

Mining

Solutions for metals and non-metals extraction facilities



Specializing in harsh service

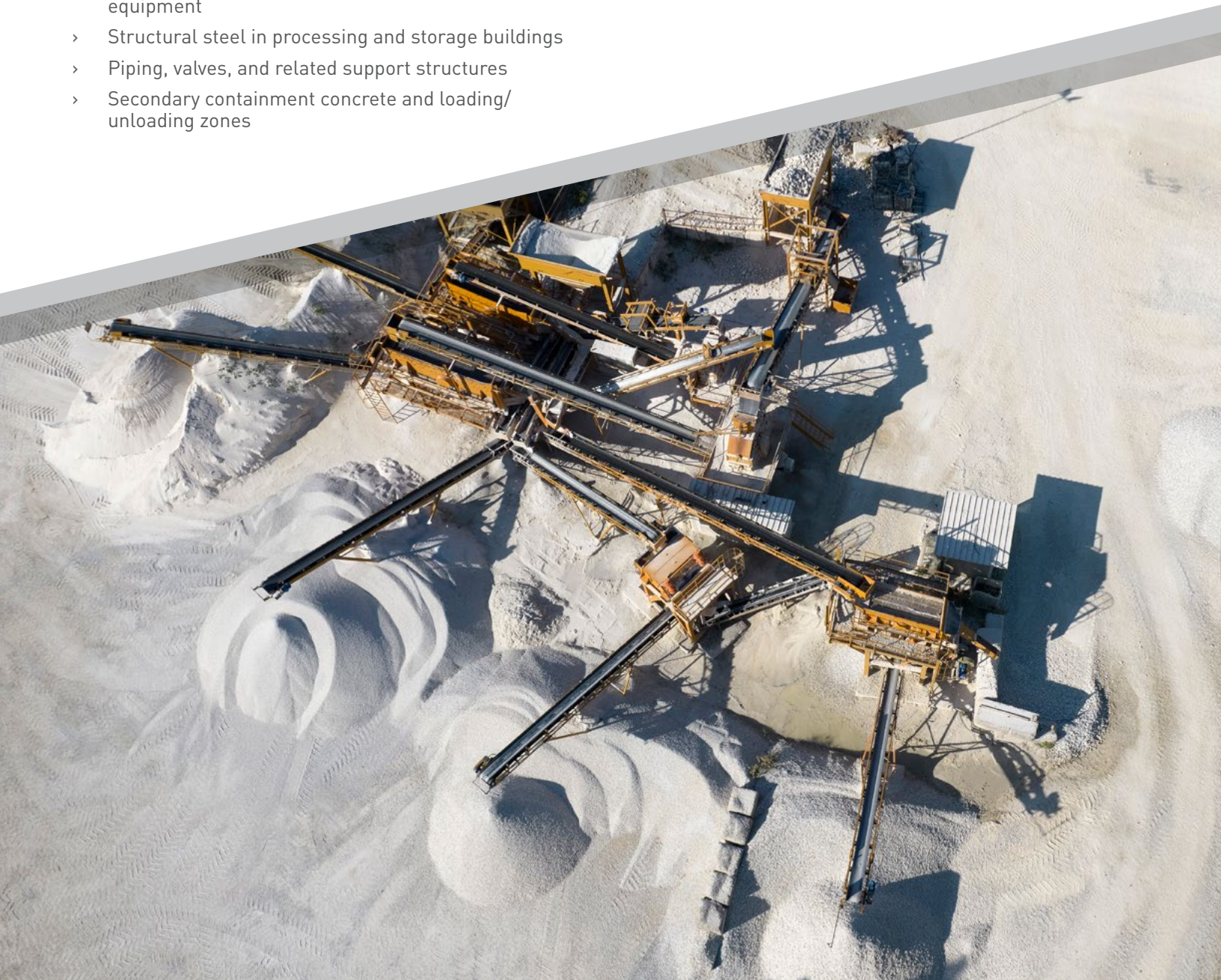
Harsh environments and corrosive exposures pose an acute risk to the profitable operation of mining facilities. Corrosion protection of processing and storage infrastructure is essential to minimizing the cost and duration of maintenance or repairs.

Since 1947, Carboline has specialized in developing high-performance protective coatings, linings, and fireproofing featuring exceptional chemical, abrasion, and impact resistance, all while withstanding difficult weather and climate patterns around the world.

