



**INTERNATIONAL
STEELS LIMITED**



COLOR COATED STEEL



**INTERNATIONAL
STEELS LIMITED**

**LARGEST FLAT STEEL MANUFACTURER
AND EXPORTER IN PAKISTAN**



Table of Contents

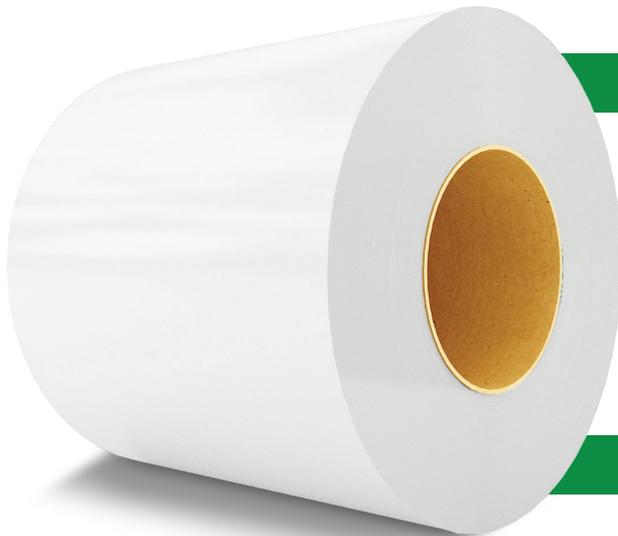
Color Coated Steel	4
Manufacturing Process	5
Paint Systems	6
Production Facilities	7
Quality Assurance Tests	8
Applications	10
Why ISL?	11
Value Added Services	12
Transport and Handling Precautions	15



Color Coated Steel

ISL's Continuous Color Coating facility produces color coated steel using Wet Paint Coating technology. The 84,000 MT state-of-the-art facility processes and coats a wide range of substrates like cold rolled, galvanized, galvalume, aluminum and stainless steel, in any imaginable color.

The high-quality color coating enhances the corrosion resistance of substrates and adds to their aesthetic appeal. The color coated steel produced at ISL is stain-resistant, corrosion-resistant and scratch-resistant, which makes it ideal for various commercial and industrial applications.



