



## Preview of FLAAR Report Series on

### UV-Curable Inkjet Flatbed Printers



Nicholas Hellmuth, FLAAR, and Brent Cavanaugh, BGSU, inspect output on a Durst Rho UV-curable flatbed.

### Preview of FLAAR Report Series on UV-Curable Inkjet Flatbed Printers

It is estimated that about 600 UV-curable ink flatbed printers are in use around the world (the most are in England, Europe, and the US). More than 20 brands are shipping already and by the time of SGIA trade show this coming October several other brands and models will be available.

Prices are dropping too. So now is the time to obtain all the latest information on UV-curable inkjet printers from Dr Nicholas Hellmuth. The material is updated as of July 2004 (based on PMA 2004 and ISA 2004) and most reports were updated in June after Nicholas spent 10 days inspecting UV-curable inkjet printers at DRUPA trade show in Germany and at NBM in Indianapolis.



Nicholas has inspected UV-curable flatbed inkjet printers at Photokina, PMA, SGIA, and ISA, as well as in print shops. So you can look forward to helpful tips. Here, Inca Sericol printer at left. Right: Nur Tempo flatbed.

**Flatbed Inkjet Printers including UV cured inks: Comparative Guide to printers that can print directly on rigid and/or thick material** (up to 3 inches thick). Updated June 2004.

If you would like a comprehensive annotated listing of every UV-curable ink flatbed printer, here is a reliable guide.

### Contents

#### Abstract

\*Part I "Flatbed printers using Aqueous Ink (regular ink, either dye or pigmented)"

- ColorSpan Esprit
- Encad NovaJet 880
- Mammoth from Gradco
- Mimaki JV4 as flatbed printer
- Do-it-yourself media feeding tables
- Mimaki, Actual Flatbed Printer
- Roland's Add-on to create pseudo-flatbed
- Oce T-220

Special Media for Flatbed Inkjet Printers

Do it yourself coating

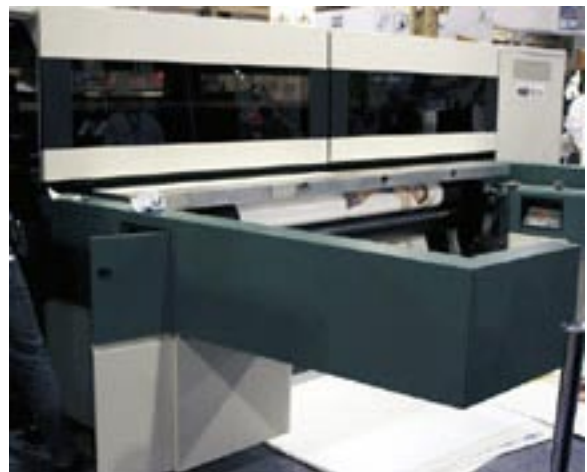
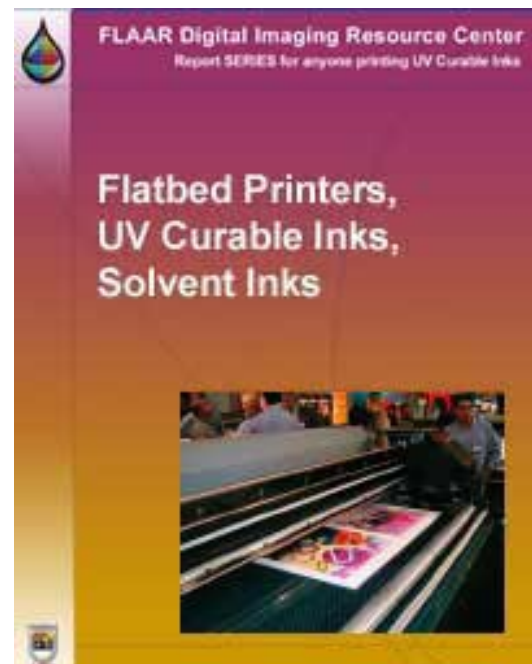
Alternatives

\*Part II "Industrial Flatbed Printers with Solvent or other comparable Inks"

- Friend or Faux
- LAC
- Oce

\* Part III "Industrial Flatbed Printers with UV-Curable Ink"

- Aprion
- Barco
- Belcom Corporation
- Digital Jet Technologies, DJT
- Dilli
- Dotrix
- Durst Rho
- Inca
- Leggett & Platt Digital Technologies, Virtu
- Nur
- Oce
- Mechatron
- Mimaki
- Perfectaprint
- Scitex Vision
- Sericol Imaging
- Siasprint
- Thieme
- Tampoprint
- Vutec
- Zund



Dr Hellmuth visits all pertinent tradeshows and checks out the equipment. The next step is to ask questions of the equipment: can such-and-such a model actually accomplish what is claimed? Now you can perhaps understand why we have four different reports in this series on UV-curable inkjet printers.