Metals and non-metals asset protection

Carboline's product portfolio addresses all corrosion protection needs in both metals and non-metals mining facilities, including:

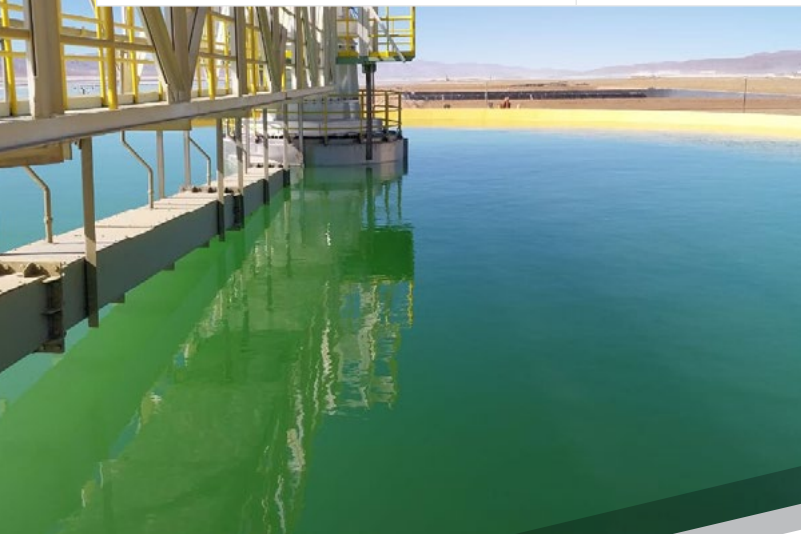
- › OEM extraction, conveyance, processing, and storage equipment
- › Structural steel in processing and storage buildings
- › Piping, valves, and related support structures
- › Secondary containment concrete and loading/unloading zones



Case history snapshot

The recent projects listed below demonstrate the versatility of Carboline's product portfolio, which is developed to provide premium corrosion protection and fire resistance to mining equipment and facility infrastructure anywhere in the world.

NAME	LOCATION	ASSET(S) PROTECTED
Alcoa Deschambault	Deschambault, QC, Canada	Molten aluminum pit casting
Alcoa Fort Meade	Fort Meade, FL, USA	Storage tanks
Alcoa Lake Badin	Badin, NC, USA	Penstock
Altos Hornos de Mexico	Monclova, CO, Mexico	Coke conveyor
Barrick Turquoise Ridge	Golconda, NV, USA	Mine shaft structural steel
BHP Jansen Plant	Leroy, SK, Canada	Various - atmospheric and immersion
BT Mining Stockton Mine	Stockton, New Zealand	Various
Continental Gold Buritica	Medellin, Colombia	Trench secondary containment
Morenci Mine	Morenci, AZ, USA	Conveyor assemblies and supports
Newgold Rainy River	Rainy River, ON, Canada	Storage rooms fireproofing
Newmont Phoenix Mine	Battle Mountain, NV, USA	Structural steel
Noranda/Lac Hemlo Field	Hemlo, ON, Canada	Head frame
NZ Steel Ironsands Mine	Taharoa, New Zealand	Hoppers, bins, skids, conveyors, drums
Rio Tinto Northparkes	Goonumbla, NSW, Australia	Crushing plant structural steel
Searles Valley Minerals	Trona, CA, USA	Brackish water tank
Tronox Cooljarloo Mine	Cooljarloo, Australia	Various
Vale Sudbury Complex	Sudbury, ON, Canada	Stacks
Vale Long Harbour	Long Harbor, NL, Canada	Tank linings
Xstrata Alumbreira	Tucuman, Argentina	Power cable fireproofing



Systems for non-metals mining

The atmospheric coatings and chemical-resistant linings below are commonly specified for corrosion protection in potash, lithium, uranium, and other non-metals mining sites where impact, abrasion, and some chemical exposures are common. Consult a Carboline representative for fireproofing recommendations.

Armorlast® two-coat inorganic system features a zinc-rich inorganic primer plus an inorganic finish coat for ultimate corrosion protection performance that matches or exceeds that of galvanizing.

Plasite® XAR 470 ceramic-filled novolac vessel lining features phenomenal chemical, impact, and abrasion resistance while allowing for high-build spray application.

Carbozinc®-series inorganic and organic zinc-rich primers offer premium galvanic corrosion protection, either applied alone or as part of a system.

Carboguard®-series epoxy coatings comprise a range of products that are widely resistant to many different of chemical and physical exposures.

Carbomastic® 15 and **Carbomastic 615** epoxy mastic coatings feature unique surface tolerance properties that allow for application to marginally prepared surfaces, including where moisture is difficult to control.

Comprehensive potash mine protection

Products in Carboline's Carbozinc, Carboguard, Carbothane, and Phenoline series provided full-facility corrosion protection in both atmospheric and immersion environments at one of the world's largest potash mines in Saskatchewan, Canada.



Carbothane® 134 HG high-gloss, highly weatherable urethane finish offers excellent protection against UV and other atmospheric exposures in a wide range of colors to match branding or safety requirements.

Reactamine® 760 hybrid tank and pipe lining provides outstanding abrasion, impact, and tear resistance, builds to 125 mils in a single coat, and is rated for potable water contact.

