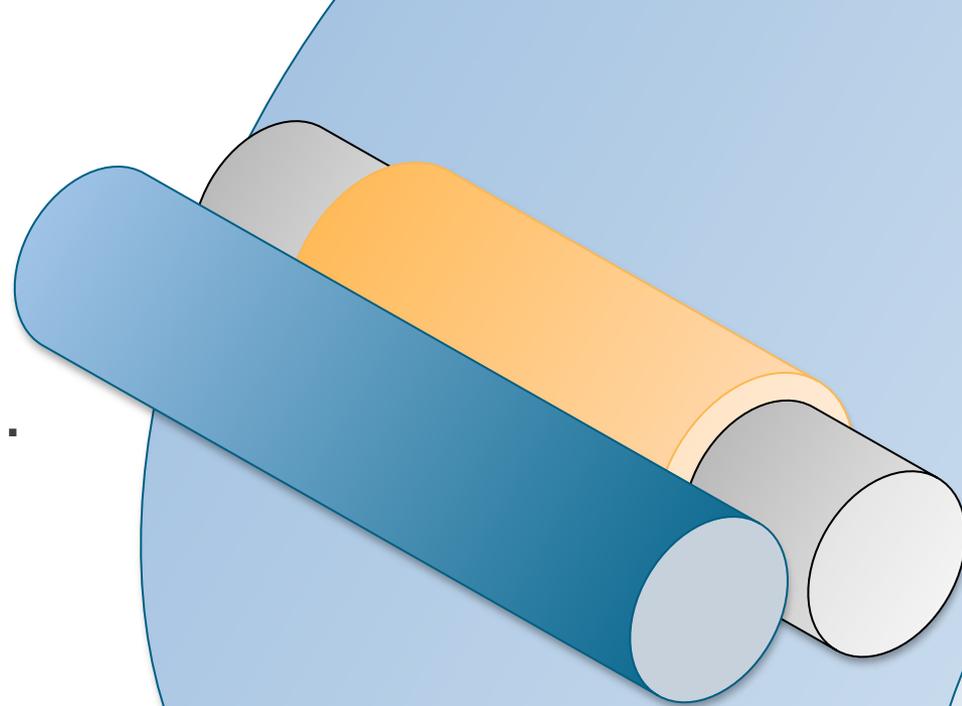
50% lineare



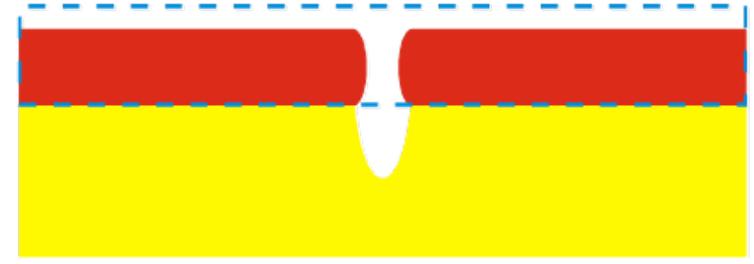
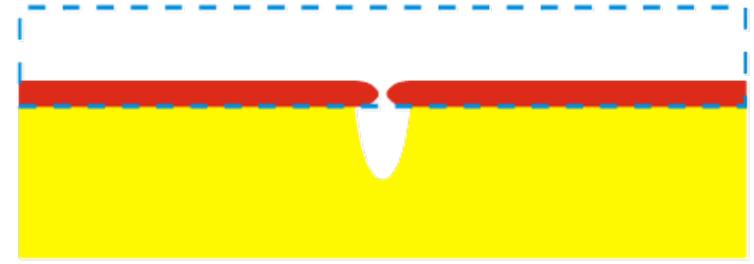
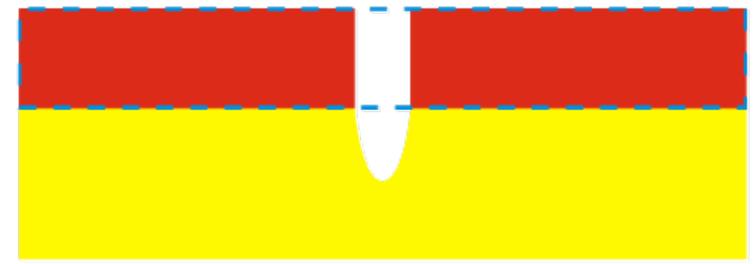
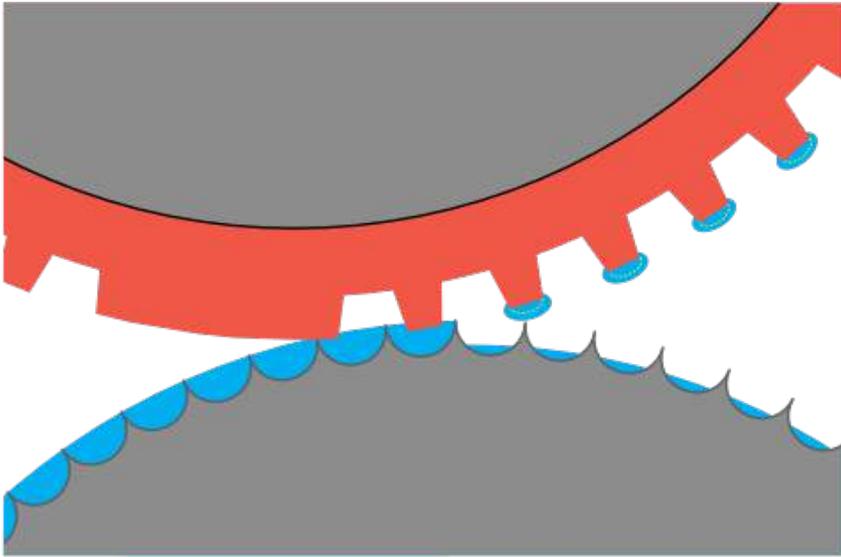
50% compensato a 35%

