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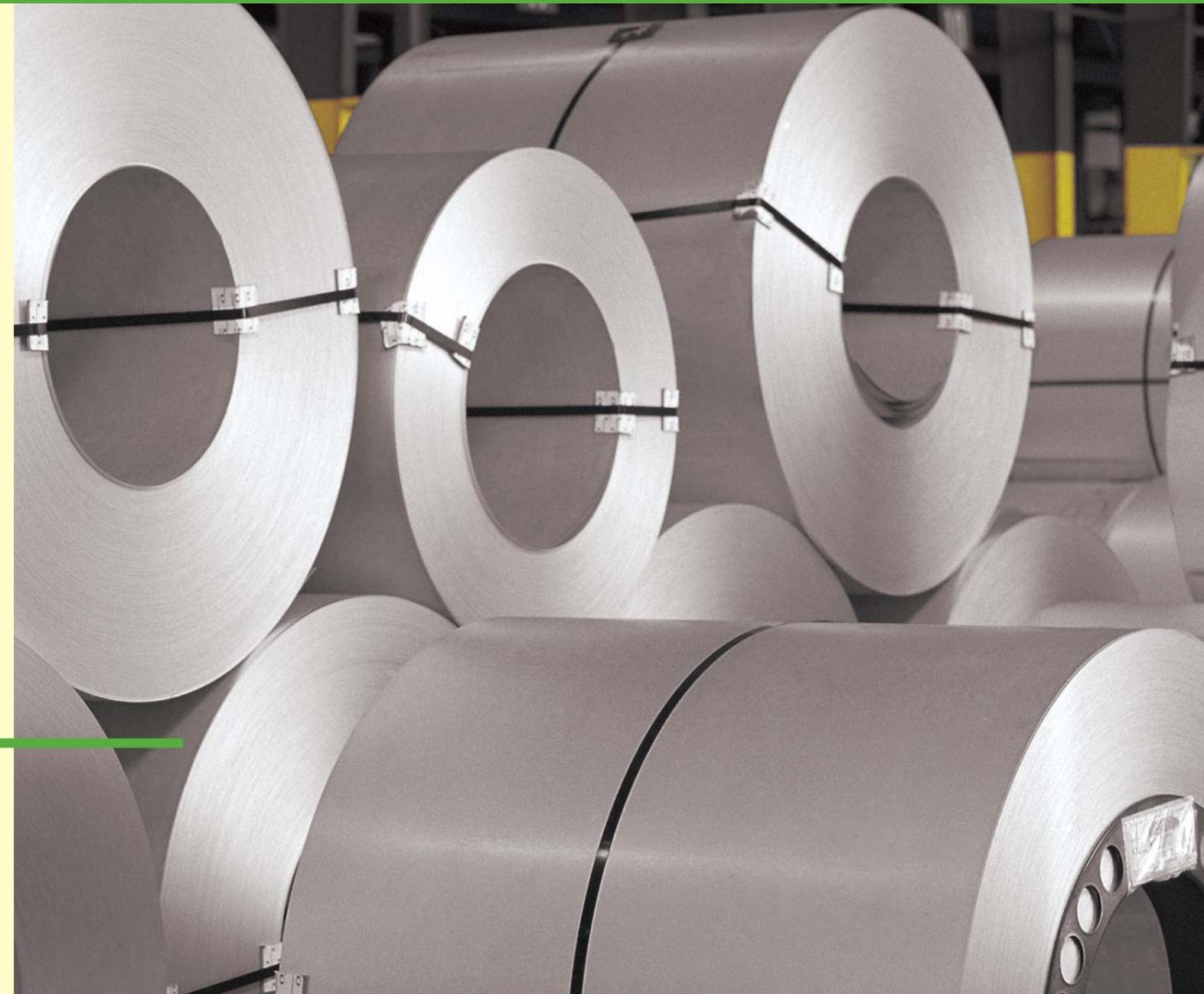
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Z-NAL™ The Ideal Steel



The possibilities are limitless
with Z-NAL™ Steel.



Z-NAL is the ideal steel for elegant, durable roofing applications.