**Questions to Ask Before you Decide Which Brand of UV Curable Flatbed Printer to Purchase**, new June 2003; updated June 2004.

Imagine if you actually could ask penetrating questions, before you buy? Before you decide which brand? Before you spend between \$150,000 and \$450,000, you might want to arm yourself with Nicholas Hellmuth's questions to ask BEFORE you buy.

No, we can't save you from every mistake, because some printers don't quite function as advertised. But you sure will know more after reading this report than you did before.

And when you are about to spend a quarter of a million dollars, we highly recommend you invest a modest \$200 to relax and be assured that you are forearmed to face the alluring ads.



Nicholas and FLAAR crew in front of Durst Rho in Ohio print shop.

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- Set-up of the Printer; Tech Support
- Printhead
- Inks
- The UV Curing Lamps
- Safety Concerns
- RIP and Color Management
- Advertising Claims
- Quality issues
- Assess true costs
- Summary
- Bibliography
- Sources and Resources on the Internet
- Acknowledgements

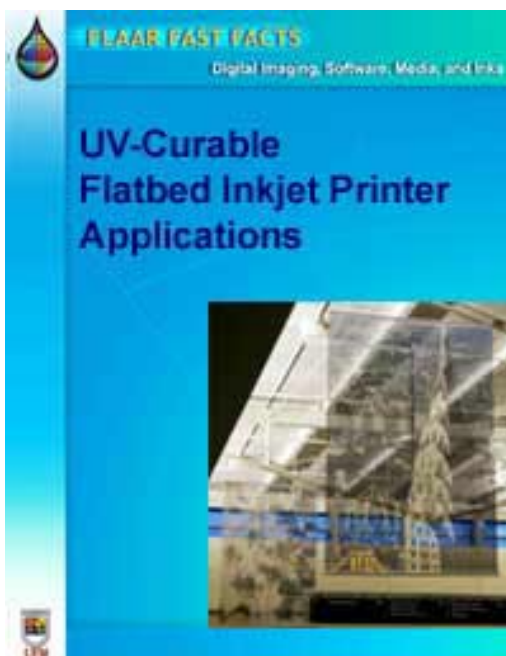
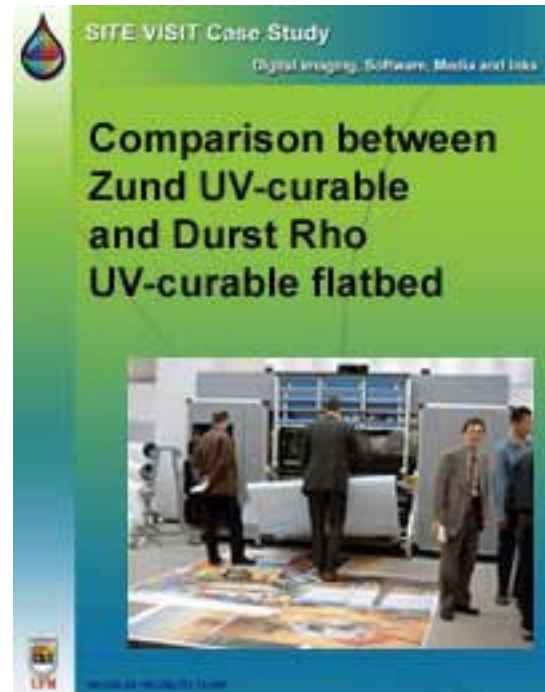
**Site Visit and Case Study of Zund UV-Curable Flatbed Printer Compared with a Durst Rho UV-Curable Flatbed Printer**, first issued June 2003. Updated April 2004.

Here is a godsend for any screen printer or owner of a sign shop: an actual factual view inside a successful print shop what has experience with two different brands of UV-curable ink flatbed printers.

This is the kind of research and publication you should expect from Nicholas Hellmuth. We took three members of the university lab to a sign shop and spent hours interviewing the operator and owners on the performance both of a Zund and also a Durst Rho. You will not get this type of factual (blunt) pros and cons format in a "success story" orchestrated by the manufacturer.

### Contents

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- Initial Questions
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- UV Curable Inks
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- RIP and Color Management
- Advantages and Disadvantages of UV Curable Printing
- Research Topics
- Corona Treatment Research
- Other observations on the Zund
- Other observations on the Durst Rho
- Succinct Summary by the graphics shop owners
- Comments by Nicholas



***A List of UV-Curable Flatbed Inkjet Printer Applications for screen printing and sign shops*** together with

***Everything you can Print with Flatbed Printers, especially Architectural Uses***

FLAAR Fast Facts format, new September 2003. Updated June 2004.