# Ottimizzazione

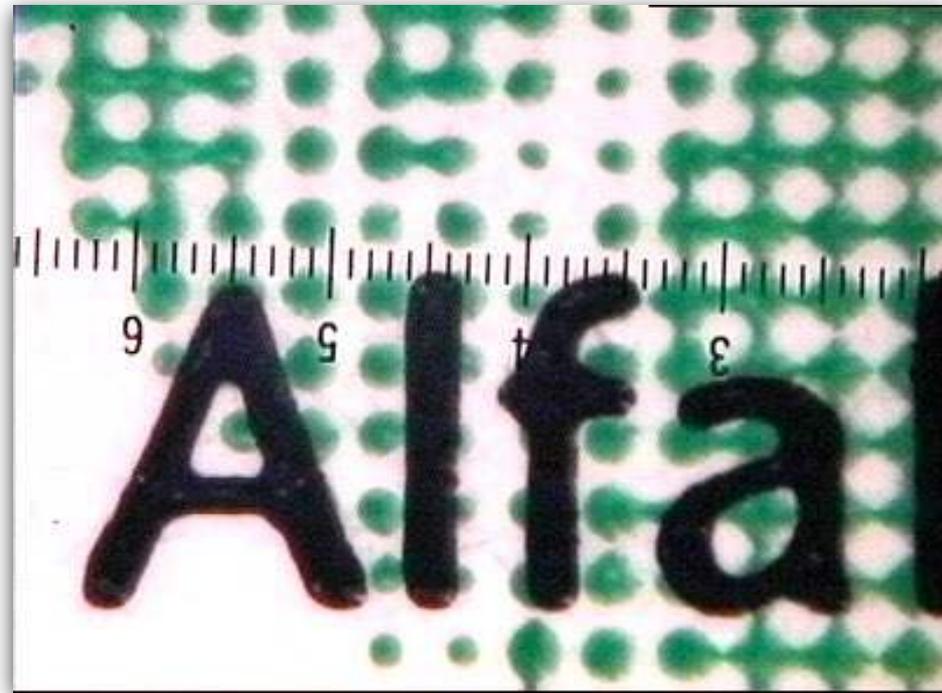
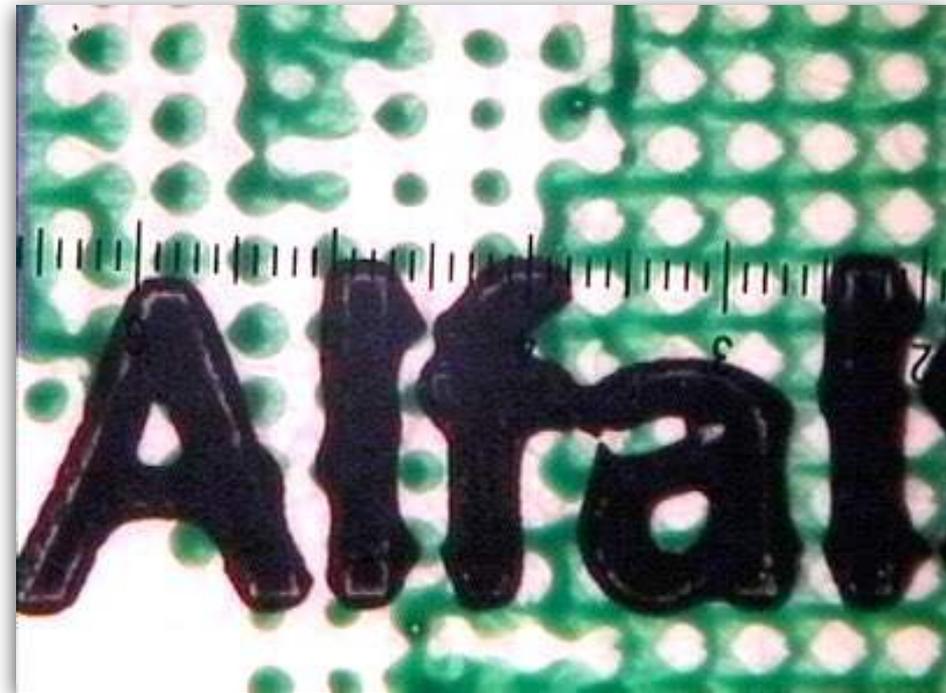
- Volume inchiostro
- Colore, densità, coprenza, Lab,  $h^\circ$ , ...
- Lineatura
- Curve tonali, TVI e compensazioni
- Biadesivi
- Retini ibridi su alteluci
- Retinatura superficiale del cliché
- ...