Z-NAL™ Steel: outstanding corrosion resistance

Z-NAL Production Facility

Steelscape, Inc. produces over half a million tons of flat-rolled steel products at its four U.S. facilities. Steelscape produces Z-NAL and Z-NAL Plus at its Rancho Cucamonga, Calif. plant. Commissioned in 1995 and located near major truck and rail routes, the facility has built a reputation for high-quality products, reliable delivery performance and responsive customer service.

Z-NAL steel is a metallic-coated sheet steel offering two to four times the corrosion resistance of galvanized steel. Its revolutionary aluminum-zinc coating formula was developed in the 1960s. Research demonstrated that a coating consisting of 55-percent aluminum, 43.4-percent zinc and 1.6-percent silicon by weight provided the most effective corrosion protection for hot-dipped products. By volume, the coating is about 80-percent aluminum. Z-NAL has a uniform spangled surface and can be readily bent, rollformed or drawn. Durability, edge protection and resistance to crevice corrosion have made the 55-percent Al-Zn sheet the fastest-growing steel product on the world market. Close to 50 million tons have been produced worldwide.

A clear, odorless resin coating can be applied in-line to Z-NAL to produce Z-NAL™ Plus steel. The thin acrylic coating applied to both sides provides a beautiful satin-smooth finish that eliminates the need for lubricants, allows easy field painting and protects the steel during storage and installation.



Off-line capabilities

Steelscape offers a wealth of value-added services that support Z-NAL steel, such as:

Painting

Z-NAL can be produced with the following coatings:

- Primers: Solvent and water-based
- Topcoats: Polyester, acrylic, silicon-modified polyester, fluorocarbon, Kynar, Plastisol, solvent and water-based.

Pre-painted Z-NAL steel allows customers to save time, energy and money by:

- Avoiding post-painting expenses
- Avoiding costly EPA, fire and insurance expenses
- Reducing space requirements for holding pre-production inventory
- Reducing energy costs
- Reducing in-plant lead times

Slitting

Steelscape's slitters, with their dual slitting heads, can slit coils to specified widths within a tolerance of +/- .005 inches. Slit coils are individually banded and automatically packaged.

Embossing

Stucco embossed patterns are available on both metallic-coated and painted products.

Waxing

Steelscape offers waxing to lubricate painted Z-NAL for downstream rollforming processes. Waxing may eliminate the need for additional lubrication during the rollforming process.

STEELSCAPE Quick Facts

YEAR FOUNDED:
1991

LOCATIONS:
**Kalama, Washington,
Shreveport, Louisiana,
Fairfield, Alabama and
Rancho Cucamonga, California**

TONS PRODUCED ANNUALLY:
750,000

TOTAL EMPLOYEES:
~600

PARENT COMPANY:
IMSA Acero

PRODUCTS OFFERED:
**TruZinc® • Z-NAL™
Galvanneal • Bonderized • Painted
Single-Bill & Toll Processing**

DELIVERY PERFORMANCE
RECORD:
95% on time



Steelscape can emboss various types and sizes of metallic and organic coated products.

The Steelscape advantage: quality without compromise



The Z-NAL accumulator tower.

The inspection table on the exit end of the coating line.



Everything you need under one roof

Steelscape's modern facilities and sophisticated computerized operations ensure that customers get the steel they want, when they need it. Steelscape's plants were designed with quality control in mind. No other domestic steel company can process hot band coil – from pickling to painting – under one roof like Steelscape. This vertically integrated processing results in greater consistency for the customer.

In-line capabilities

Steelscape's Z-NAL line incorporates specialized technology that ensures a superior quality product every time. It just goes to show that "business as usual" at Steelscape is all about setting industry standards. Steelscape's customers benefit from the following in-line processes:

Air knives with coating mass control

Air knives and sophisticated closed-loop coating mass gauges apply an AZ50 coating so consistently, Steelscape warranties it for 25-years, six months. Likewise, Steelscape also provides a warranty for an AZ55 coating.

Skin passing

Z-NAL steel gets an extra-smooth surface that's excellent for painting.