MAX. WIDTH & THICKNESS

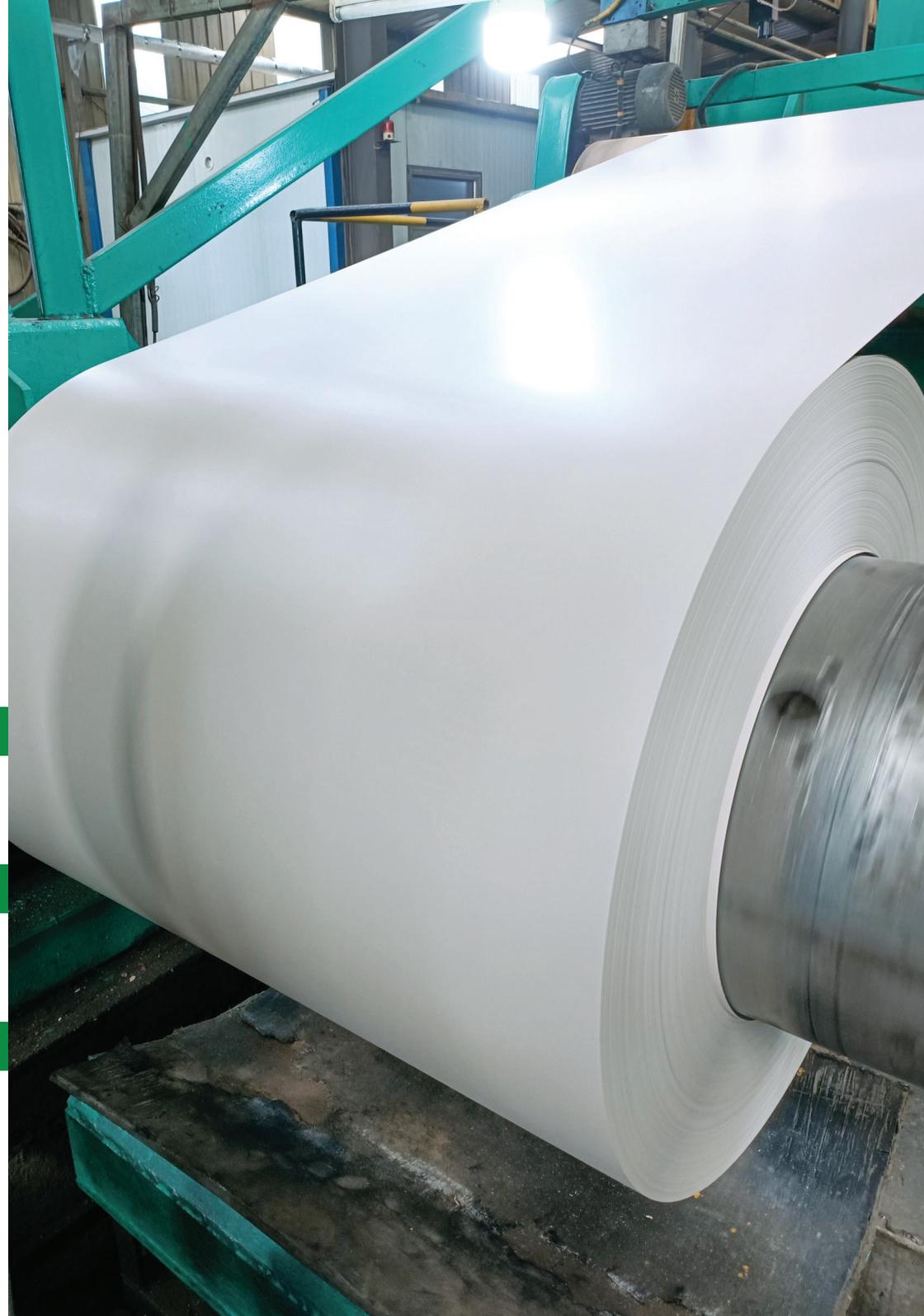
- 1,219 mm
- 0.28 mm - 1.50 mm
(0.011" - 0.060")

GRADES

As per ASTM A755, JIS G3312 and equivalent standards

PROPERTIES

- Heat Cured Paint on GI Substrate
- Single / Double Sided Painted
- Finish Coat (Polyester / PVDF)
- Laminated Coils





Manufacturing Process

01 DEGREASING

The coil is degreased to remove machining fluids and other contaminants



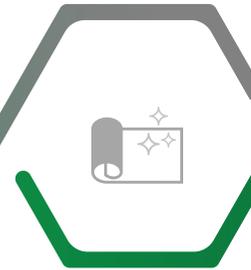
03 PRIMER COATING

Primer is applied to ensure better adhesion of paint to the surface while providing additional protection to the material



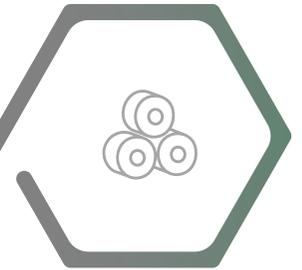
05 FINISH COATING

At this stage, top coat and backer coat are applied to the primed material



07 RECOILER

Recoils the steel for packing and dispatch



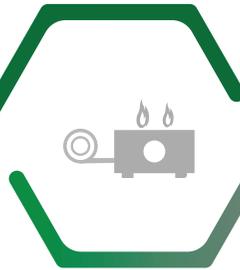
02 CHEMICAL TREATMENT

A thin layer of chromate is applied in order to prepare the steel for primer coating



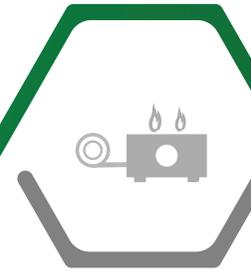
04 PRIME OVEN

Primer coated steel is baked in an oven to ensure adhesion to the substrate



06 FINISH OVEN

The final coat is baked again to ensure permanency of the surface coat



Manufacturing Standards

Our products are manufactured as per ASTM A755, JIS G3312 and equivalent standards related to commercial and structural grades in sheets and coils.