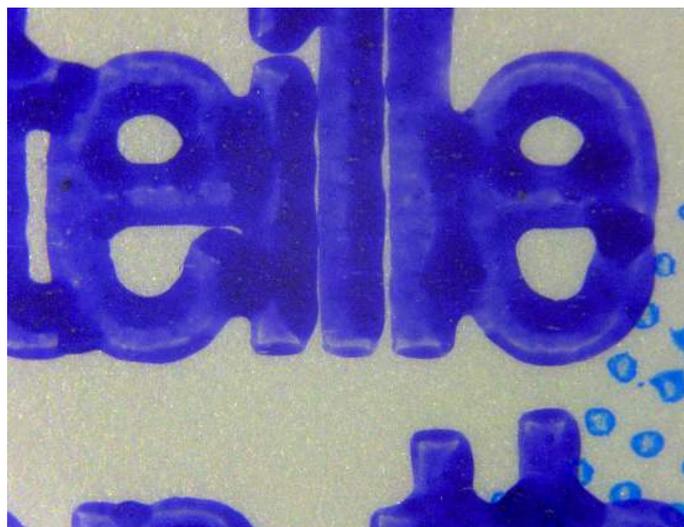
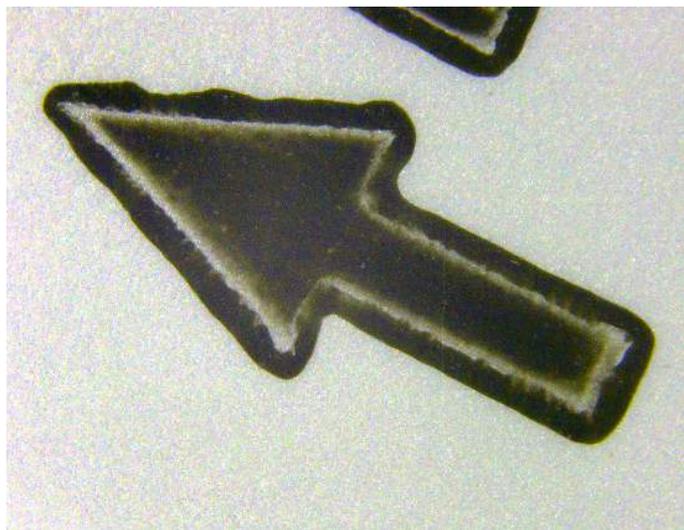
# Il rischio principale: eccesso di inchiostro



