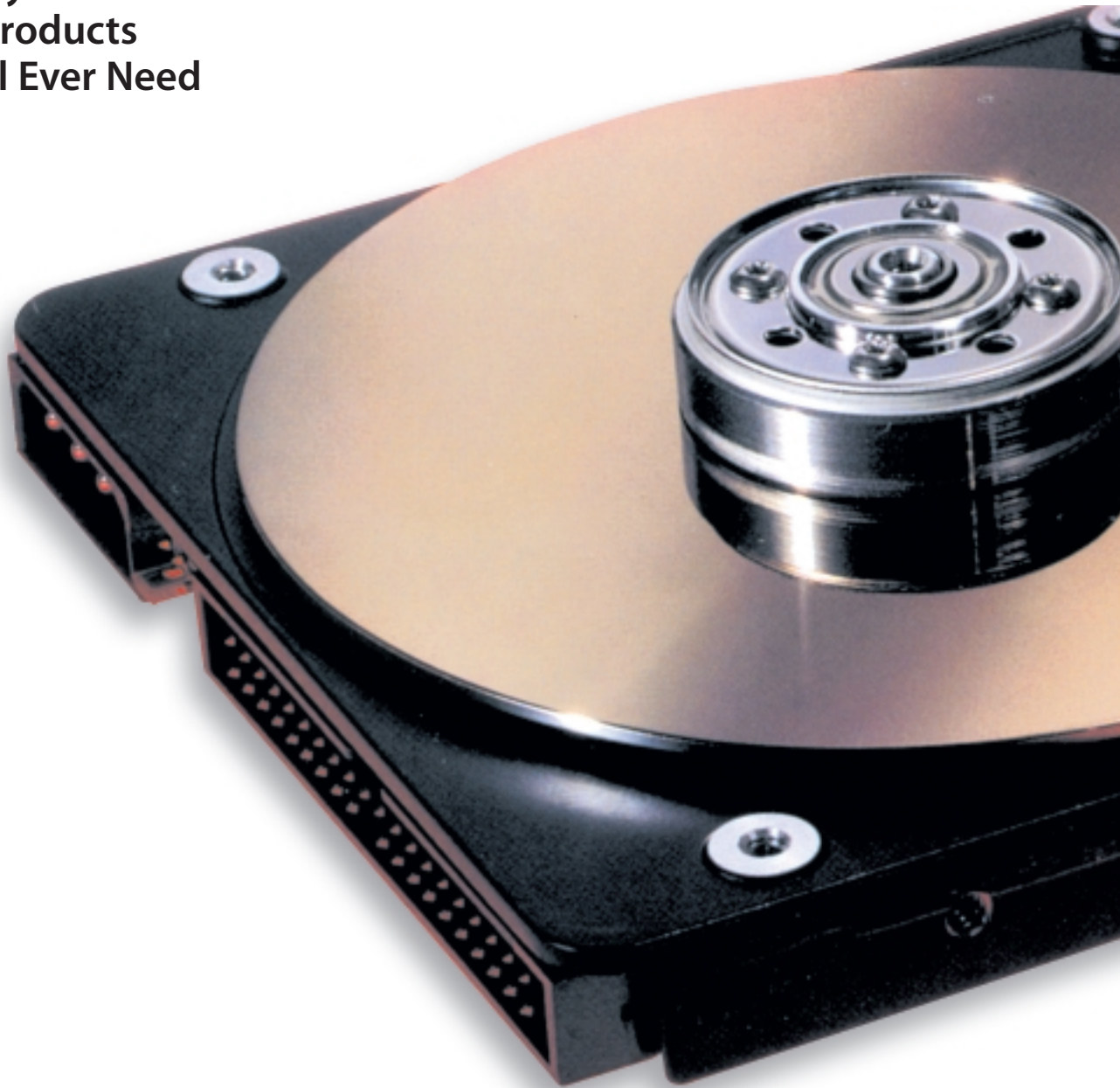


# Electroless Nickel Coatings

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The Only Portfolio  
Of EN Products  
You Will Ever Need



YES WE CAN<sup>SM</sup>

 **MacDermid**  
Industrial Solutions

# Engineered To Meet Every Application Need

**MacDermid Industrial Solutions** offers metal finishers, engineers and OEM's a comprehensive portfolio of electroless nickel products, and we are committed to leading the industry in new product development in the future as end user demands evolve.

With coatings available to satisfy any application need—from computer hard disk drives, aircraft landing gear and underwater mining equipment to printing shafts, valve components and car transaxle assemblies—it is easy to understand why customers consistently specify MacDermid electroless nickel products.

