



How Zirconium Detaclad™ Helps Chemical Processors Meet Demand for Plastics Used in Pandemic Protective Equipment

As the global fight against COVID-19 continues, so does significant demand for Methyl Methacrylate (MMA)—a critical building block for polymethyl methacrylate (PMMA), the material used to make sheets of what is commonly called “plexiglass” or acrylic.

Plexiglass protective shields are now ubiquitous across public transport, offices, retail and hospitals to restrict the spread of infection. PMMA is an ideal barrier in these settings because it can be sterilized without impacting appearance or transparency and offers a lightweight and shatter-resistant alternative to glass.

As a result, MMA—approximately 75 percent of which is used to make PMMA—is in high demand and short supply. This spells opportunity for chemical processors, who are quickly adding or expanding MMA processing capacity, to address the “new normal” and fulfill MMA’s many other longtime uses from water bottles to computer screens.



*Left:
Plexiglass
protective
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The Value of Zirconium Clad for MMA Processing Equipment

Many of today's MMA production facilities incorporate zirconium as a critical material of construction to keep operations running reliably and safely. Zirconium's properties make it ideal for withstanding hot, high-pressure and corrosive processing environments. However, on its own, zirconium is expensive and has design limitations.

That is why for more than 30 years, engineers have specified NobelClad's Detaclad™ explosion welding process to economically add the corrosion-resistant strength of zirconium to their process equipment designs.

As a solid-state, cold-welding process, Detaclad uses precise detonations to force, or bond, dissimilar metals together while preserving the physical, mechanical and corrosion-resistant properties of each metal. Explosion welding is the only practical method to effectively produce a durable, high-strength bond between large sheets of zirconium and steel and can be used for other corrosion-resistant claddings like stainless steels, nickel alloys, titanium and even tantalum.

Common uses of zirconium Detaclad for core equipment in MMA production include shell plates for vessels and columns; single piece clad heads; and tube sheets for heat exchangers. However, to maximize the functional benefits of zirconium Detaclad, you need the quality processes and expertise to protect your investment, from specification to delivery and support.

Why Choose NobelClad for Your MMA Project



*Left:
Chemical
processing
facility.*

For companies establishing new or adding MMA capacity—often a multi-year process—every minute counts. Without robust cladding and equipment specifications and a proven clad metal supply chain at the outset, you risk significant project delays and material failures. When you partner with NobelClad:

- We help you get the cladding specifications right. Few people in the world know how to do what we do, and even fewer go beyond ASTM B898, the global standard specification for reactive and refractory metal clad plates.

- Our global footprint enables “on-shore” project support. This means you have access to domestic supply chains to service your core fabricators and chemical processing facilities.
- Our zirconium Detaclad plates are available in sizes two to three times larger than solid zirconium plates. Larger plates enable fabricators to significantly reduce the amount of fabrication welding needed to manufacture pressure vessels, columns and heat exchangers. As a common source of equipment failure and dangerous leakages, the benefits of fewer welds include lower costs; faster lead times; significantly fewer inspection requirements and improved reliability and safety during operation.

In sum, choosing zirconium Detaclad helps you protect your MMA investment, workers and the environment, while rising to the market opportunity.

Learn How Zirconium Clad Can Meet Your Needs

We believe in sharing our metallurgical expertise and invite you to contact us to sign up for a free 1:1, 60-minute Introduction to Zirconium Cladding Technology webinar. We customize the discussion to meet your team’s needs but generally cover:

- Design strategies for reducing capital expenditures & maximizing return on investment;
- Keys to zirconium clad project success, including the importance of invoking robust specifications; and,
- Practical examples of zirconium clad equipment in the chemical processing industry.

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