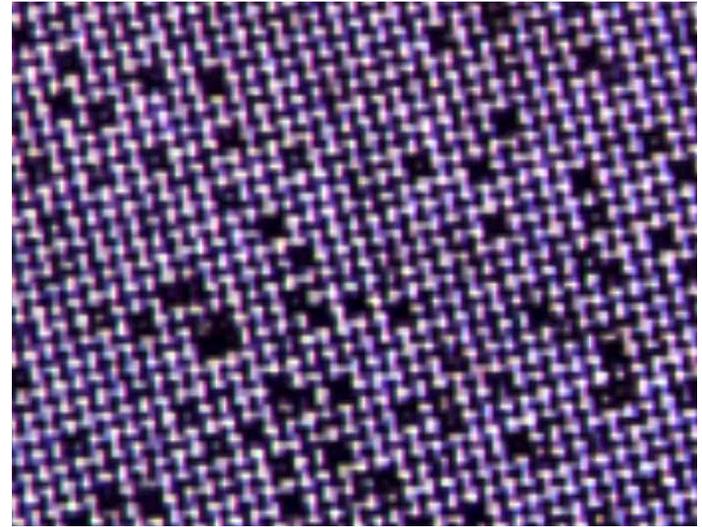
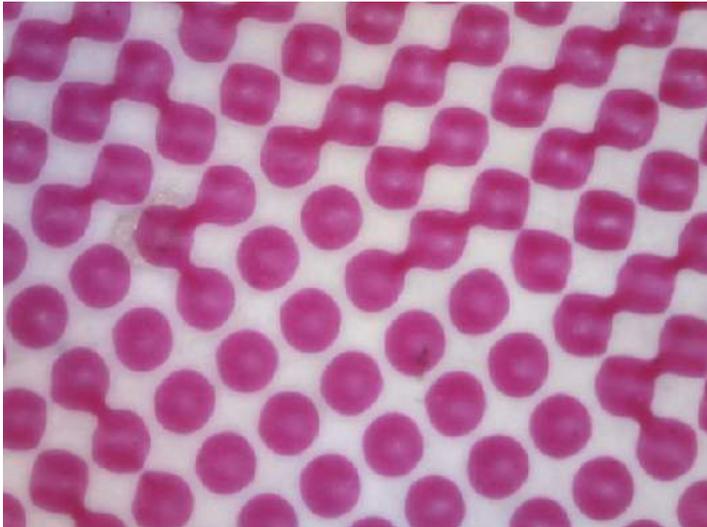
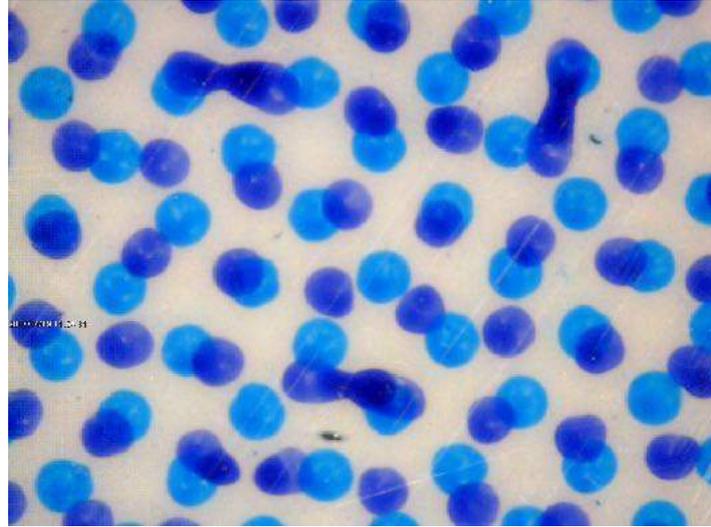
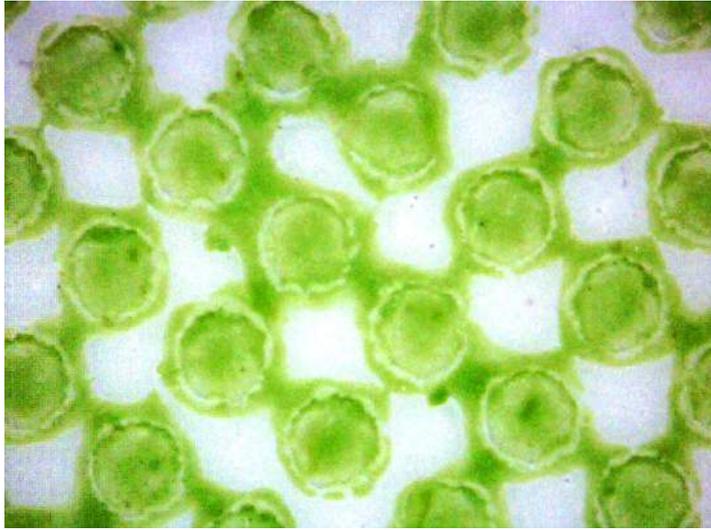
# Problemi conosciuti



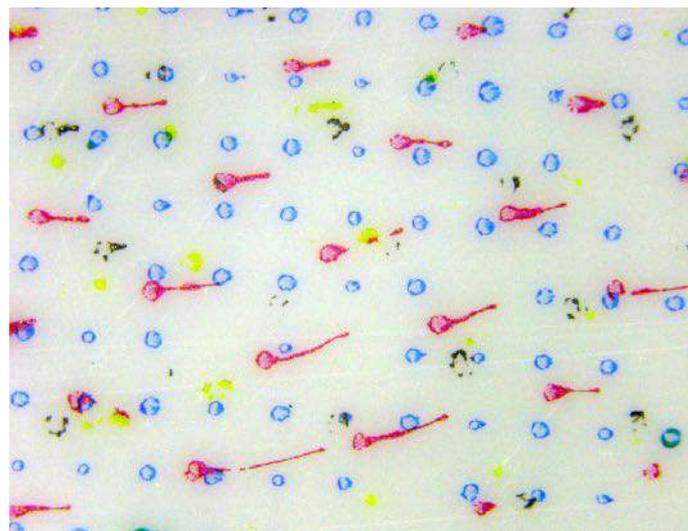
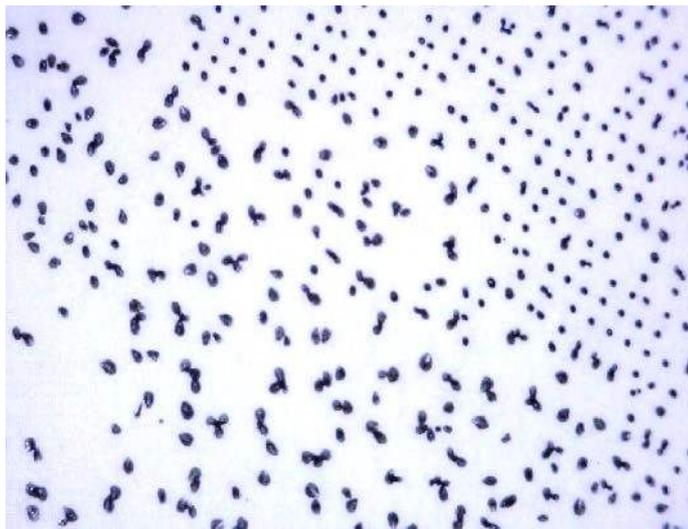
# Esempi di eccesso di inchiostro nei tratti



