



## 5<sup>th</sup> Floor News -

a periodic update on company happenings, new products and developments at NiCoForm, Inc.  
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**Taking the Stress out of  
Electroforming**

# 2 Fall 2000

In this issue: NiColoy™ at Work

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### NiColoy Catheter Tipping Dies

**E**lectroforming catheter tipping dies is not a new technology - you start with a mandrel that has the geometry



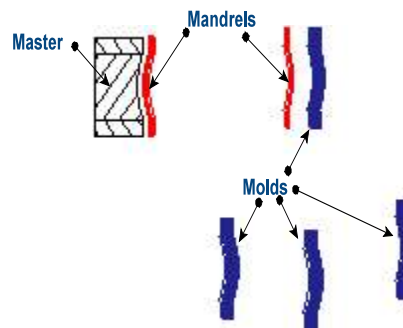
of the future catheter made out of stainless steel or brass and grow a layer of metal around it. When the thickness of the metal layer is sufficient, the mandrel is removed and you have a tipping die. Now the mandrel can be reused and your cost of producing a tipping die is minimized. The difference between other electroformed dies and NiCoForm's is in the material. NiColoy™ is so much harder and more wear resistant than the traditionally used

nickel, that our tipping dies outlast the competition many times over. Are you still using brass or nickel catheter tipping dies? The question is - Why?

### Reducing the Cost of Molded Optics

**T**o mold optical parts one has to first produce a precision machined mold insert. For a multi-cavity mold, several inserts are required - a costly and rather time-consuming proposition. But it doesn't have to be. Electroforming with NiCoForm's proprietary nickel-cobalt alloy, NiColoy™ drastically reduces the cost and lead time of tooling up for mass-production of optics.

original (*master* is machined in a suitable material (nickel, copper, brass, aluminum, etc.). This part is then used to electroform several exact replicas in stress-free, hard and wear-resistant NiColoy™ (see Illustration). Each of these first generation electroforms can now be used either as mold inserts themselves or as *mandrels* (generation originals) for further replication. An electroform can be produced for a fraction of the cost of machining the optic and yet the hardness, thickness and wear resistance of NiColoy™ matches that of stainless steel. Not only metal, but photoresist or epoxy on glass masters can also be replicated in NiColoy™ by electroforming.



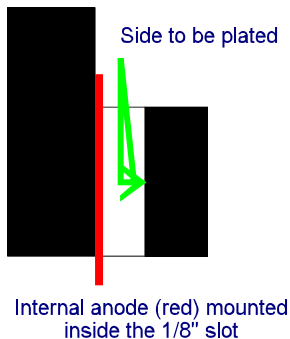
**H**ere is how the process works: a precision first

### Electroformed Anodes Save a Complicated Mold

**W**hen a molder sends in a part for build-up, all we have to do is mask and plate. Right? Not quite. Consider a recent case (see illustration below) we worked on. An S 7 mold block with 2"-deep and narrow (~ 1/8") through-slots

that were just 0.0005" oversized.

Because electroplating is a 'line-of-sight' technology, without an anode facing the surface to be plated we would not be able to deposit a uniform NiColoy™ layer onto it. To



accomplish this, we had to first electroform slivers of NiColoy™ foil, fit them into the slots, mask the rest of the block and only then plate the required thickness of NiColoy™ on one side of the slot. Was it worth the effort? - You bet. We saved the customer thousands of dollars in labor, materials and machining time and helped meet an important deadline.

### NiCoForm's New Web Site

Type 'NiCoForm' into your browser's navigation field

and you will be brought to [www.nicoform.com](http://www.nicoform.com) - our very own brand-new web site. It grew out of the smaller free site we had until recently. Filled with useful features and information, the site will not just tell you about our company and its people. You will find there technical information on the materials we plate, services we offer, papers explaining electroforming and its applications to mold production and repair. A handy form can be printed out and faxed over to get a quick quote or to place an order. You can send us e-mail, find directions to our offices or download a copy of our newsletters in PDF format. Please visit [www.nicoform.com](http://www.nicoform.com) and let us know how you like the site and what we could do to make it better.

### NiColoy Protects Copper Cores



Copper mold components are often desirable for their high thermal conductivity. But

copper's low strength, hardness and corrosion resistance means that its surface must be protected from wear and corrosion by a protective coating. NiColoy™'s hardness, wear and corrosion resistance along with good release properties make it perfect for this application. In the accompanying photo, a 0.0001" coating of NiColoy™ protects the working surfaces of copper cores.

### NiCoForm is Growing

On September 5 our team became one stronger - we were joined by John Contino, a



Mechanical Engineering graduate from the Finger Lakes Community College. In the photo above, John and Yefim are discussing a new fixture design.

Welcome aboard, John!

### How to Reach Us

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