

# Newspaper color bar requirements

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# Current requirements

Aim points and tolerances for

- CIELAB values of four solids
- TVI of each ink



*We need these eight patches*

Do newsprinters accept this?

# Market research

2009 – QuadTech sales force collected newspapers

142 newspapers, twelve countries

# Market research

Belgium	Metro				
Montreal	La Presse	Mumbai	Economic Times	Hyderabad	Times of India
Montreal	Le Journal	Delhi	Economic Times	Chennai	Vaaritha
Montreal	Les Affaires	Pune	Economic Times	Korea	Chosun Ilbo
China	Guangzhou Daily	Kolkata	Economic Times	Korea	Donga report
Santo Domingo	Listin Diario	Lucknow	Economic Times	Korea	Korean Economic
Manchester	Daily Express	Hyderabad	Economic Times	Korea	Mailgunjie
London	Daily Express	Chennai	Eenadu	Korea	Segai Ilbo
Manchester	Daily Mail	Delhi	Hindustan Times	Korea	Ecoprint
Manchester	Daily Telegraph	Mumbai	Hindustan Times	Korea	World Journal
London	Daily Telegraph	Noida	Hindustan Times	Wisc. Rapids	Daily Tribune
London	Evening Standard	Chennai	Indian Express	USA	Dow Jones
London	Guardian	Noida	Indian Express		
London	Observer	Pune	Indian Express	Jacksonville	Florida Times Union
Manchester	Times	Navi Mumbai	Indian Express	Miami	Miami Herald
London	Times	Nagpur	Lokmat	New York	NY Daily Times
Finland	Lansi-Savo	Pune	Lokmat		
		Kolhapur	Lokmat	Sarasota	Sarasota Herald Trib
		Mumbai	Lokmat		
		Mumbai	Loksatta		
France	La Depeche du Midi			Germany	4 German nationals
Nimes	Le Figaro (Nimes)				Clave
Paris	Le Figaro (Paris)	Cochin	Malayala Manorama		De Morgen
France	Le Progress				De Standard
Germany	Darmstädter Echo	Trivandrum	Malayala Manorama		De Tijd
Jalandhar	Ajit Samachar	Kozhikode	Mathrubhumi		Diario Libre
		Kochi	Mathrubhumi		Financial Times
Kolkatta	Anand Bazar Patrika	Pallakkad	Mathrubhumi		guardian
India	Business Line	Calicut	Mathrubhumi		Herald Tribune
Agra	Dainik Jagran	Navi Mumbai	Midday		Het Laaste Nieuws
Noida	Dainik Jagran	Mumbai	Midday		Hoy
Ludhiana	Dainik Jagran	Mumbai	Mumbai Mirror		Independent
Varanasi	Dainik Jagran	Mumbai	Navbharat Times	France	La Province
Jalandhar	Dainik Jagran	Delhi	Punjab Kesari	France	Le Figaro
Delhi	Dainik Jagran	Jalandhar	Punjab Kesari	France	Le Monde
Ludhiana	Dainik Jagran	Ludhiana	Punjab Kesari	France	Le Soir
Meerut	Dainik Jagran	Mumbai	Ratnagiri Times	England	Telegraph
Hyderabad	Deccan Chronicle	Pune	Sakaal	USA	The Times
Chennai	Deccan Chronicle	Ahmedabad	Sandesh	LA	Times
Bangalore	Deccan Herald	Mumbai	Sandhyanand	Chicage	Tribune
Mangalore	Deccan Herald	Kolkatta	Telegraph	Cleveland	Plain Dealer
Dharwad	Deccan Herald	Coimbatore	The Hindu	New York	Times
Pondicherry	Dinakaran	Madurai	The Hindu	Pittsburgh	Catholic
Salem	Dinakaran	Cochin	The Hindu	Pittsburgh	Courier
Coimbatore	Dinakaran	Trichi	The Hindu	Pittsburgh	Post Gazette
Madurai	Dinakaran	Vijayawada	The Hindu	Pittsburgh	Tribune Review
Trichy	Dinakaran	Delhi	The Hindu	San Francisco	Chronicle
Vellore	Dinakaran	Chandigarh	The Tribune	Washington	Post
Tirunelveli	Dinakaran	Jalandhar	The Tribune		
Chennai	Dinakaran	New Delhi	The Tribune	USA	Chronicle of Higher Ed
Madurai	Dinamalar	Mumbai	Times of India	USA	Jewish chronicle
Chennai	Dinamalar	Delhi	Times of India	New York	Village Voice
Coimbatore	Dinamalar	Pune	Times of India	Washington	Sports Weekly
Ahmedabad	Divya Bhaskar	Kolkata	Times of India	Washington	USA Today
Mumbai	DNA	Lucknow	Times of India	USA	Barron's Weekly
India	DNA Money	Bangalore	Times of India	USA	Wall St. Journal
				New York	Times