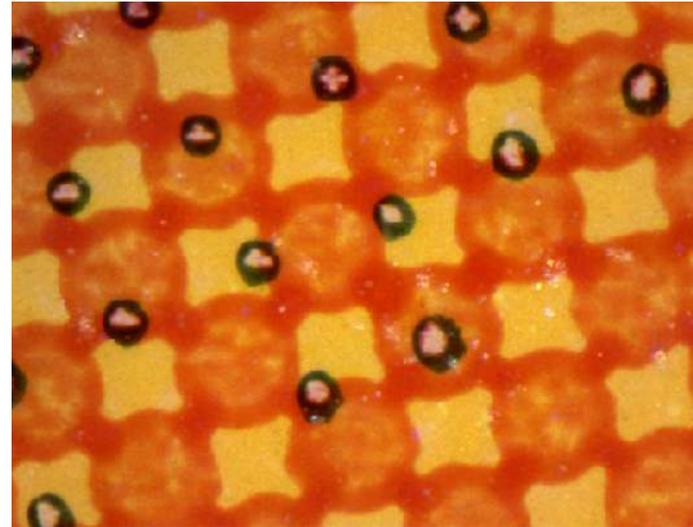
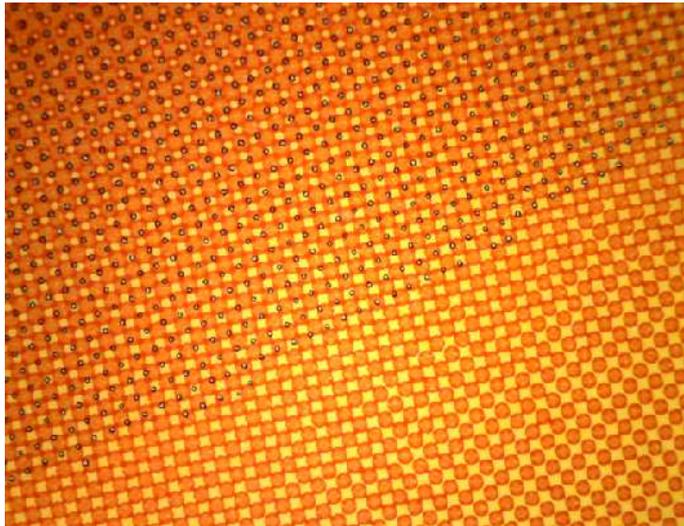
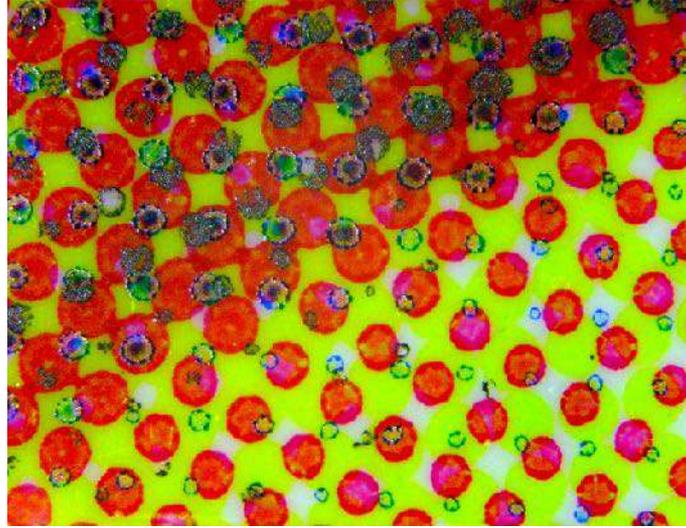
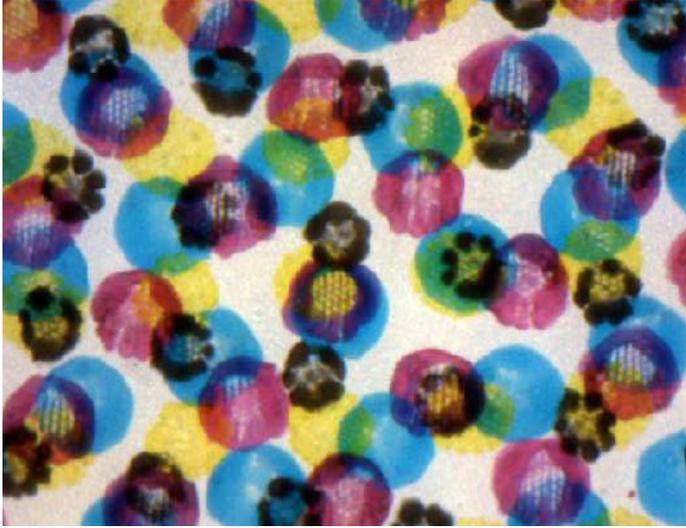
# Esempi di eccesso di inchiostro nei mezzi-toni

