

NobelClad Overview

For more than 55 years, NobelClad has provided customers around the globe with innovative technologies for joining dissimilar metals. We are the proven leader in explosion welding, and offer the widest collection of customized clad metal products in the world. More than a product provider, we are a solutions partner, reimagining what is possible to reliably and safely solve complex material design challenges.



OUR REACH & CAPABILITIES

With a global manufacturing, sales, distribution, and research and innovation footprint, NobelClad services 3,100 global accounts in 75 countries, providing localized clad expertise and products, from specification to delivery and service. We are a division of <u>DMC Global</u>, <u>Inc.</u>, which supports our continued success.

NobelClad continues to make ongoing investments in world-class research and development, technical metallurgical expertise, structural capacity and quality standards.





NOBELCLAD FOOTPRINT AT-A-GLANCE

- Headquartered: Broomfield, Colorado
 - Parent Company: DMC Global, Inc. (NASDAQ: BOOM)
 - DMC Global 2019 consolidated sales:
 \$400 million
 - NobelClad 2019 consolidated sales: \$87.1 million
- More than 220 employees worldwide
- Global workforce:
 - Manufacturing: Liebenscheid, Germany and Mount Braddock, Pennsylvania, United States
 - Sales & distribution: France, Germany, United States, United Arab Emirates, India, Italy, Australia, Singapore, Korea and China
- Strategic global partnerships with TriClad; Newtesol; Bibus; American Alloy, and agents in Brazil, Scandinavia, Mediterranean, Russia and Canada



WHAT WE DO

Blending our metallurgic expertise with the latest technology, we deliver quality clad metal solutions that support the long-term success of fabricators and owneroperators in the energy, industrial and infrastructure markets.

Our offerings

- 260 compatible and non-compatible metal combinations, including:
 - Zirconium or titanium clad to steel for large plates
 - Aluminum to steel for modern transportation solutions
 - Copper to steel for industrial refrigeration

A variety of welding techniques, including:

- Explosion welding
- <u>Roll bonding</u>
- Weld overlay

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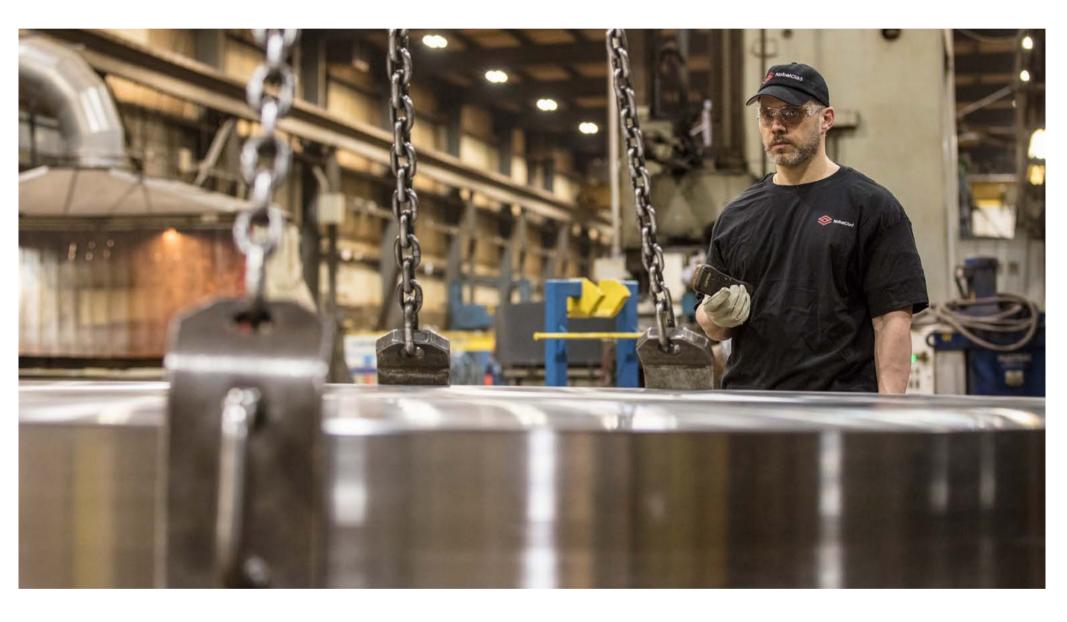
Explore our 260 compatible and noncompatible metal combinations











Top left: Clad heads

Top right: Clad heat exchanger for Purified Terephthalic Acid Production

Bottom: Clad tube sheet in Mt. Braddock manufacturing facility

Our products & select industry applications*:

Clad Plates (DetaClad™) for pressure vessels in crude distillation or hydrogen production and separators in oil refining

Tube Sheets for heat exchangers in shipboard coolers or condensers for HVAC systems

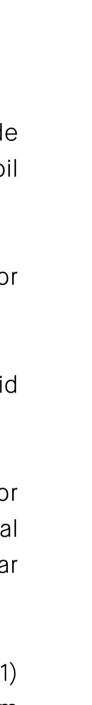
Vessel Heads & Cylinders for reactors or tanks in acetic acid or purified terephthalic acid processing

Structural Transition Joints (DetaCouple[™] & TriClad[®]) for dissimilar metal welding in shipbuilding without mechanical fasteners; or joining aluminum to steel RailClad™ in rail car manufacturing

Electrical Transition Joints (ETJ3000, ETJ2000 & ETJ2001) for electrolytic anode junctions or cathode bars in aluminum or zinc production

Clad Pipes & Round Products (DetaPipe[™]) for harsh chemical transfer lines

* This is only a small sample of equipment and applications that used clad.



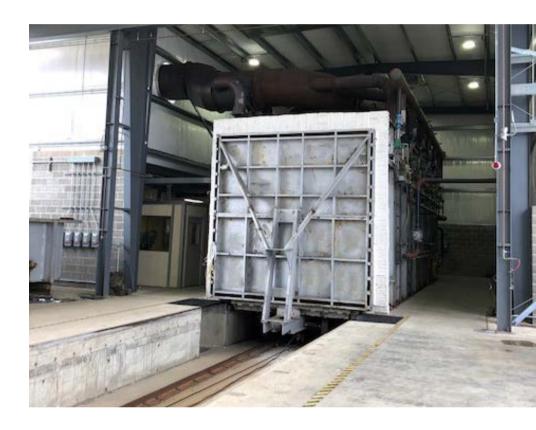
Other services and differentiators:

- From raw materials to final product, customers benefit from NobelClad's Industrial Services including drilled or undrilled tube sheets, metal sourcing, cutting, pressing, flattening and testing—for consistent quality and ontime delivery at every step.
- NobelClad offers reliable clad plates of varying sizes, including some of the <u>largest and widest</u> in the industry.
- Our largest plate on record: 42 m² (450 ft²) and 55 t (121,000 lbs)
- Total composite thickness: 0.078 in (2 mm) to 15 in (380 mm)







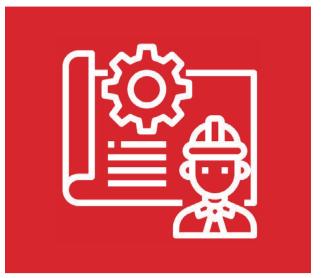




A DMC Global Company

HOW WE DO IT

At NobelClad, our <u>approach</u> combines unparalleled metallurgical expertise and customer service, from order placement to delivery. Our global footprint gives us access to the highest quality metals in the world, and we can deliver them anywhere, quickly.



Design

Our metallurgical experts help reimagine the possible material combinations, configurations and applications to solve complex design needs.



Execution

Our reputable local suppliers, best-in-class metal specifications, welding process compliance and bond quality certification give customers peace of mind.



Delivery

Our presence in strategic global markets is unrivaled, including our competency in shipping large quantities of clad material internationally and on-time.



Guarantee

Our products will not disbond when properly formed and fabricated, or we will replace them for free.

COMPANY PROFILE

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WHO WE SERVE

Our history and reputation for quality and integrity are why customers in critical <u>global</u> <u>industries</u> continue to choose NobelClad for their composite metal needs.

These industries trust our explosion-welded clad materials to provide key advantages, including weight savings, increased corrosion resistance, better performance levels, improved electrical conductivity, and longer use life, all while being cost-effective.