Paint Systems

ISL uses Polyester (PE), Polyvinylidene Difluoride (PVDF) and Polyamide paint systems.



PE PAINT SYSTEM

PE paint system is economical and is recommended for materials exposed to normal atmospheric conditions.



POLYVINYLIDENE DIFLUORIDE (PVDF) PAINT SYSTEM

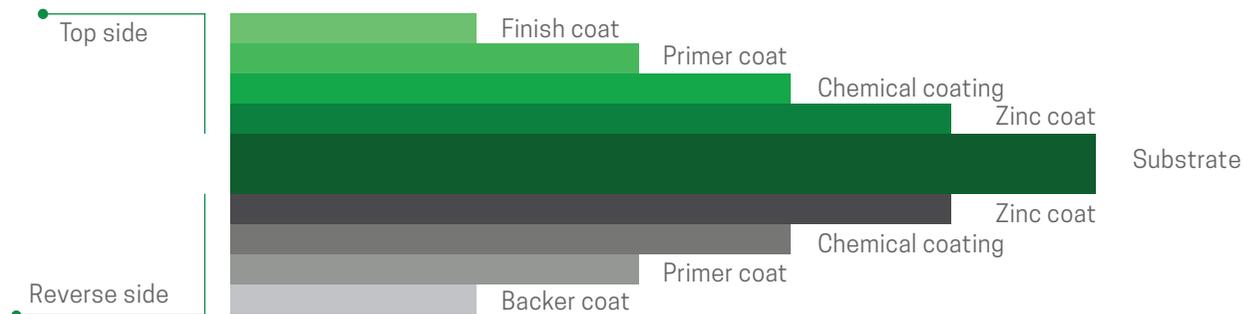
Polyvinylidene Difluoride PVDF paint is used on materials exposed to severe atmospheric conditions due to its stable corrosion and UV resistance.



POLYAMIDE PAINT SYSTEM

Being UV durable, oxidation and scratch-resistant, the Polyamide paint system in combination with high-build primers is used on materials exposed to extremely corrosive environments.

MATERIAL COMPOSITION



STANDARD PRODUCT

Top side finish coating, reverse side primer plus backer coat



Production Facilities

Two Coat - Two Bake system

ISL's color coating line applies uniform color thickness and highly reproducible colors and gloss levels, thanks to the Two coat - Two bake system that enables application of primer and top coat in the same run. Different color coats can be applied to the front and back simultaneously.

Grades and Specifications

Applicable Nominal Thickness	0.011" - 0.060" (0.28 mm - 1.50 mm)
Standard Width Available before Slitting	29.53" - 48.00" (750 mm - 1,219)
Coil weight (MT)	3 MT - 5 MT max.
Coil ID (mm)	20" / 508 mm
Total coating thickness (micron)	20 - 60 (including top, back coat and primer)
Substrates	Galvanized Steel and Cold Rolled Steel
Finishes	Smooth, Matt and High Gloss
ASTM A755 Grades	CS Type A / B
JIS G3312 Grades	CGCC
Zinc Coating (gm/m ²)	Z50 - Z180
Base Material	Galvanized : As per ASTM A653 / JIS G3302 / EN 10346 Cold Rolled : As per ASTM A1008 / JIS G3141, EN10130

