

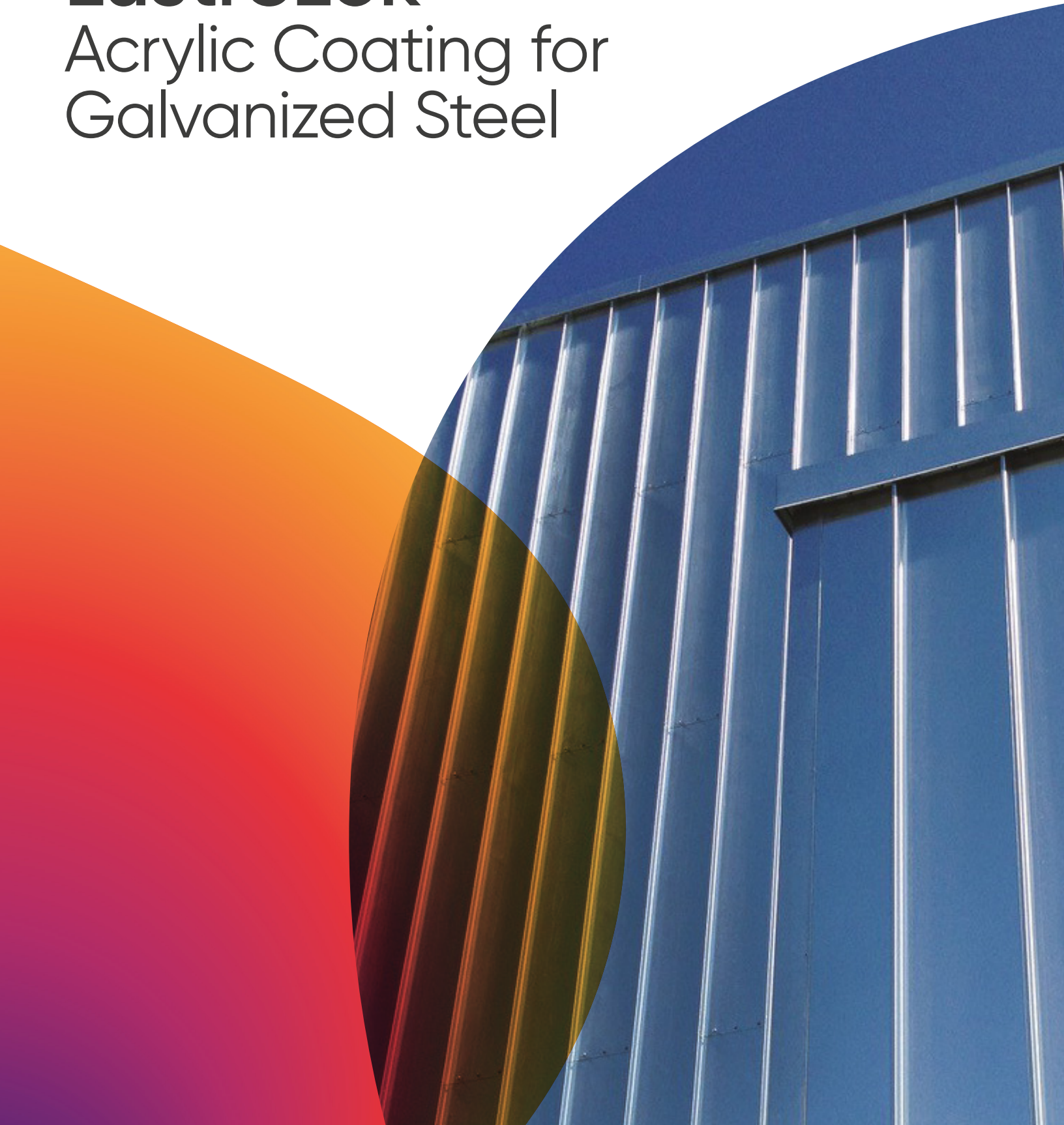
ArcelorMittal Dofasco



ArcelorMittal

LustreLok™

Acrylic Coating for
Galvanized Steel



Introducing LustreLok™

LustreLok™ maintains the surface appearance of galvanized steel for a longer period of time than traditional mill-applied passivation coatings/chemical treatments

LustreLok™ is a thin, clear organic coating applied to both sides of the galvanized steel as a final protective layer over the zinc coating. LustreLok™ maintains the surface appearance of galvanized steel for a longer period of time than traditional mill-applied passivation coatings/chemical treatments. Because the resin coating is transparent, the standard surface appearance of the zinc-coated substrate is unchanged.