Tension leveling

The in-line tension leveling unit corrects any shape imperfections by stretching the steel. The result is a flatter product, with excellent shape characteristics.

Z-NAL Plus

By applying Z-NAL Plus in-line, Steelscape is able to achieve a uniform coating while helping customers eliminate environmentally-hazardous run-off, which is often a problem when applying rollforming lubricants. The result is a beautiful, satin-smooth finish.

The Z-NAL advantage: superior performance

Corrosion resistance

Atmospheric trials performed in rural, industrial and marine environments show sheet steel with Z-NAL's 55-percent Al-Zn coating remains rust free after 25 years in all but the most severe marine environments. Alternative coated sheet steel products displayed oxidation as quickly as nine years into the study.

Cut edge protection

Z-NAL provides more effective protection for bare steel edges than aluminum or zinc-only coatings. The alloy coating on Z-NAL steel provides the optimum combination of the barrier protection and long-term durability of aluminum along with the "sacrificial" or galvanic protection of zinc.

Performance guarantee

Steelscape offers a 25-year, six-month limited warranty against rupture, structural failure or perforation due to corrosion on Z-NAL used for building panel applications.

Resistance to high-operating temperatures

Z-NAL steel can withstand continuous and intermittent exposure to temperatures of up to 600-degrees Fahrenheit without discoloration and up to 1,250-degrees Fahrenheit without heavy oxidation or scaling. Steelscape offers a special grade steel for high heat applications that can be a lower-cost and more accessible alternative to aluminum-coated Type 1.

Energy-saving thermal reflectivity

Z-NAL and Z-NAL Plus products meet the EPA ENERGY STAR® Cool Roof requirements. They provide an efficient thermal barrier for roof and sidewall applications. A Z-NAL roof, combined with insulation, provides a cost-effective, energy-efficient roofing system.



Z-NAL and Z-NAL Plus steel offer superior corrosion resistance for multiple interior and exterior uses. In applications requiring resistance to oxidation at high temperatures—such as toasters, fireplaces and auto exhaust systems—Z-NAL is recommended.

Structural steel grades

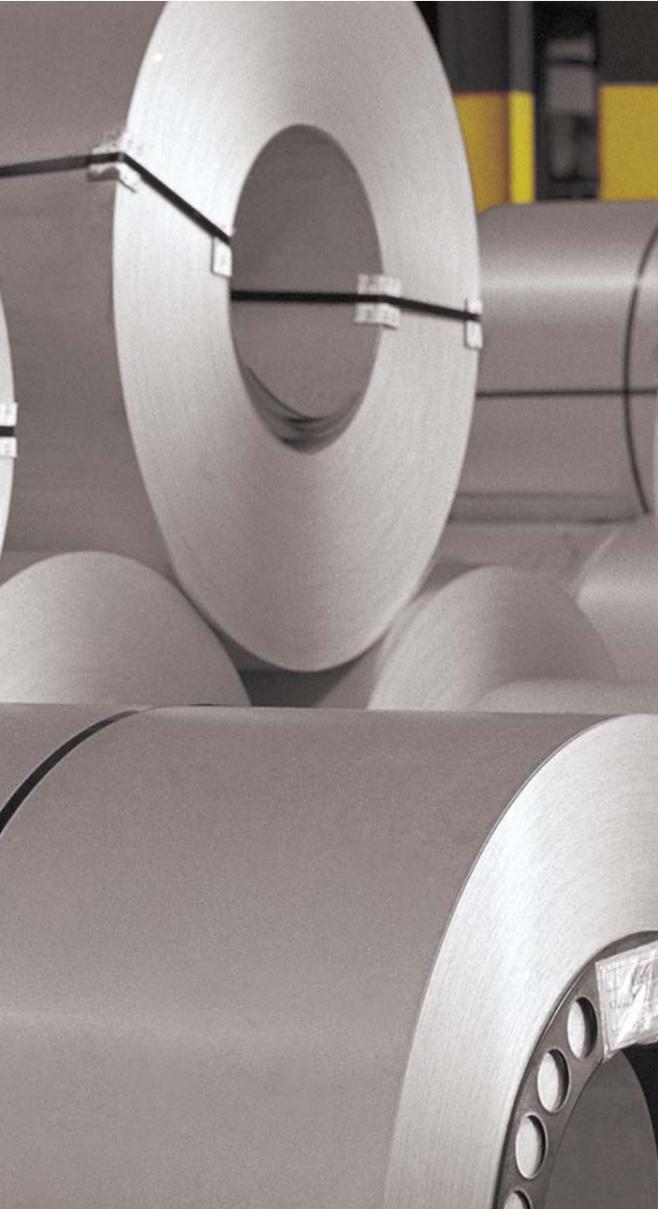
- Decking
- Walls
- Standing seam roofing
- Roof tiles
- Architectural products