*Thickness tolerance: 1/2 of ASTM A924 and 1/2 of JIS G3312



Quality Assurance Tests

PROPERTIES		TEST	TESTING STANDARDS			POLYESTER PAINT
COLOR COATED COILS AND SHEETS			JIS G3312	EN 10169	ASTM A755	
Dry film thickness	Coating thickness	-	-	EN 13523 - 1	ASTM D 1186	As per order
Gloss	Specular gloss at 60°	13.2.3	-	EN 13523 - 2	ASTM D 523	Depends on paint type and color
Scratch hardness	Pencil hardness	13.2.3	-	EN 13523 - 4	ASTM D 3363	H - 2H
Impact resistance	Reverse impact test	13.2.4	-	EN 13523 - 5	ASTM D 2794	100 kg - cm
Flexibility	T-bend test	13.2.2	-	EN 13523 - 7	ASTM D 4145	Depends upon zinc coating (1T - 5T)
Corrosion resistance	Salt spray (fog) test	13.1.3	-	EN 13523 - 8	ASTM D 117	200 hrs
Solvent resistance	M.E.K. rubbing test	-	-	EN 13523 - 11	ASTM D 4213 ASTM D 5402	100 double rub
Adhesion	Cross hatch cutter with standard adhesion tape	13.2.2	-	EN ISO 2409	ASTM D 3359	4B
Measurement of color difference	Data color spectrometer	-	-	-	-	ECC standard or as per agreement with the customer



TESTS FOR FALSE CEILING AND ROLLER SHUTTER APPLICATIONS

STANDARD TESTS AS PER ECCA

Coating thickness (Top)

Coating thickness (Bottom)

Gloss at 60

Pencil hardness

Impact (kg.cm)

Erichsen (mm)

Cross hatch

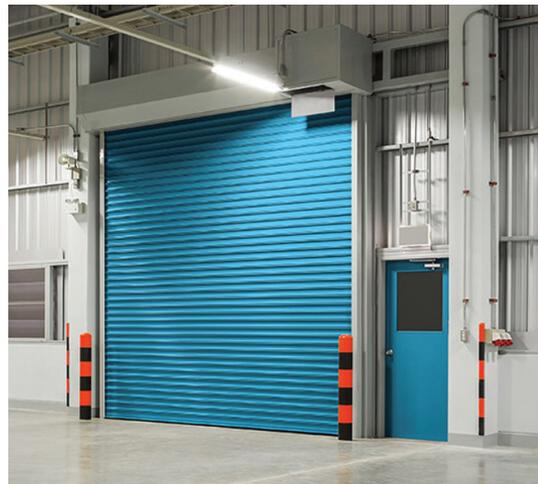
Radius bend

Solvent resistance

Humidity

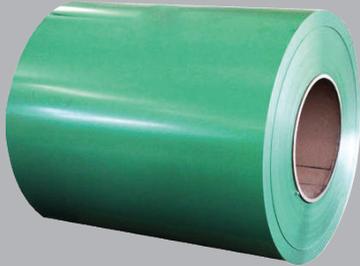
Salt spray

Virtual inspection of color difference





Applications



AGRICULTURE

(Grain silos, sprayers, pans, feeding troughs)

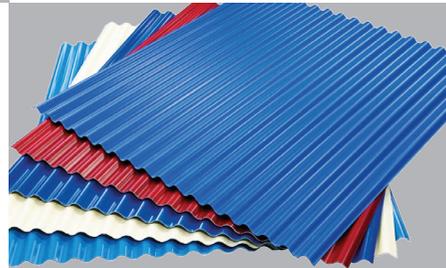


COLD STORAGES AND UNITS



DOMESTIC USE

(Trunks, tubs, buckets, storage bins, water tanks)



CONSTRUCTION



ELECTRICAL APPLIANCES



FURNITURE AND FIXTURES



MEP APPLICATIONS

(Ducting, drums/barrels, containers, thermal cladding, air-conditioning ducts, railway coaches and others)



FALSE CEILING



OUTDOOR APPLICATIONS





Why ISL?



AVAILABILITY

ISL's efficient inventory management system ensures that running items are available ex-stock.



GLOBAL FOOTPRINT

With close proximity to the country's sea port, ISL has a strategic location that provides efficient access to regional and international markets.



NATION-WIDE SALES NETWORK

A vast nationwide dealership network caters to all major cities of Pakistan.



CUSTOMIZATION

ISL offers various value-added products and services as per customer requirements, ranging from special grade steel products to services like custom cutting and slitting.



PRODUCT QUALITY

ISL's products are manufactured using high-quality raw material sourced from world's leading tier-1 mills. The steel produced in ISL's cutting-edge facility completely conforms to the global standards of steel manufacturing.



PRECISE DIMENSIONAL TOLERANCE

Minimal deviation in mechanical properties due to state-of-the-art production and quality control systems.