During our continuous hot-dip galvanizing coating process, the clear, water-based organic coating is applied to both sides of the sheet using state-of-the-art in-line reverse roll coaters. The use of reverse roll coaters provides precise application of the organic film, assuring a uniform film thickness of approximately 0.04 mils (1 micron). The coated sheet then passes through an in-line drying oven where it is thermally cured. The transparent coating is flexible, provides excellent resistance to storage stain and has lubricating properties that provide superior roll forming characteristics. It is designed to run through roll forming operations without further lubrication and replaces the need for conventional passivation treatment and vanishing oil.

Applications

LustreLok™ acrylic coated galvanized steel is available for a wide range of applications in construction, transportation, HVAC, appliance, metal furniture and other manufactured products.

If color is specified, or if a silvery metallic appearance is desired over the long term, ArcelorMittal prepainted galvanized steel should be used, since LustreLok™ was developed for unpainted applications.

Advantages

The application of an organic coating eliminates the need for ArcelorMittal to apply mill oils or conventional chemical treatments. This enhancement offers our customers and users the following benefits:

Reduced costs

- The product is designed to be roll formed dry, which eliminates the need for lubricants
- Lower maintenance costs – reduced coating build-up and reduced tool wear will extend die life
- Improved productivity – extended die life results in longer production runs
- Enhanced scheduling flexibility – eliminates the need for die clean-up prior to roll forming prepainted metals or other uncoiled products

Storage, handling and installation benefits

- Excellent resistance to staining during transit and field storage
- Reduces smudging and streaks associated with rolling oils
- Effectively resists fingerprinting and foot printing during installation

Improved safety

- Finished product is delivered to the job site dry, providing a safer, oil-free surface for workers

Product Availability

ArcelorMittal offers a full range of widths, thicknesses, coating weights, and steel grades.

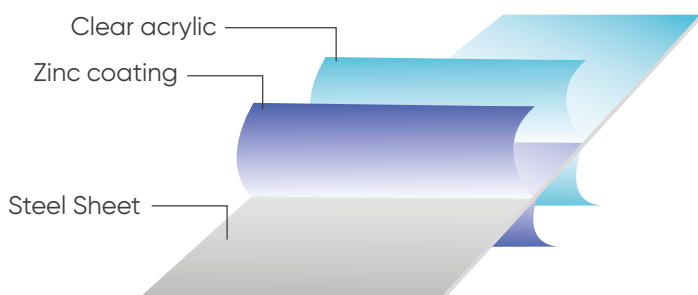
ASTM Steel Grades: Commercial, Forming, Structural & HSLA

Thickness: 0.25mm–2.31mm (0.010"–0.091")

Width: 610mm–1537mm (24"–60.5")

Zinc Coating Weights: Z001–Z600, G01–G210

LustreLok™ acrylic coated galvanized steel system



Achieve your most ambitious vision with steel – a highly engineered, high quality building material



Performance Specifications

Accelerated Weathering	QUVa (ASTM D4587)	2000 hours with $\Delta E < 3.5$
		2000 hours , gloss retention > 60% (measured at 60o angle)
Accelerated Corrosion	Cleveland Condensing Humidity Test (CCT) (ASTM D4585)	1000 hours, gloss retention > 60% (measured at 60o angle)
		1000 hours with <5% white rust
		1000 hours with $\Delta E < 3.0$
	Salt Spray Test (SST) (ASTM B117)	100 hours with <5% white rust
	Wet Stack Test	8 weeks with <5% white rust
Fingerprint Resistance (ASTM D4265)		$\Delta E < 3.5$
Friction Coefficient		$0.14 > COF < 0.25$
Heat Resistance		Up to 200°C (392°F)
Weldability	Weldability Range	$\Delta I > 1 \text{ kA}$

Frequently Asked Questions

Can regular galvanized steel and LustreLok™ acrylic coated galvanized steel be used on the same building?

Even though both products have the same standard appearance, the weathering performance of LustreLok™ is superior. Therefore, the two products should not be mixed on the same building. To minimize risk, the manufacturer and their distributors must take the necessary steps to keep inventory of the two products separate. The following are some suggested guidelines:

- Use the existing inventory of regular galvanized steel for current projects until the inventory is depleted before processing new orders involving LustreLok™.
- Ensure that all coils have the appropriate ArcelorMittal tag that can be used to identify LustreLok™ and keep the inventory of the two products physically separate. Maintaining a record of the tag/serial number is also required for warranty purposes.
- Do not stack coils or sheets of the two products together to avoid oil contamination of LustreLok™.
- Identify all processed sheet bundles (flat or formed) with a clearly visible marking system that can be used to easily identify and distinguish the two products.

