

# JL Clark Case Study

INX Digital MD660 UV Flatbed Printer  
opens door to new business

## Specialty packaging manufacturer presents custom, highly decorative containers in bid for more customers by using an INX Digital printer

The new business prospect welcomes you into the conference room to review your capabilities, expecting the usual company overview, case studies and the typical sales-pitch conversation. When the subject involves metal decorating and the production of a high decoration metal container, a few colorful examples produced for other clients and some drawings or a cardboard prototype may be part of the show. But that's changed for J.L. Clark since the Rockford, Illinois specialty packaging manufacturer began using an INX Digital MD660 UV flatbed printer in mid-2009.

"Rather than show them a generic can that means nothing, we hand them an actual metal container with their own custom decoration on it," said Gordon VerWeyst, J.L. Clark's Director of Engineering & Metal Product Development. Usually it's several real metal prototypes and sometimes it might be as many as a dozen or more. Recalling a recent successful presentation, VerWeyst said the client, "had no idea it was coming."

"The impact of giving a customer a virtually finished product up-front that they never thought they'd see, is pretty impressive," remarked Art Supervisor Owen Johnson, who said this is now standard operating procedure. Johnson said they anticipate generating greater revenue with a much better process. "We know that prototypes can be effective. But we used to do it on a much smaller scale and not at the quality level we can now."

"This system is ideal for prototyping," Johnson said. "We've run about 50 concept jobs on the MD660 during our first several months, using them as a sales tool for new client prospects as well as some of our current customers, with the ultimate goal of attaining high-volume production runs. Along the way we've also brought in and produced some short-run sample jobs on the machine."

J.L. Clark also benefits from the usual digital vs. conventional press time-and-money saving advantages: "You're not making plates or setting up a press, and the sheet is basically UV-cured when it's running," Johnson said. "We're doing it on metal and getting fast turnaround at much less expense."

The MD660 can print multiple formats on a single tinsplate sheet, a definite plus when producing a variety of prototype designs quickly and inexpensively.

"We've found that it's very helpful to have a selection of designs going in, to give customers an opportunity to see several actual metal concepts put together," Johnson said. This accomplishes more than simply adding impact to a sales presentation.

"We can do everything start-to-finish here," he says, noting that artists in J.L. Clark's six-person graphics department often work directly with designers or design firms designated by customers. "Presenting various, relevant designs allow us to showcase our graphic design services, which in turn helps us get involved with customers earlier in the development of their packaging. Therefore, we can contribute more fully and collaborate more closely at every step. It's a great way to strengthen relationships while helping generate product ideas for them and, subsequently, projects for us."



*J.L. Clark's Owen Johnson and Linda Morgan get ready to put the next job in motion on Clark's new MD660 printer from INX International Co.*

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## Bringing new technology to a consistently innovative, 100-plus year-old firm

Embracing the technology of the MD660 printer exemplifies the leading-edge, inventive attitude that has built the original J.L. Clark Hardware Company. Founded in 1904, it is a multi-million dollar metal and plastic container provider for numerous global brands, as well as national, regional and local clientele. The company today employs over 340 people, with facilities in Lancaster, PA. and Rockford. J.L. Clark operates as a division of CLARCOR, a global provider of filtration and packaging products.

Small salve tins using scrap metal from flue stops launched the firm's consumer packaging business in the early 1900s. Called Gem ointment boxes, they also instigated the addition of lithography as an essential element in the company's full-service processes. The firm holds numerous patents for containers, closures and lids developed for and with various customers during the 20<sup>th</sup> Century. J.L. Clark has developed over a dozen more patents already in this millennium, so finding better ways to do business has become the norm for them.

"The MD660 offers a smart way for conventional packaging operations such as this to evolve into digital printing," said Ken Matyska, Senior Technical Representative for the Metal Decorating Division of INX International Ink Co. Matyska has worked closely with VerWeyst, Johnson and others at J.L. Clark, acquainting them with MD660 capabilities, bringing the machine on-board and helping their staff on a regular basis.

"J.L. Clark's approach to using this system provides additional lessons in digital evolution," Matyska said. "They made immediate use of the MD660, using it to help develop high-volume conventional business while generating new short-run projects that can be cost-effectively produced with this machine. They continue to do it as they become fully familiar with its capabilities and push the envelope to explore additional options."

Experimenting with various print media is part of the program, too. In addition to aluminum, the MD660 can handle Fome-Cor, PVC, Styrene, corrugated plastic, paper, cardboard, plywood, MDO, acrylic, and aluminum plastic composite.

### Meeting a need for speed: the 6-hour job

A bit over 8-1/2 ft. wide (103 in.) and less than 6-1/2 ft. (77 in.) deep, the MD660 fits nicely anywhere. At J.L. Clark, that means in the pre-press area, mere steps away from a conference room so customers or other visitors can easily be given a demonstration. Graphic Arts Coordinator and Designer Chris Resler works just around the corner. His design talent and preflight artwork know-how play key roles daily. For example, one day when the call came in for a rush-rush sample run, accompanied by some customer-provided artwork.