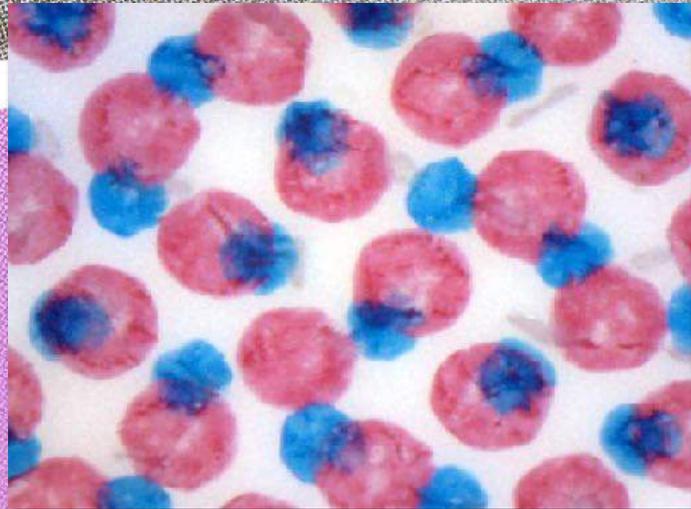
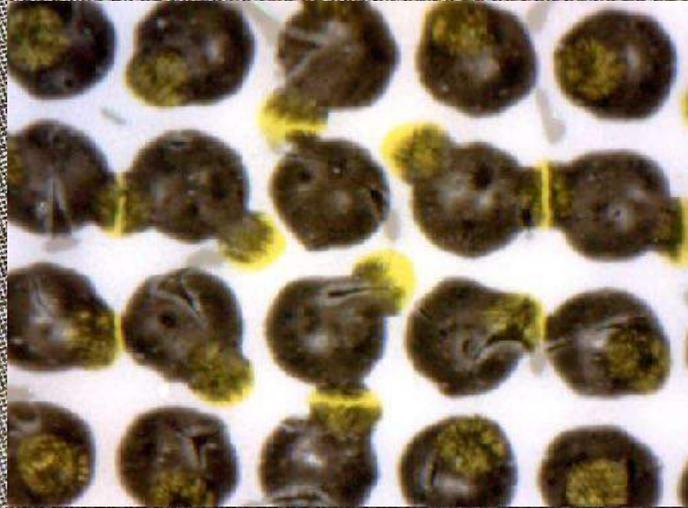


# Esempi di eccesso di inchiostro nel alte-luci



# Effetti meno intercettabili







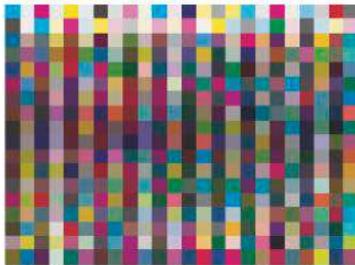
CMYK\_CP-PE\_149ip1\_50-8.txt

1. Chart Information

Number of patches: 492
Device data: CMYK
Measurement data: Resolution
ORIGINATOR: Unknown
FILE\_DESCRIPTOR: Binuscan CMYK Testchart-Reference
CREATED: 2017-5-23 15:03:54
INSTRUMENT: eyes-one
MEASUREMENT\_SOURCE: eyes-one
DESCRIPTION: Binuscan CMYK Testchart-Reference\_Measured
NUMBER\_OF\_FIELDS: 40
NUMBER\_OF\_BITS: 482

2. General

Patches



Brightener

Brightener detected based on spectral analysis. Brightener correction would change paper white. DeltaE=2000 @ 50

Printing standard

Selected profile: ISO 15339\_CGATS21\_CRP06 V2.icc (58% match)
Best profile: Japan Color 2011 Coated (65% match)

CMYK\_CP-PE\_149ip1\_50-8.txt

flexo.exps1 Measurement Data Report

Page 4

3. Color Comparison

Table with columns: CMYK, PatchID, L, a, b, C, h, dE\*, dE(d)1\*

(1) ISO15339\_CGATS21\_CRP06 V2.icc
The dE values shown are according to your choice. DeltaE=2000

Table with columns: CMYK, PatchID, L, a, b, C, h, dE\*

(1) ISO15339\_CGATS21\_CRP06 V2.icc
The dE values shown are according to your choice. DeltaE=2000

