



High Pressure, Corrosive Chemical Processes Call for Clad Piping Solutions

Many of the chemicals used to make modern consumer, agricultural and industrial commodities are produced in extreme processing environments. Engineers who oversee the design and construction of these capital-intensive operations understand that reliable piping systems is critical to success. One weak link can lead to unplanned downtime, costing owner-operators significant time and money.

Titanium and Zirconium Clad: Cost-Effective Corrosion Resistance

Reactive metals such as titanium and zirconium are common in chemical plants for corrosion-resistance in demanding environments; but these metals are costly and may have design and reliability limitations when used in solid form. Combining titanium or zirconium with less expensive metals like carbon steel or stainless steel offers the anti-corrosion benefits of reactive metals at a significantly reduced cost and with fewer design limitations. As a result, titanium and zirconium reduce capital expenditures (CAPEX) and improve the reliability of key chemical processing equipment such as reactors, columns and heat exchangers. Now, these same benefits are available for high pressure piping and elbows.

No Weak Links with DetaPipe™ Titanium & Zirconium Clad Piping

Decades of best practices constructing cylindrical clad structures coupled with feedback from key chemical plant owners and operators allowed NobelClad to introduce DetaPipe titanium and zirconium clad piping and elbows.

When replacing pipes and elbows in existing infrastructure, DetaPipe products are easy to install due to their standard carbon steel piping base—with added reactive metal coating/protection ideal for thick-walled piping in high-pressure and corrosive chemical, hydrometallurgical or geothermal processes.

When approaching a new plant build, NobelClad can serve as your trusted one-stop expert, bundling DetaPipe with DetaClad titanium and zirconium reactors, pressure vessels and heat exchangers, to provide greater reliability and economic advantages for your total equipment infrastructure investment.

Standardized Steel Pipe Specifications for Your Project

For many applications, DetaPipe offers initial CAPEX savings as well as lifetime equipment savings, design flexibility, reliability, and improved process safety. DetaPipe is produced to meet or exceed industry specifications and trusted standards to best support your project:

- **Pipe Sizes:** DetaPipe uses standard ASME B31.3 carbon steel flanged pipe sizes ranging from 6" NPS up to 30" NPS, or larger, so that operators do not have to worry about non-standard sizes which do not fit plant piping layouts.
- **Pressure Ratings:** DetaPipe is ideal for pressure greater than 70 bar (1,000 psig) and are full vacuum-rated.
- **Connections:** DetaPipe uses ANSI B16.5 or ANSI B16.47 flanges—including compact flanges—for connecting to other pipes, elbows, valves or fittings in high pressure applications.
- **Metal Combinations:** DetaPipe is offered with wide range of clad reactive metals, including ASTM Titanium Grades 2, 7, 12, and 16 and Zirconium 702, on welded or seamless carbon steel pipe, including ASTM A106 and A333.
- **Elbows:** When curved piping connections are required, DetaPipe is available for flanged elbows, ranging from 5D to 10D bends.
- **Delivery, Inspection & Testing:** DetaPipe products are inspected and certified according to ASTM B31.3 standards and delivered to your location.

Operators can rely on DetaPipe™ for high pressure chemical processes used to produce plastics, adhesives, clothing, medicines, pesticides and fertilizers:

- Acetic acid
- Bio processing
- Epichlorohydrin
- Herbicides & pesticides
- Melamine
- Pressure oxidation leaching
- Urea



Left: DetaPipe™ Clad Spool in Mt. Braddock, PA (USA) facility.

Right: DetaPipe™ Clad Elbow in Mt. Braddock, PA (USA) facility.



Why NobelClad

To maximize the functional benefits of titanium and zirconium clad piping systems, chemical plant owners and operators require the quality processes and expertise of NobelClad to protect their investment. NobelClad has successfully delivered high-quality DetaClad titanium and zirconium products to more than 500 of the world's leading chemical projects. [Learn](#) how your next project can benefit from NobelClad's 50 years of unparalleled technical expertise, end-to-end global supply chain capability, and certified clad products.

Contact us for a free 1:1 technical consultation with NobelClad experts to learn more about the cost and performance benefits of titanium and zirconium DetaPipe™.

REQUEST A CONSULTATION