Commercial steel grades

- Decking
- Roofing
- Framing
- Gutters
- Downspouts
- Door frames
- Ductwork
- Overhead doors

Special grades

- Garage doors
- Entry doors
- Mufflers
- Heat shields
- Appliances



Z-NAL's satin-smooth spangled surface is consistent top-to-bottom and side-to-side.

Z-NAL makes it easy

Z-NAL steel sheet is practical for all but the most severe forming operations. Without sacrificing coating adhesion, Z-NAL is suitable for:

Bending

Laboratory tests confirm excellent adherence of the aluminum-zinc coating to the steel substrate during bending. Folding, bending and brake pressing are all done commercially as with conventional galvanized products.

Rollforming

Z-NAL steel is readily rollformed. And, with Z-NAL Plus steel, it's even easier. Z-NAL Plus steel has excellent lubricating qualities, meaning rollformers rarely require additional lubricants. The resin coating on Z-NAL steel also reduces the chance of pick-up on the roll surface during the process.

Lock seaming

Z-NAL commercial steel is easily Pittsburgh lock seamed.

Drawing

For drawing applications, a special draw-quality grade of Z-NAL steel is required. Contact Steelscape for availability of this product.

Field painting

The Z-NAL Plus coating surface provides excellent adhesive qualities and enables the steel to be easily painted without a primer, provided a water-based acrylic finish coat is used. Once the steel is verified to be clean and dry, the paint can be applied directly to the steel.

Coil coating

Z-NAL steel is superior to other substrates for coil coating. Steelscape's skinpassed and tension-leveled product has a smooth, consistent surface.

Usage tips

Flashing materials

Z-NAL steel is compatible with nearly all flashing materials used with conventional galvanized sheet, including pre-painted TruZinc®, plastics, aluminum and Z-NAL itself. The exceptions are lead, copper, and moist or chemically treated lumber, which may corrode the Z-NAL coating through direct contact or from run-off water. Lead flashings that shed water onto Z-NAL should be painted.

Unsuitable applications and incompatible metals and materials

Intensive animal shelters, wet concrete and walling buried in soil or concrete are unsuitable applications for Z-NAL. In those micro-environments, TruZinc galvanized steel is the preferred alternative. Z-NAL should not be used with lead, copper, graphite, moist or undried lumber or chemically treated wood.

Proper storage

Although the Z-NAL Plus coating minimizes staining problems associated with wet storage, it is best to keep Z-NAL steel dry in transit. Store clear of the ground, under cover, to prevent water or condensation from accumulating between surfaces. Raise one end to assure drainage. If packs become wet, separate sheets, wipe with a dry, clean cloth and air dry.



Z-NAL is readily bent, rollformed and drawn to create products such as these.

Tips for easy joining

Joining

In exterior applications, fasteners should have a corrosion resistance equivalent to the life of the sheet. Also, be sure to use fasteners compatible with Z-NAL steel.

Integral fastening

Z-NAL steel can be used to join pieces without the need for additional fasteners, such as in operations like bending, folding, stamping, punching or crimping.

Welding

Using machine adjustments similar to those used for galvanized, Z-NAL steel is readily resistance spot-welded. To maximize the welding equipment tip life, a correct method for cooling water, tip configuration settings and reconditioning should be used.