Table with columns: CMYK, PatchID, L, a, b, C, h, dE\*

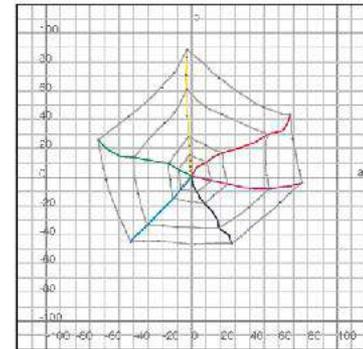
(1) ISO15339\_CGATS21\_CRP06 V2.icc
The dE values shown are according to your choice. DeltaE=2000

CMYK\_CP-PE\_149ip1\_50-8.txt

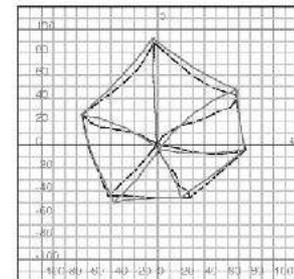
flexo.exps1 Measurement Data Report

Page 10

7. Spider Web



ISO15339\_CGATS21\_CRP06 V2.icc

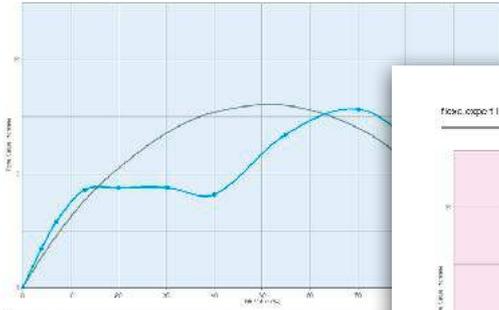


Printing standard

Selected profile: ISO 15339\_CGATS21\_CRP06 V2.icc (58% match)
Best profile: Japan Color 2011 Coated (65% match)

CMYK\_CP-PE\_149ip1\_50-8.txt

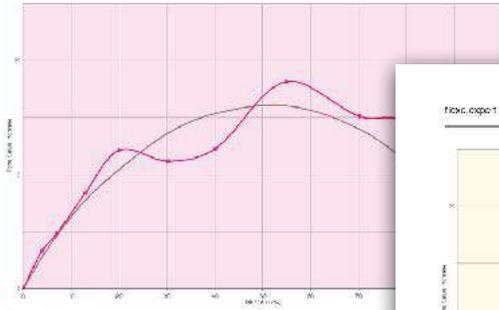




Cyan (Solid Density) Status E = 1.880.31 0200.64

Time Value	2.92%	7.02%	12.04%	20.09%	30.09%	40.09%	50.09%	70.09%	81.09%	94.19%
Time Value Increase	0.44	0.60	0.97	0.76	2.23	5.19	13.44	16.82	10.25	4.93
Choice's profile	2.67	6.66	7.67	16.64	18.61	18.01	18.01	14.01	10.25	4.93

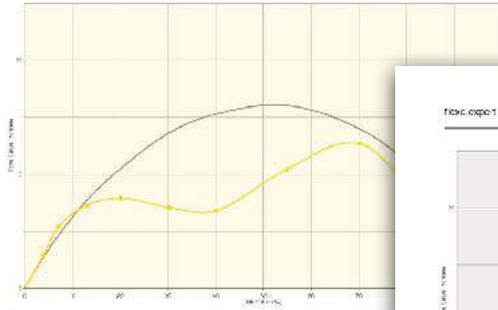
( ) ISO 15036\_OGA792 - CTIN08 v2.eu



Magenta (Solid Density) Status E = 0.14.1510.65 0.65

Time Value	2.92%	7.02%	12.04%	20.09%	30.09%	40.09%	50.09%	70.09%	81.09%	94.19%
Time Value Increase	0.61	4.58	0.98	10.14	11.19	12.25	15.15	16.14	18.64	4.93
Choice's profile	2.75	6.68	7.76	16.64	18.63	18.35	18.06	14.01	10.25	4.93

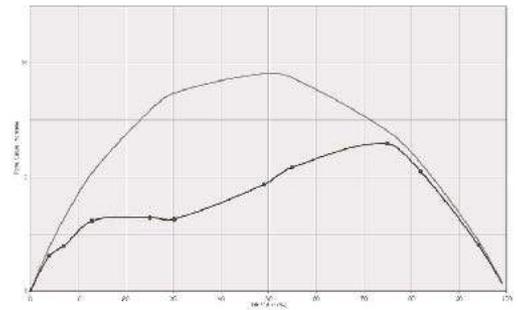
( ) ISO 15036\_OGA792 - CTIN08 v2.eu



Yellow (Solid Density) Status E = 0.61.036.126.0.05

Time Value	2.92%	7.02%	12.04%	20.09%	30.09%	40.09%	50.09%	70.09%	81.09%	94.19%
Time Value Increase	0.61	6.40	2.07	7.86	7.12	5.91	12.43	10.72	5.30	0.13
Choice's profile	2.74	6.63	7.71	16.64	18.63	18.33	18.06	14.01	10.25	4.93