Carboquick® 200 high-build, fast-cure polyaspartic improves OEM paint shop throughput. It is formulated for direct-to-metal application or as a finish over Carbozinc, Carboguard, or Carbomastic primers.



Copper mine conveyor assemblies

Plasite 4550 S novolac epoxy protects conveyor assemblies installed in a high-heat, severely acidic process environment at a large copper mine in eastern Arizona.



Systems for metals mining

The atmospheric coatings and chemical-resistant linings below are commonly specified for corrosion protection in gold, platinum, copper, nickel, aluminum, and other metals mining facilities where impact and abrasion resistance are required and exposure to a wide range of harsh, acidic processing chemicals is expected. Consult a Carboline representative for fireproofing recommendations.

Plasite 7122 epoxy is resistant to a broad range of chemicals common in mining operations, features excellent abrasion resistance, and can withstand the thermal shock associated with sudden process or environmental temperature swings.

Plasite 4500 series flake-reinforced epoxies feature excellent impact and chemical resistance, and offer low-temperature curing to as low as 20°F (-7°C). They are rated for immersion service.

Plasite 4550 series flake-reinforced premium novolac epoxy linings provide exceptional resistance to chemicals including strong acids, fuels, salts, alkalis, and some solvents. They feature extreme thermal shock resistance from -40 to 350°F (-40 to 177°C).

Carboguard 635 all-purpose immersion-grade epoxy cures down to 20°F (-7°C), features moisture tolerance during application, and underwater-cure capabilities. It is also suitable for atmospheric service as a primer, intermediate, or finish coat.

Reactamine 760 hybrid tank and pipe lining provides outstanding abrasion, impact, and tear resistance, builds to 125 mils in a single coat, and is rated for potable water contact.

Carboquick 200 high-build, fast-cure polyaspartic improves OEM paint shop throughput. It is formulated for direct-to-metal application or as a finish over Carbozinc, Carboguard, or Carbomastic primers.



Floor, secondary containment, and geotechnical solutions

Carboline provides comprehensive solutions for concrete process area flooring, loading/unloading zones, or secondary containment, including:

- › Resurfacing and repair mortars
- › Protective and non-slip topcoat systems
- › Leak sealing and geotechnical grouts

Carbocrete® series repair/resurfacing mortars are suitable for rehabilitation of degraded concrete floors, walls, or ceilings. These quick-set mortars are rated for service in a very wide pH range, are broadly resistant to chemical exposures, and are compatible with many protective topcoat systems.

Semstone® series epoxy sealers and coatings are broadly chemical resistant, moisture-tolerant, and provide outstanding adhesion to concrete. Some Semstone products support aggregate additives for additional performance and safety properties.

Dudick Vapor Stop aggregate-filled polyurethane provides outstanding physical and mechanical strength while significantly reducing moisture vapor transmission through concrete.

Dudick Protecto-Flex and **Protecto-Glass** reinforced concrete floor protection includes epoxy-, vinyl ester-, and novolac-based systems that offer varying levels of chemical and impact resistance, including heavy duty options that withstand heavy equipment traffic in loading/unloading zones.

Prime Resins offers a broad portfolio of specialty repair/resurfacing, leak sealing, and soil stabilization materials suitable for new construction or repair/rehabilitation projects.



Gold mine secondary containment

A Semstone aggregate system was selected to provide high-performance protection to a secondary containment area at a major gold mine in northern Colombia.



Leading products, exceptional support

The mining industry's dependence on the performance of its equipment in harsh service environments cannot be overstated. That's why it's so critical to partner with a coating and lining provider who understands the industry's challenges and sees its opportunities as clearly as you do.

Extensive mining industry experience

- › Corrosion protection in mining since 1947
- › Products in service in all types of mining-related exposures worldwide
- › Long-standing relationships with owners and contractors

Corrosion and coatings experts

- › Recognized leader in corrosion science
- › Extensive database of chemical resistance testing
- › Deep involvement in industry organizations

Dedicated field technical service

- › On-site project startup and application training
- › Quality control inspections
- › Troubleshooting, failure investigation, and laboratory analysis



Scan the code to access our product transparency documents: EPD, HPD, Declare, Red List Free, CDPH, SCAQMD, LEED

GLOBAL COATINGS LEADERS™

RIGHT PEOPLE • RIGHT PRODUCTS • RIGHT LOCATIONS

Exceptional products.
Superior technical guidance.

Advancing a more durable, resilient, and sustainable built environment since 1947.

1947

Since 1947, we have been dedicated to delivering innovative coatings, linings, and fireproofing products. We are driven to provide the best solutions, service, and quality to our customers.



Our customers can be confident that behind every sale is a team of some of the most well-respected members of the industry, dedicated and determined to make your project a success.



Our global network of industrial service centers and distribution points are strategically located around the world to provide the highest level of service and support for your project.



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