ENDURANCE

ISL's color coated steel is durable, corrosion-resistant and endures extreme weather conditions.



SUPERIOR AESTHETICS

Wide range of colors and profiles are available which can be chosen according to the preference, usage and purpose.



AFTER SALES SUPPORT

ISL being a customer-centric company, ensures peace of mind to its customers with its comprehensive after sales support and swift handling of complaints and queries.



PACKING STANDARDS

Exceptional packaging standards ensure that ISL products reach their destinations in a prime and "mill fresh" condition.





Value-added Services

CUT-TO-LENGTH

ISL has the capacity to provide cut-to-length material depending on customer requirements.



THICKNESS RANGE

0.15 mm to 2.50 mm



COIL WIDTH

1,250 mm max.



COIL WEIGHT

25 tons max.



CUTTING WIDTH

min. 400 mm, max. 1,250 mm



CUTTING LENGTH

min. 400 mm, max. 4,000 mm



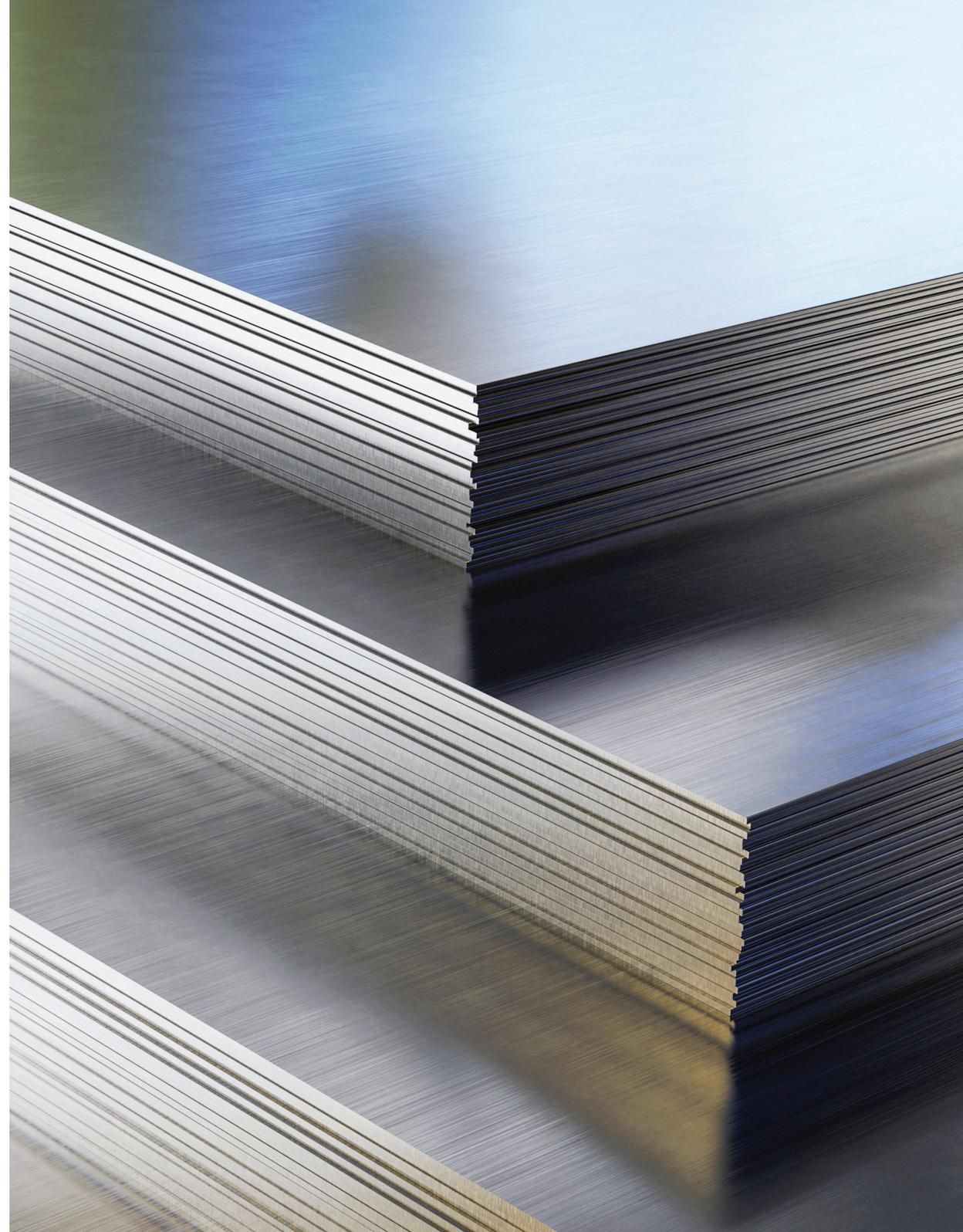
PALLET WEIGHT

3.5 MT max.



TOLERANCE OF CUTTING LENGTH

+3 mm max.





SLITTING SPECIFICATIONS

ISL's Service Center has the capability to provide slitted coils as specified by customers.