"We took the box and the art, scanned it in and created the 3-piece container top and body designs digitally," Resler said. "In just six hours we had everything approved and ready for the digital printer. The sheets were varnished and ready for manufacturing, where we fabricated the cans for overnight delivery. It was an ordeal, bringing it all together from point-zero on such short notice. But we did it and the customer was very happy."

Almost daily, Clark staffers find different MD660 features that pay, depending on the particular package and project. Johnson said printheads can be raised up as much as 2 inches, which came in handy when doing another quick-turnaround project not long ago.

### Comparing Production Processes

Production Step	Technology - Time/Cost	
	Conventional	Digital
Preflight Artwork	1-2 hrs	1-2 hrs
PDF proof approval	1-2 days	1-2 days
Imposition	1-2 hrs	30 min.
for Platemaking*	(plate costs*)	- none -
Plate installation & set-up	3 hrs	- none -
Color approval	3 min.	3 min.
Start-up Spoilage	30 sheets	- none -
Print run	< 10-12 min.	10-12 min.
Coating application	(variable but equal)	
Drying (UV Cure)	20 min.	- none -
Trimming	< 5 min.	< 5 min.
Fabrication	(variable but equal)	

>Conventional takes 4 to 4-1/2 hrs. longer with hundreds of dollars in plate costs and start-up waste.

\* Plate costs with conventional printing can easily run \$160 or more, each.

“Our President gave us a formed box about one inch thick, design depicting screws, nuts and bolts, and said he wanted us to print the artwork on it,” Johnson recalls. “I outline the tin on some foam board and made a jig in about 30 minutes. We raised the heads and printed it out, and wound up getting an order for 500 tins.”

The MD660 then ran the order, which required about 10 sheets for the project. Another recent 700-sample job, an 18” x 24” poster, took only 120 sheets to complete. J.L. Clark also has printed commemorative plaque-type poster depicting mascots and logos for three area high schools.

“This machine is great for doing niche projects that are totally unique in this business,” Johnson said. “Now we’re looking at potentially doing individual photos for a high school football team. Another niche idea involves a major golf tournament played in Rockford each year. People could have their photos taken with tournament pros and we could come back the same day with their personal poster or plate.”



## INX Digital MD UV Flatbed Printer Series Specifications

### PRINTHEAD TECHNOLOGY

5-12 CE4 printheads from Toshiba TEC capable of printing at 8 level greyscale drop sizes. Each printhead has 636 nozzles

- Number of heads varies by model number

### COLOR MODES

CMYK + White or Clear, CMYK + White and/or Clear

- Varies by model number

### RESOLUTION

1200 x 900 resolution uses 6pl drop

600 dpi uses 3 drop mode (6pl \* 3 drops = 18pl)

300 dpi uses 7 drop mode (6pl \* 7 drops = 42pl)

### PRINT SPEED - CMYK

Quality Mode: 67-105 ft<sup>2</sup>/hour

Production Mode: 186-317 ft<sup>2</sup>/hour

- Varies by model number

### PRINT SPEED - CMYKW

MD660: CMYKW speeds half of CMYK

MD1000: CMYKW speeds same as CMYK

### MEDIA HANDLING

Moving gantry with stationary vacuum table with an image area of 60 x 48 inches or 98 x 52 inches

### VARIABLE DESIGN

Ability to print multiple formats on one sheet

Ability to print on stencil coated layout

### REGISTRATION

### UV CURING SYSTEM

Dual mercury lamps with variable power control

### INKS

Half liter bottles of environmentally friendly UV curable inks capable of printing on a wide range of coated and uncoated media.

### IMAGE PROCESSING SYSTEM

High performance Windows PC running Onyx PosterShop.

Optional: Onyx ProductionHouse for ICC profiling

### MEDIA

Variety of rigid and flexible media including; Foam-Cor, PVC, Styrene, corrugated plastic, plywood, MDO, aluminum plastic composite, cardboard, paper, aluminum, acrylic and glass

Maximum media thickness: 2 inches

Maximum media weight: 200 lbs. (MD660), 400 lbs. (MD1000)

### ELECTRICAL

200-240 VAC, single-phase, 50/60 Hz, 30-40 Amps maximum

### OPERATING CONDITIONS

Temperature: 65 to 85° F

Humidity: 20 to 80% RH (non-condensing)

### PHYSICAL DIMENSIONS

MD660: 50.92” (H) x 102.16” (W) x 76.0” (D), 900 lbs.

MD1000: 54.49” (H) x 169.71” (W) x 77.91” (D), 1200 lbs.

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Model	Number of Print Heads	High Quality Speed	High Production Speed	Max Weight	Image Area	CMYK	Clear/White		CMYKOG
							clear and/or white	clear of white	
MD660	5	67 ft <sup>2</sup>	186 ft <sup>2</sup>	200 lbs	60”(W) x 48”(D)	✓		✓	
MD1000-6	6	105 ft <sup>2</sup>	317 ft <sup>2</sup>	400 lbs	98”(W) x 52”(D)	✓	✓		
MD1000-12 (coming soon)	12	tbd	tbd	400 lbs	98”(W) x 52”(D)	✓	✓		optional

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This customer’s results depended upon its unique business environment, the way it used INX Digital products and services and other factors. These results may vary.