- Communicate the importance of not mixing inventory to all personnel involved in purchasing, operations, packaging, shipping and installation, including distributors.

Will LustreLok™ weather uniformly?

Lustrelok™ acrylic coating is applied to galvanized steel to replace the chemical passivation system and the need for lubricating oils during forming. The technology is superior to conventional passivation systems. Therefore, it is expected that less variation in weathered appearance will occur with LustreLok™ than regular passivated and oiled galvanized steel. However, the organic coating will not mask normal variation in the surface appearance of galvanized steel and a uniform weathering rate of galvanized steel cannot be guaranteed. Therefore, for critical appearance applications where uniform visual appearance is required, prepainted galvanized steel should be specified.

Will LustreLok™ provide better corrosion protection than regular passivated galvanized steel?

Accelerated corrosion tests and exposure in actual field conditions have demonstrated a significant improvement in resistance to surface corrosion staining of LustreLok™ when compared to regular passivated galvanized steel. The benefit



will be realized in potential storage stain conditions prior to installation. However, caution must be maintained to keep coils or bundled sheets dry at all times.

Will the organic coating of LustreLok™ extend the life expectancy of the zinc coating?

LustreLok™ is comprised of a thin acrylic coating that will dissipate over time due to natural weathering. The acrylic coating provides superior resistance to staining during transit and field storage compared with conventional passivation systems, but it does not significantly impact the life expectancy of the galvanized coating. By specifying LustreLok™, the expected service life (time to red rust) of galvanized steel would be extended by a measure of months, rather than years, from the time the product is received from ArcelorMittal.

Are there applications where LustreLok™ should not be used?

LustreLok™ can be used in contact with galvanized steel with complete safety. LustreLok™ is not designed for high temperature/heat shielding applications, since exposure to these conditions would rapidly deteriorate the acrylic coating.

LustreLok™ used in composite deck applications should be tested in accordance with CSSBI S2-2017 "Criteria for the Testing of Composite Slabs" or ANSI/SDI T-CD-2017 "Test Standard for Composite Steel Deck-Slabs".

Can lubricants be used with LustreLok™?

Lubricants should not be used with LustreLok™. Vanishing oils and other lubricating oils may chemically dissolve the acrylic film, which will affect visual appearance and lead to non-uniform weathering. If it is deemed necessary to use lubricants, suppliers should be consulted to ensure the lubricant is compatible with the acrylic coating. LustreLok™ is designed to be roll formed dry, not only because oils can deteriorate the acrylic coating, but also because the addition of lubricating oils will result in a very slippery surface, and could adversely affect the safety of workers during roof panel installation.

Can LustreLok™ be post painted/field painted?

Yes, LustreLok™ can be painted in the field, often without the need for pre-treatment. For best results, consult with paint suppliers for their recommendation regarding surface preparation and choice of paint system. Additionally, a spot test for paint adhesion should be conducted using a standard industry test method (e.g., ASTM D3359). Suggested guidelines for painting LustreLok™:

- Ensure surface is clean and dry
- Ensure that a lubricant has not been used in the roll forming or stamping operation
- Use two coats of high quality, water-based acrylic paint
- For enhanced corrosion protection, a water based acrylic primer may be considered for industrial or harsh environments

Can LustreLok™ be provided with stencilling for component labelling/identification?

Yes, one-sided ink stencilling is available and can be applied onto the acrylic coating for the purpose of coil and/or component identification. Contact your ArcelorMittal Sales or Technical Service Representative for specific details.

Does LustreLok™ discolor from weathering?

Over time, the clear organic coating will disappear from weathering leaving the natural appearance of the galvanized coating. The organic resin does not discolor or yellow during exposure as verified by ArcelorMittal during actual building inspections, outdoor exposure testing, and accelerated weathering and corrosion testing. A slight darkening and gloss reduction can be expected as with any metallic coating during weathering.

Smarter steels for people and planet

ArcelorMittal is one of the world's largest steel and mining companies. Guided by a philosophy to produce safe, sustainable steel, it is a leading supplier of quality steel products in all major markets including automotive, construction, energy, household appliances and packaging. ArcelorMittal is present in more than 60 countries and has an industrial footprint in more than 20 countries.

With a strong presence in North America, Europe, South America and South Africa, and an emerging presence in China, ArcelorMittal delivers a large scale of products, solutions and services to customers with the same quality focus in all regions. ArcelorMittal is a leader in steel technology, both in the breadth and depth of our product portfolio, and in our ability to supply a range of grades throughout the world. ArcelorMittal is a supplier of choice for all markets, a testament of our commitment to working collaboratively with our customers to engineer advanced steel grades to meet their needs.



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Updated: January 2025