THICKNESS RANGE

0.15 mm - 2.50 mm



COIL WIDTH

1,250 mm max.



COIL WEIGHT

25 tons max.



INTERNAL DIAMETER

508 mm



EXTERNAL DIAMETER

1,700 mm max.



SLIT WIDTH TOLERANCE

+/- 0.1 mm



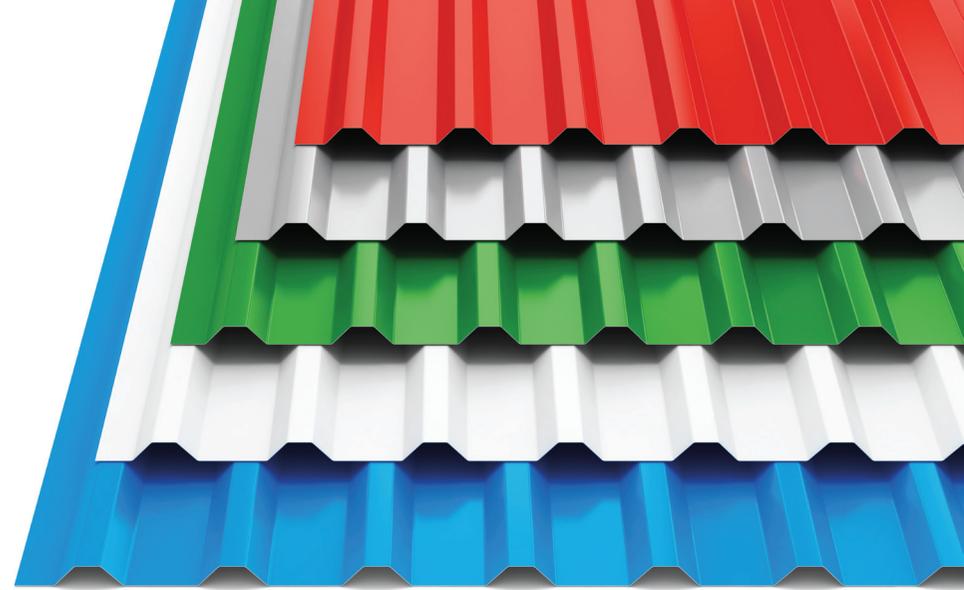
MINIMUM SLITTED WIDTH

25 mm





Profile Specifications



Features :

Light Weight: ISL's color coated profiles can easily be installed or dismantled.

Fine Finish: These sheets are uniformly coated to offer superior finish and aesthetics.

Heat Insulation: The color coating on these sheets have strong heat insulating properties.

Water Resistant: With water resistant properties, these sheets are rust-proof.

Weather Resistant: Without getting damaged, color coated steel can bear extreme weather conditions.

High Strength: Better tensile strength enable these sheets to bear heavy loads.

Attractive Appearance: ISL's color coated profiles are available in an attractive range of colors that makes them appealing in look.

Durability: ISL's color coated profiles are highly durable and do not require any additional protective coating; this makes them an economical building material.