# Market research

2009 – QuadTech sales force collected newspapers

142 newspapers from twelve countries

<b>None</b>	<b>CMY Gray</b>	<b>Just Solids</b>	<b>Just Halftones</b>	<b>Full</b>
57	61	42	1	9
40%	43%	30%	1%	6%

# Market research

<b>None</b>	<b>CMY Gray</b>	<b>Just Solids</b>	<b>Just Halftones</b>	<b>Full</b>
57	61	42	1	9
40%	43%	30%	1%	6%

Q: Why do they add up to more than 100%?

A: Overlap – e.g. use of gray and solids

# Market research

None	CMY Gray	Just Solids	Just Halftones	Full
57	61	42	1	9
40%	43%	30%	1%	6%

Ok with current revision

*94% are not ok with current revision*



# Market research

None	CMY Gray	Just Solids	Just Halftones	Full
57	61	42	1	9
40%	43%	30%	1%	6%

Not interested in quality??

*60% are interested in quality*

*... but only 6% are served by current revision*

# Market research

QuadTech's decision:

- Existing colorbar control system won't sell
- Need image-based color control
- Several million dollars development
- 1 – 2 years to market

# Market research

However, such **control elements are not very popular** among many publishers and editors, even though they can be well “hidden” in the print product. **Many technicians find themselves in a dilemma** because they are **not allowed to use control elements** but are being called upon constantly to **produce better and more consistent quality**.

...

Consequently, **several manufacturers have been working for some years on a highly automated solution** that is also invisible to the newspaper reader. The inline measurement of grey balance strips is now being **replaced by measurements carried out directly in the motif**. Instead of the control elements, prepress target values are taken and compared to measured data from inline measurement.

Moritz Schwarz, IFRA-WAN

<http://www.ifra.net/wiki/ifra-expo-2010-preview-expert-expo-advice>

# Colour control in five years

*[Five years from now]*

*Markless measuring systems are becoming increasingly widespread. The reference to the image data is established, and the data is increasingly becoming the reference inputs for the individual points on the press.*

*“The Future of Newspaper Printing Technology”  
Martin Lange, IFRA Report No. 7, August of  
2008*

Five years would be 2013

# Some case studies

# Newsprinters UK

“More than 33 million copies every week. That is **1.7 billion copies each year**, which includes contracts for the Daily and Sunday Telegraph and the northern editions of the Financial Times.”

<http://www.newsprinters.co.uk/What-we-print>

# Newsprinters UK

## 2009

- Newspaper Printer of the Year (first and second places) – April 2009
- Winners of BPIF Lean Manufacturing Excellence Award – July 2009
- Commenced printing of the Financial Times - November 2009.
- Recommendation for certification for ISO 9001:2008 & ISO14001:2004 – November 2009

<http://www.newsprinters.co.uk/Upload/file/ISO%20announcement%20Jan%202010%281%29.pdf>

# Newsprinters UK



**2010 Production Journal Newspaper Printer of the Year**  
**Newsprinters, Knowsley**  
**(Financial Times, The Times, The Sunday Telegraph)**  
<http://www.printcollege.co.uk/?p=1236>



# Newsprinters UK

- Evaluating three vendors
- Image-based → no color bars
- 15 control systems
- Expand to all 97 towers
- Multi-million dollars

*They want quality,  
are willing to pay for it,  
but cannot tolerate color bars.*

# Sankei Shimbun

“sixth highest circulation for a newspaper in Japan”

“Circulation

Morning edition: 2,191,587

Evening edition: 635,988”

[http://en.wikipedia.org/wiki/Sankei\\_Shimbun](http://en.wikipedia.org/wiki/Sankei_Shimbun)

About 1 billion papers a year

# Sankei Shimbun

QuadTech AccuCam

**WAN-IFRA: Please describe briefly how the system works.**

**GREG WUENSTEL:** ... The AccuCam sensor measures the printed web and calculates L\*a\*b\* values for the entire image, then brings the printed image into the specified L\*a\*b\* target values obtained from the prepress file, and automatically maintains the colour throughout the production run.