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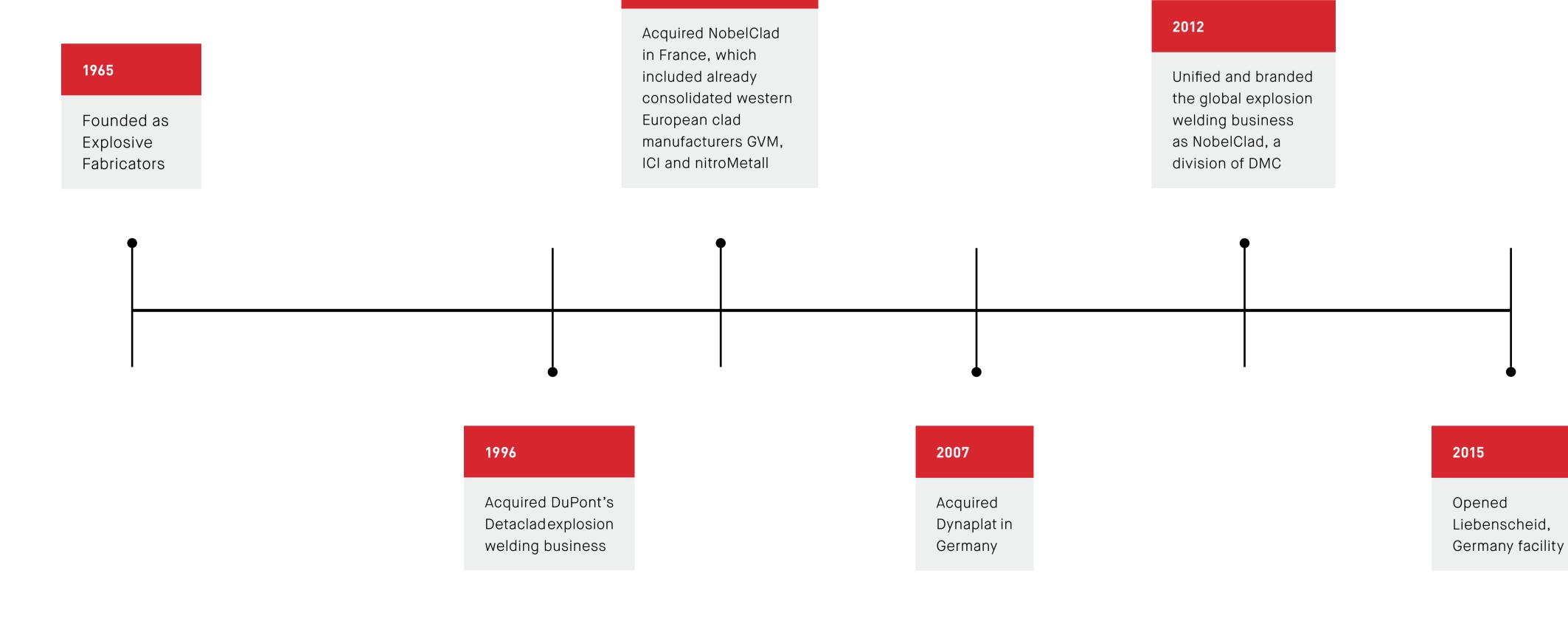
OUR HISTORY

More than 55 years ago, we introduced explosive metal forming as an innovative technique to join dissimilar metals. Over time, we transitioned our focus to explosion welding and after a series of strategic acquisitions, became the global leader in explosion-welded clad metals. In 2013, we unified these capabilities under the NobelClad brand name as a division of DMC Global, Inc.

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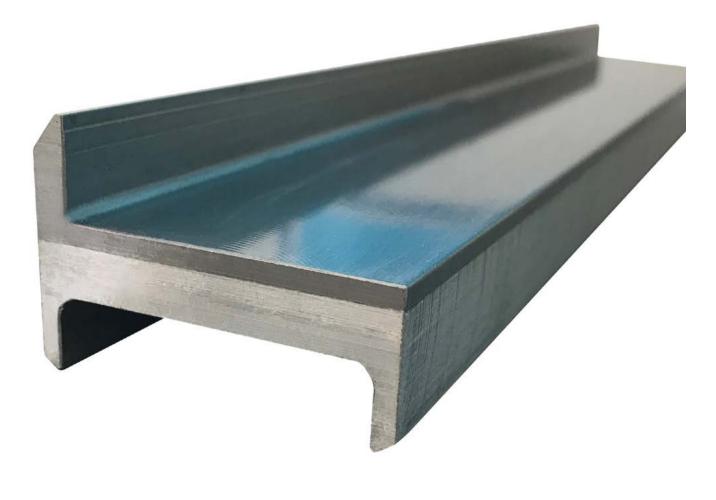
CONNECT WITH US

NobelClad cultivates a <u>community</u> of metallurgists, engineers and students to discuss and re-imagine the possibilities for clad applications. Join the discussion.

- <u>Nobelclad.com</u>
- <u>LinkedIn</u>
- <u>Twitter</u>

REQUEST A QUOTE

CONTACT AN ENGINEER



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Bottome left: Steel to aluminum profiles for welding aluminium panels on steel chassis in hybrid carbodies

Bottom right: Clad used is more than 2500 Alstom cars



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Together we will transform your material design challenges into successful solutions.

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