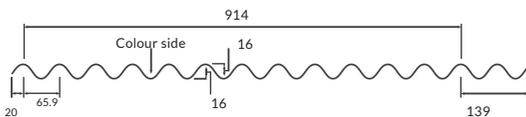
Applications :

Storage buildings or warehouses, exhibition halls, gymnasiums, industrial buildings, shopping malls, glasshouses, household roofing, commercial buildings etc.

ISL offers these types of profiled sheets :

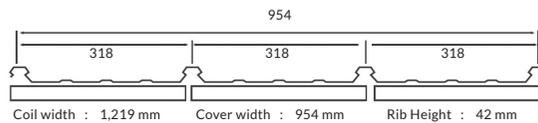
SINUSOIDAL

Coil Width	:	914/1,000/1,219 mm
Effective Width	:	760/846/1,064 mm
Radius	:	20 mm
Depth	:	16 mm
Pitch	:	65.9 mm
Thickness	:	0.3 mm to 0.60 mm



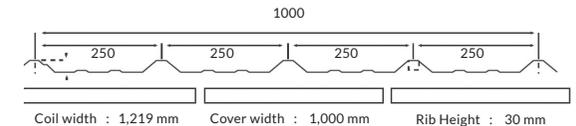
CLIP LOCK

Coil width	:	1,219 mm
Effective Width	:	954 mm
Depth	:	42 mm
Pitch	:	318 mm
Thickness	:	0.40 mm to 0.60 mm



SCREW DOWN

Coil width	:	1,219 mm
Effective Width	:	1,000 mm
Depth	:	30 mm
Pitch	:	250 mm
Thickness	:	0.30 mm to 0.70 mm





Transport and Handling Precautions

Proper storage and handling is crucial to maintain the service life and quality of pre-painted galvanized coils, sheets and building panels. Follow ISL's *Storage and Handling Guidelines* to ensure product integrity.



LIFTING DEVICES

Always use proper lifting devices like C-hooks or parallel hooks, magnetic lifters, nylon slings etc. to lift, load and unload coils and sheet packets.



RUBBER SHEETS

When transporting coils in trucks, use rubber sheets beneath the coils or an exclusive transport stand.



SKIDS

While stacking the coils on floor, ensure that they are placed on proper skids to avoid formation of dents.



HANDLING WITH SLINGS

Nylon slings are preferred. Use rubber pads on coils where the sling comes in contact with them.



SECURE LASHING

While transporting in containers, coils must be lashed adequately and securely to avoid damage to the products.



SECURE STACKING

While transporting, ensure that the stacked sheets are firmly secured down, to avoid them slipping off due to vibrations and movements.



FORKLIFT

Do not push cut-sheets or roll the coils with a forklift, since this could cause scratching.