Professor Hellmuth's background is in architecture so he has a personal interest in inkjet printing on doors, wall sections, window glass, window blinds and everything else. This is a list in our FLAAR Fast Facts format.

***Glossary Of Terms Related to UV-Curable Inkjet Printers (Primarily flatbed printers)*** Combined with ***Bibliography of UV-Curable Inkjet Inks and Printers.*** New August 2003, updated June 2004, A bibliography is something a university professor does well.



The FLAAR Reports are dedicated to assisting you to learn about

- abrasion resistance**, rub resistance and scratch resistance. How good is UV ink?
- adhesion**, How long will the ink be able to adhere to the material?
- applications**, what applications can bring profit to your company?
- banding defects**, when is this an issue, and on which brands of printers?
- flexible** substrates, when do they work, and when and why don't they work?
- glossy finish**, can you achieve this surface with UV-curable ink?
- matte** surface, which is harder for a UV system to obtain, matte or glossy?
- roll to roll**, do you want, or need this? If so, which printer lacks it?
- rub resistance** and what about **abrasion resistance**
- shrinkage** with UV inks, and how this affects you and your clients.,
- VOC**, is this an issue with UV curable inks?
- white ink**, why is white ink so difficult to produce?
- Xaar**, how to Spectra and Xaar printheads differ?

A UV-curable inkjet printer costs between \$150,000 and \$500,000. So we thought it would be a good investment to help people understand the jargon in the advertising and printer specs if FLAAR offered a glossary. So here it is. We hope it helps you understand both the terms and the interesting UV-curable and inkjet technology.

Since the Oce Arizona 60UV is now under \$40,000, and since we saw new UV-curable inkjet printers from other companies at DRUPA trade show that cost less than the Zund, the Hellmuth Report on UV-curable inkjet printers is a good investment.

In addition to the glossary, the FLAAR Series on UV-curable inks offers a comprehensive annotated inventory of all the makes and models of UV-curable flatbed printers.

All of the above, list price \$280.

19.4% discounted to \$236 if you have, at any time in the past (or you can do it now) have fully filled out the Survey Form.

### **Nicholas Hellmuth's "DRUPA 2004 Update" on UV-Curable Ink Flatbed Printers.**

Dr Hellmuth spent 10 days gathering information on UV-curable ink printers at DRUPA. Since DRUPA is in Germany it helps to speak Deutsch to get the maximum information. It costs about \$2,000 to fly over, cover the hotel and other costs, so the report at \$100 is a bargain. Even if you attended DRUPA yourself, unless you spoke German, and spent 2 weeks there, we suspect that Professor Hellmuth was able to extract tidbits that are not available elsewhere.

The DRUPA Update on UV-curable flatbed printers is \$100 if you have already purchased the other UV Series previously.

If you wish to purchase the UV-curable DRUPA Update by itself (for those who have never purchased the FLAAR Series on UV-curable ink flatbeds) cost is \$150 for the DRUPA Update.

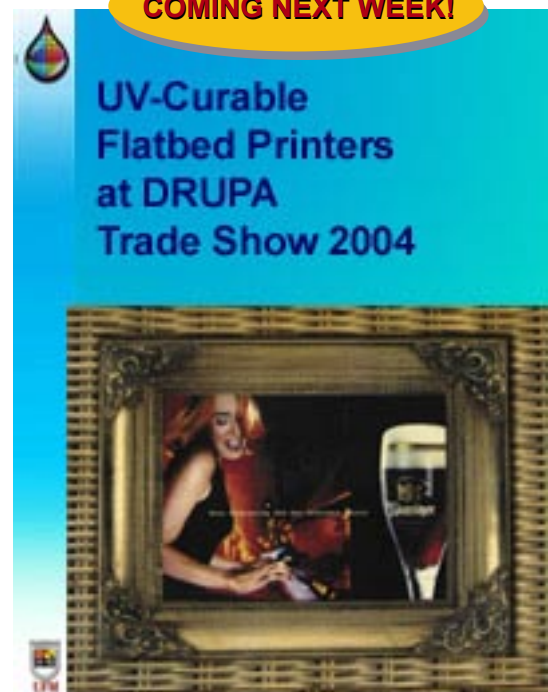
If you wish to purchase the FLAAR Series (\$280) and the DRUPA Update (\$100) the cost together is discounted to \$336 if you have, at any time in the past (or you can do it now) have fully filled out the Survey Form.