Our EN coatings portfolio—used as the benchmark by OEM's and competitors at every level worldwide—consistently delivers the superior results demanded by our customers, including ease of use, unmatched deposit uniformity, exceptional corrosion protection and outstanding hardness and wear resistance. For lasting protection and brilliant results, there are simply no better engineering alternatives than MacDermid electroless nickel deposited coatings.

## The Future Is Now. No Waiting.

Customers rely on MacDermid not only for the versatility and reliability of our EN products, or for the industry's best technical service, but for their ability to be at the leading edge of EN technology.

Every year we introduce new and enhanced EN coatings that are more powerful and productive than ever before, and bi-annually we conduct our EN School conference, where we provide hands-on education and seminars ranging from application basics to deposit properties and commercial advances.

Our latest generation ELV (End of Life Vehicle) electroless nickel chemistry is just one example of how we are helping lead the EN coatings industry.



### Industry Applications

- Aerospace
- Automotive
- Chemical & Petroleum
- Electrical
- Electronics
- Marine
- Material Handling
- Medical
- Military
- Mining
- Molds & Dies
- Pharmaceutical
- Printing
- Railroad
- Textile



## NiKlad™ ELV Systems

MacDermid NiKlad ELV electroless nickel systems create the newest class of high performance EN coatings yet offered: they are the first to completely eliminate the use of lead and cadmium, making them the most environmentally compatible coatings available today.

- Meets or exceeds all major automotive, ELV, WEEE and RoHS directives
- Deposits range from semi-bright to bright
- Operates in a similar way as conventional EN systems
- Excellent deposition rates for high production throughput
- Completely EDTA-free processes can also be operated as completely non-ammonia EN systems if required
- Outstanding stability developed to work well in conventional polypropylene, stainless steel tanks and equipment

## Vand-Aloy Systems

Innovation isn't reserved for just new products. It also applies to maintaining the efficacy of trusted, everyday products that our customers rely on to meet their goals.

MacDermid Vand-Aloy electroless nickel systems are the perfect solution for job shop production applications due to their lower cost and production-oriented chemistry. Flexible and versatile, all Vand-Aloy products produce highly functional, uniform deposits.

- High and medium phosphorus EN options, and strike baths
- Complete non-ammoniated operation and replenishment options
- Exceptional corrosion protection and resistance
- Very stable process, especially for difficult production environments
- Suited for light-to-heavy build deposits

## NiKlad™ Systems

NiKlad EN systems have become the most widely used and appreciated of our product range. They represent exceptional high deposit quality, process stability and performance.

These "benchmark" systems are used in some of the most demanding applications, where deposit quality and ultra-high performance can not be compromised.

- Deposits offer the highest possible quality and performance in all environments
- Semi-bright to bright, high phos to low phos
- Meets all corrosion, wear and application requirements
- Meets or exceeds ISO, ASTM, AMS, Military & Aerospace conformance specifications requirements

### Niche Applications: The Seeds of Invention

At MacDermid, we like to be challenged by our customers. It leads to a greater understanding of their short and long term needs, which enables us to develop more imaginative solutions that help shape the next generation of coating products.

We consider niche applications the seeds of invention and the backbone of our approach to improved performance: customer-driven innovation. No idea or opportunity is too small. The results speak for themselves.

- NiKlad ELV PTFE - durable and reliable PTFE co-deposit electroless nickel
- Nickel Boron Alloys - especially suited for the electronics industry, and can replace gold in some specific applications
- NiKlad NiCAP - processes for the encapsulation of particles
- NiKlad Revolution - Extended Life electroless nickel system, minimizing waste, maximizing productivity.

# Electroless Nickel Coatings

No matter the application, from the most complex geometries to even the simplest of designs, the **MacDermid Electroless Nickel** family of engineered coatings is consistently the most specified by metal finishers and design engineers worldwide.

When you need a company that offers a complete portfolio of EN products, exceptional technical service and a deep passion for technology, count on the company that says “Yes We Can.” MacDermid.

Product Range			
Phosphorus/Alloy	NiKlad™	Vand-Aloy	ELV
High	1000	4200	811
Medium	767, 768, 787	5000	809, 807
Low-Medium	797, 799	–	805
Low	724	–	In Development
PTFE Co-deposit	ICE	–	ELV PTFE
Nickel Boron	752	–	In Development
Strike	J-64, BL	8700	818
Specialty	NiCAP & CuCAP	–	–
Long Life Systems	Revolution	–	In Development

**YES WE CAN**<sup>SM</sup>

It takes more than innovative, high performance products and superior technical service to help our customers compete and win in today's global marketplace. It takes a total commitment to understanding their needs and the ability to provide the right solutions—every time.

When success is your only goal, trust the company that says “Yes We Can.”



For more information, please contact us at:

245 Freight Street, Waterbury, CT 06702

Phone: 203.575.5600

[www.macdermid.com/industrial](http://www.macdermid.com/industrial)