**WAN-IFRA: Where (newspaper printing facilities) is the system installed already?**

**WUENSTEL:** AccuCam is a result of a development partnership between QuadTech and Newsprinters Knowsley, United Kingdom, one of the world's most technologically advanced printers.

AccuCam is also installed in Japan at the Sankei Hokusetu Plant. ... Sankei selected the press with AccuCam as Sankei's Standard Colour and are now working with other plants to match colour with the AccuCam equipped press.

<http://www.wan-ifra.org/articles/2011/02/22/quad-techs-colour-control-system>

# Sankei Shimbun

Mitsubishi Diamond Eye

**WAN-IFRA: What is the measurement and control procedure?**

**UCHIU:** Based on the printing characteristics of the newspaper press, the target density values of each CMYK color are calculated from the printed image data and then the ink supply amounts are adjusted automatically until the actual density match the target density.

**WAN-IFRA: At how many newspaper printing facilities is the system installed already? Please name some newspapers using the system.**

**UCHIU:** We have already installed 55 sets of Diamond Eye systems in 17 printing plants in five newspapers in Japan including Yomiuri Shimbun, Nikkei Shimbun, Sankei Shimbun, Chunichi Shimbun and Nikkan Sports Printing.

<http://www.wan-ifra.org/articles/2011/02/22/mitsubishis-colour-control-system>

# Other systems

QI – Claims seven newspaper printers using their system

<http://www.wan-ifra.org/articles/2011/02/22/qi-press-controls-colour-control-system>

EAE – Several installations

<http://www.wan-ifra.org/de/articles/2011/02/23/das-farbbregelungssystem-von-eae>

Grafikontrol – Several test installations

<http://www.wan-ifra.org/de/articles/2011/02/25/das-inline-farbbregelungssystem-von-grafikontrol>

# Image based color control

Currently at least five vendors

QuadTech AccuCam

Mitsubishi Diamond Eye

EAE Loop

QI IDS

Grafikontrol Colorscan

TKS - rumored

Several million dollars development X 6 companies = >\$10M

[www.wan-ifra.org/system/files/field\\_article\\_file/system\\_overview\\_e.pdf](http://www.wan-ifra.org/system/files/field_article_file/system_overview_e.pdf)

# Image based color control

Currently at least ten printers

Newsprinters (Knowsley and Broxbourne)	5+10
Sankei	16+?
Yomiuri	110
Nikkei	??
Chunichi	??
Nikkan Sports Printing	??
Polaris (Alesund)	??
Freie (Chemnitz)	3?
Transcontinental (San Francisco and Montreal)	3
Corelio (Brussels)	??

Roughly 150 installs... maybe \$15M?

# Question

*Can't these printers  
print standard patches  
to meet 12647-3?*

*Do we have to change 12647-3?*



# Answer

They can print colour bars.

*But the industry  
just spent >\$25M  
because these standard patches  
are not acceptable!*

# Conclusions

12647-3 serves  
a tiny section of the market.

Image-based colour control systems  
are being installed by  
quality conscious major newspaper  
printers.

The newspaper printers who are likely  
customers of 12647-3!

# Conclusion

12647-3 will either  
adapt to the new technology  
or become obsolete.

# Proposed options for requirements

- Standard color bar – 4 solids and 4 mid-tones
- Grey bar – CMY grey patch and K50
- Measurements from the images

“68% of all color measurements shall be within 4  $\Delta E_{00}$  of the target specified in the profile for the CMYK values specified in the TIFF file.”

# Proposal

- Standard color bar – 4 solids and 4 mid-tones
- Grey bar – CMY grey patch and K50
- Measurements from the images

I propose that a small group  
be put together to  
formulate proposed words  
for three options.

*Thank you for your attention*

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