### **"DRUPA 2004 Update" on UV-Curable Ink Flatbed Printers**

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 UV-curable ink flatbed printers  
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 Durst  
 Eastech  
 Flora  
 Gandinnovations  
 GRAPO  
 Inca  
 Leggett & Platt Digital Technologies  
 Lüscher  
 Mimaki  
 Nur  
 Océ  
 Sericol (Inca)  
 Sun  
 Tampoprint  
 Vutek  
 Zünd

**COMING NEXT WEEK!**



**UV-Curable Inkjet Printers Shown at DRUPA Trade Show, May 2004**

**Contents**

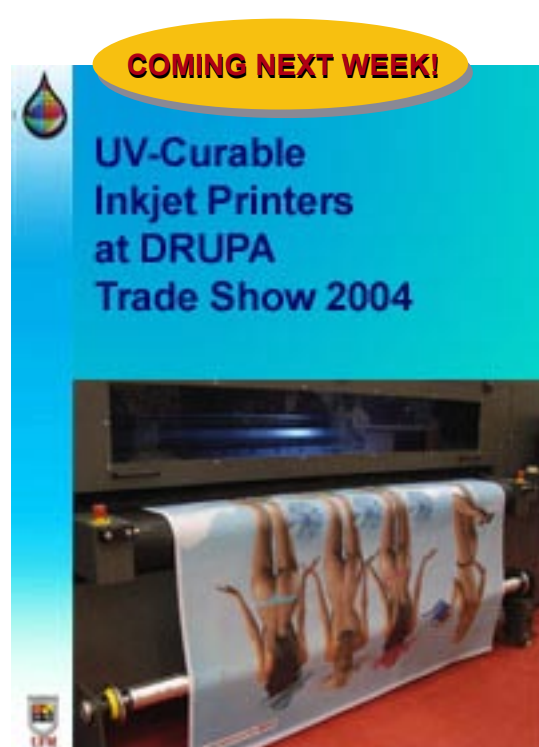
Introduction

Comparisons: Solvent printers compared with UV printers

**COMING NEXT WEEK!**



**How does a UV-Curable Printer differ from a Solvent or Eco-Solvent Inkjet Printer?**



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UV-curable ink flatbed printers

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Aellora

Agfa, Dotrix

Durst

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Gandinnovations

GRAPO

Inca

Leggett & Platt Digital Technologies

Lüscher

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Nur

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What about White Inkjet Ink?



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Mimaki's white ink

Durst's white ink

Aellora's white ink

Other company's white ink

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White ink for printing onto dark fabrics

Issues

Bibliography

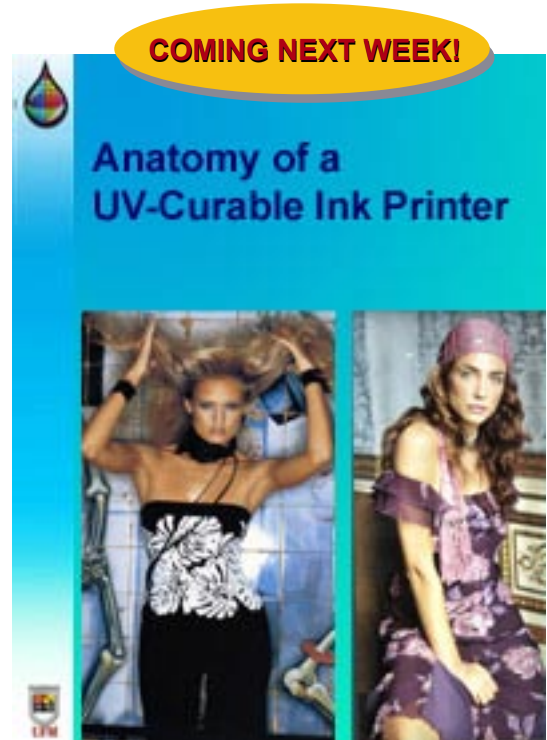
Sources and Resources on the Internet

**How a UV-Curable Inkjet Flatbed Works: Anatomy of a UV-Curable Ink Printer**

*This is a FLAAR Fast Facts, so we won't overburden you with technical detail. Fast Facts are precisely that, a precis of useful information in an easy to understand format.*

**Contents:**

- Introduction
- Printheads
- What part of the Printer System Moves?
- Ink
- UV Curing
- Materials to print on
- Print Quality
- Conclusions
- Bibliography
- Sources and Resources on the Internet



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<a href="http://www.digital-photography.org">www.digital-photography.org</a>	<a href="http://www.flatbed-scanner-review.org">www.flatbed-scanner-review.org</a>	
<a href="http://www.laser-printer-reviews.org">www.laser-printer-reviews.org</a>	<a href="http://www.cameras-scanners-flaar.org">www.cameras-scanners-flaar.org</a>	<a href="http://www.large-format-printers.org">www.large-format-printers.org</a>
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