

**EDITORS NOTE**

I wish we knew how many times we're asked: How does a company that manufactures plating equipment come to be called Hardwood Line? Finally we provide the answer. See the article below center. ([click here](#))

To make "Hardwood On-Line" a true industry news magazine, it must have your input. We welcome any of your ideas for articles, letters to the editor, and basically, anything that you believe would enhance upcoming issues.

[Please e-mail us your comments and feedback.](#)

**PEOPLE YOU SHOULD KNOW**



You might say that Anton Lazaro, CEO of Hardwood Line grew up with the business. Even as a small boy Anton would enjoy helping his dad, Anton Lazaro Sr., founder of Hardwood Line, in the shop. Of course later as a teen Anton and his two brothers would work along side his father as the business grew.

Upon his return from serving our country in WWII, Anton enrolled at the University of Illinois. After graduating with a degree in Mechanical Engineering, he returned to Hardwood Line full of ideas and constantly searching for a better way to do things.

In his 60 years in the finishing industry, Anton has received numerous patents including the PaddleWheel™ Plating barrel and The I/O Door™.

Anton and Rita, his wife of 53 years, reside in the Chicago area and have three grown children. In his spare time Anton enjoys fishing and golf.

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**UPCOMING EVENTS**

NEED INPUT

**New HI-E Barrel puts the Pedal to the Metal**



The slotted perforations of the HI-E not only facilitate better solution transfer, they also provide a more direct line of sight between anode and cathode, yielding maximum current potential per degree of revolution. The angle of each slot is precisely cut to allow for uniform sight distribution across the cylinder. The result; consistent plating in less time.

The geometry of the slotted perfs minimize dragout, producing less cross contamination while reducing chemical usage. Each exterior pocket is engineered to the proper depth dictated by the width of the slot and precisely angled allowing for maximum open area relative to strength.

Optional internal striations cut parallel to the slots keep flat parts from sticking, reduce premature peening and shading.

Adjacent panels have slots and striations oriented in opposing directions which allows for better distribution of the load relative to contact with the cathode.



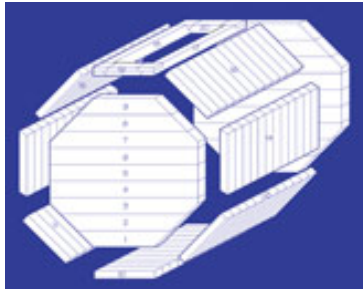
The HI-E slotted cylinder is available on all new full size production and portable barrels and can be retrofitted to all barrel superstructures. SprayThru technology can also be added to the HI-E to boost plating speed and quality to unprecedented levels.

The high performance HI-E slotted plating barrel is truly the next generation of plating technology.

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**WHY HARDWOOD LINE?**

Back in 1935 burnishing was accomplished by tumbling parts within a wood lined drum that contained a slurry mixture along with tumbling media. An octagonal outer steel shell supported a wooden lining.



Hardwood was the only known material available that would hold up to the rigors of this operation. This lining, installed through the door was comprised of many intricately cut tongue and groove pieces. Once in place, the door opening was positioned on top and filled with water. After some hours, the joints expanded and the lining became ' watertight' and as long as the wood did not dry out, the joints would remain firm.

Over time and many tumbling revolutions, the wood would wear thin and need relining. Replacing this hardwood lining was the foundation upon which Anton Lazaro Sr. founded and named Hardwood Line.

**SURFIN 03**

At a relatively slow SURFIN 03 in Milwaukee, Wisconsin, Hardwood Line generated quite a bit of interest at its booth.

Visitors to Hardwood Line's booth were intrigued by the new Transformer, Modular Barrel System. The Transformer features field replaceable panels that allows for a perfect match between part and cylinder.

Hardwood Line also introduced its new Interlock Snap-Lock Plating Barrel, a cost saving, polyethelene, barrel constructed without welds or fasteners.

The Asmega Plating Line generated quite a lot of interest. As the economy seems to be on the upward turn, more companies seem to be interested in the highly efficient combination of Asmega's revolutionary technology and Hardwoods HI-E Barrels.

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**ASK WOODY**



**Dear Woody: I'm getting ready to replace some cylinders on my line. I'm seeing a lot of barrels lately with slots and other unusual shaped perforations. Can you tell me in simple language why a slot is supposed to be better than a plain old round hole?**

**WOODY:** Let's not dance "around" this issue and get right to the point ...ur... curve. There are two reasons an irregularly shaped hole, such as a slot, is a better choice.

- 1. Improved line of sight between anode and cathode**
- 2. Less surface tension**

Now in plain language lets see what each of these terms mean:

**1. Line of Sight** - Lets do an imaginary science experiment. Imagine a light placed behind a 1" thick block of wood (my favorite snack) with a 1/4 inch hole drilled in the center. If you rotate the block of wood on its horizontal axis, you see the light for a short period of time, before the hole visually closes. How long your able to see the light depends on two things: 1) the size of the hole and 2) the thickness of the material. If you elongate the hole( i.e make it a slot), you lengthen the time your eye sees the light. If you rout out the wood to make the material thinner, you also lengthen the eye-contact time. Okay, ready? The light represents the electrical potential coming from within the barrel. Your eye represents the charge outside the barrel: in other words - the anode to cathode travel of the current. The routed wood represents the scrubbed pockets behind the openings. This extended line of sight produces better current distribution, which means faster and more consistent plating.

**2. Surface Tension** - Fill a glass with water. Put a needle on a piece of tissue paper and lay the tissue gently on the water. Eventually the tissue will sink and the needle stays on top. This is because the molecules in a liquid tend to pull each other together. This phenomenon, known as surface tension, is about 25% greater when the hole is round because it generates equal wall pressure. So, why is he telling me this, you ask? Well, 25% greater liquid retention means that all those little round holes are holding 25% more solution when the barrel is lifted out of the tank. In other words, 25% more dragout.

Of course, you want to make sure the irregular shaped cylinder holes you choose fits your parts. But, nowadays, there's lots of shapes and sizes to choose from.

**Woody**

**Got a question for Woody?**  
[Click here to e-mail Woody](#)

*Be sure to include your Name, Company Name and Phone Number (in case Woody needs more details).*