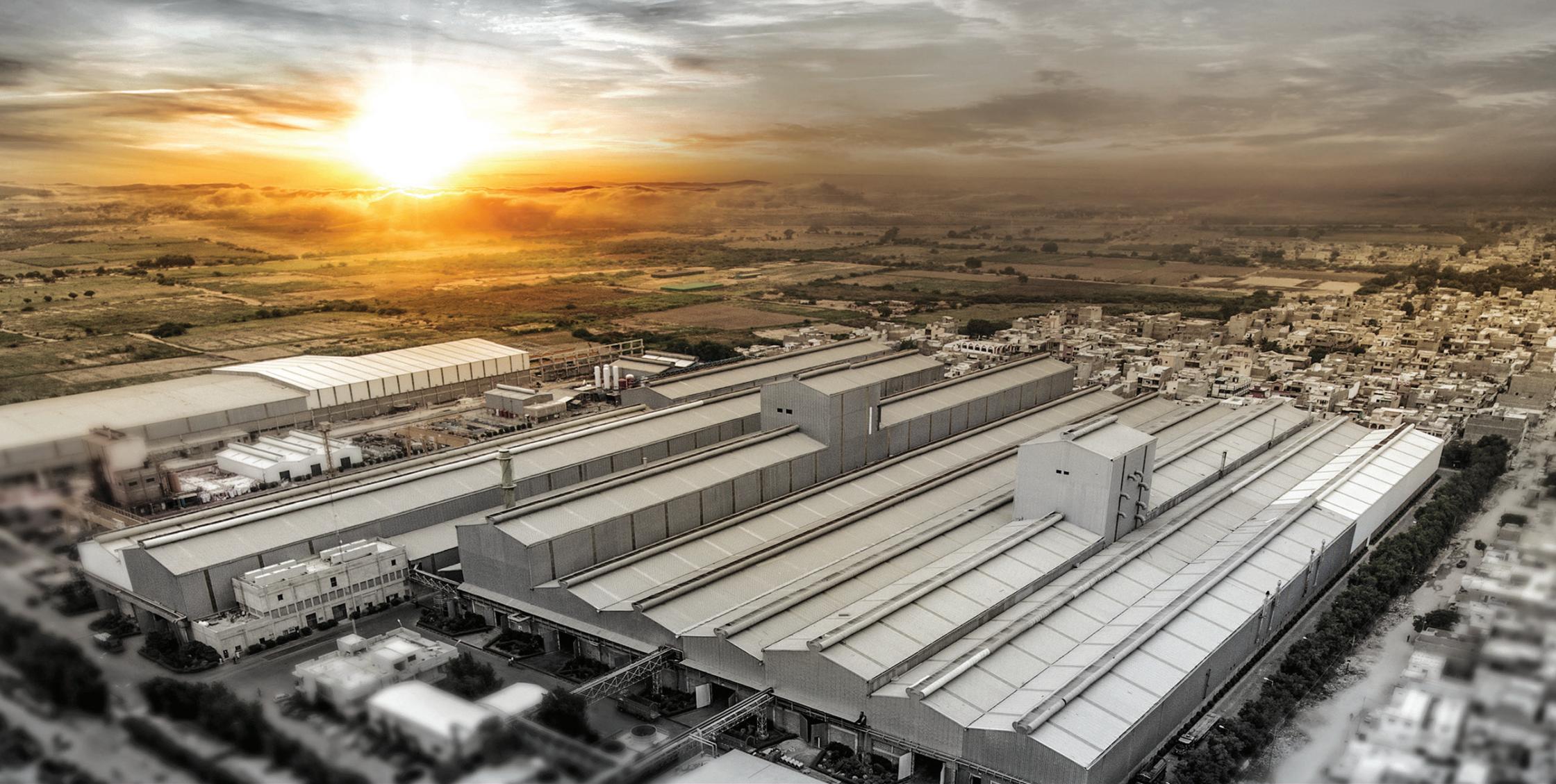
SLINGS & ROPES

Secure coils and sheet packets with slings/chains/ropes while transporting in trucks. Use rubber pads between these fasteners and steel products.



MOVING & SHIFTING

While using a lifter, always carry sheets in a packed condition to prevent them from slipping or getting scratched.



ISL MANUFACTURING FACILITY

399-405, Rehri Road, Landhi Industrial Area, Karachi
Tel: +92 (21) 3501 3104 - 5 | Fax: +92 (21) 3501 3108

ISL SERVICE CENTER

Plot# LE-73-79, 102-103, 112-118, 125-129, Survey # NC.98, Near Arabian Country Club, National Industrial Park, Bin Qasim, Karachi

HEAD OFFICE

101, Beaumont Plaza, 10, Beaumont Road, Karachi - 75530
Tel: +92 (21) 111 019 019 | Fax: +92 (21) 3568 0373

REGIONAL OFFICE LAHORE

Chinoy House, 6 Bank Square, Lahore - 54000
Tel: +92 (42) 111 019 019

REGIONAL OFFICE MULTAN

Office No. 708-A, The United Mall, Abdali Road, Multan
Tel: +92 (61) 4570 571

REGIONAL OFFICE ISLAMABAD

Office No. 303-A, 3rd Floor, Evacuee Trust Complex, Sector F-5/1, Aga Khan Road, Islamabad
Tel: +92 (51) 2823 0412, +92 (51) 2823 0413



EMAIL: info@isl.com.pk
WEBSITE: www.isl.com.pk