( ) ISO 15036\_OGA792 - CTIN08 v2.eu



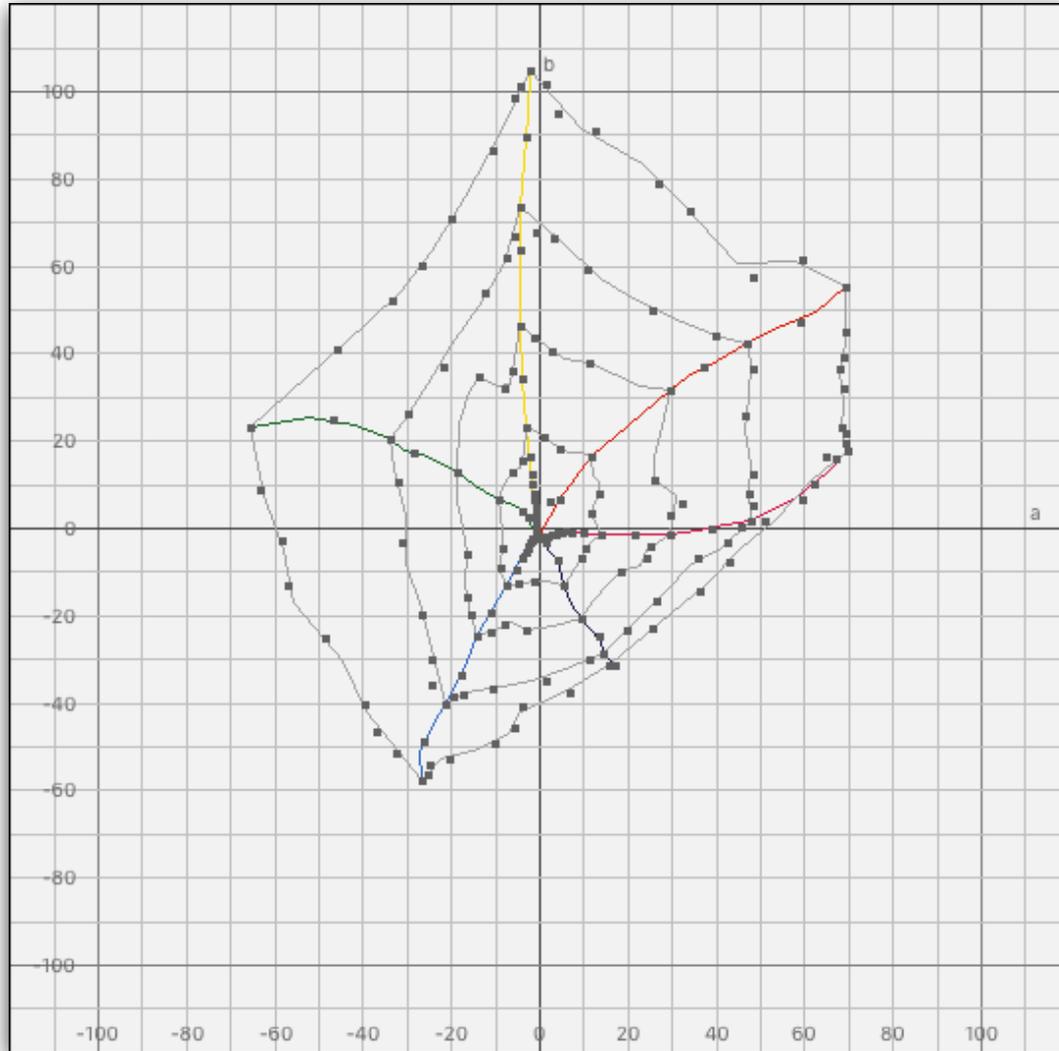
Black (Solid Density) Status E = 1.16.1.17.24.1.17

Time Value	2.92%	7.02%	12.04%	20.09%	30.09%	40.09%	50.09%	70.09%	81.09%	94.19%
Time Value Increase	3.05	6.06	9.17	6.40	2.01	5.26	10.66	10.98	10.46	4.01
Choice's profile	3.75	6.76	9.77	16.64	17.40	14.11	18.72	14.01	10.25	4.93

( ) ISO 15036\_OGA792 - CTIN08 v2.eu



# Dimmi come stampi e ti dirò... se ti farò stampare i miei prodotti



# Esigere un report dei dati di caratterizzazione

- I dati di caratterizzazione servono innanzitutto allo stampatore per interpretare il funzionamento della macchina da stampa in una determinata condizione.
- Poi servono per le lavorazioni grafiche in pre stampa, per effettuare le conversioni tra diversi intenti di output.
- Infine servono per produrre una prova colore contrattuale che simula il risultato previsto.

*Se vale la pena sfruttare la  
flessografia, allora vale la pena  
di sfruttarla al meglio.*

*La qualità dei vostri prodotti  
non sarà mai superiore alla  
qualità delle vostre misurazioni.*



# FlexoDay<sup>®</sup> Sud 2018

**Grazie!**

Nicolò & Stefano