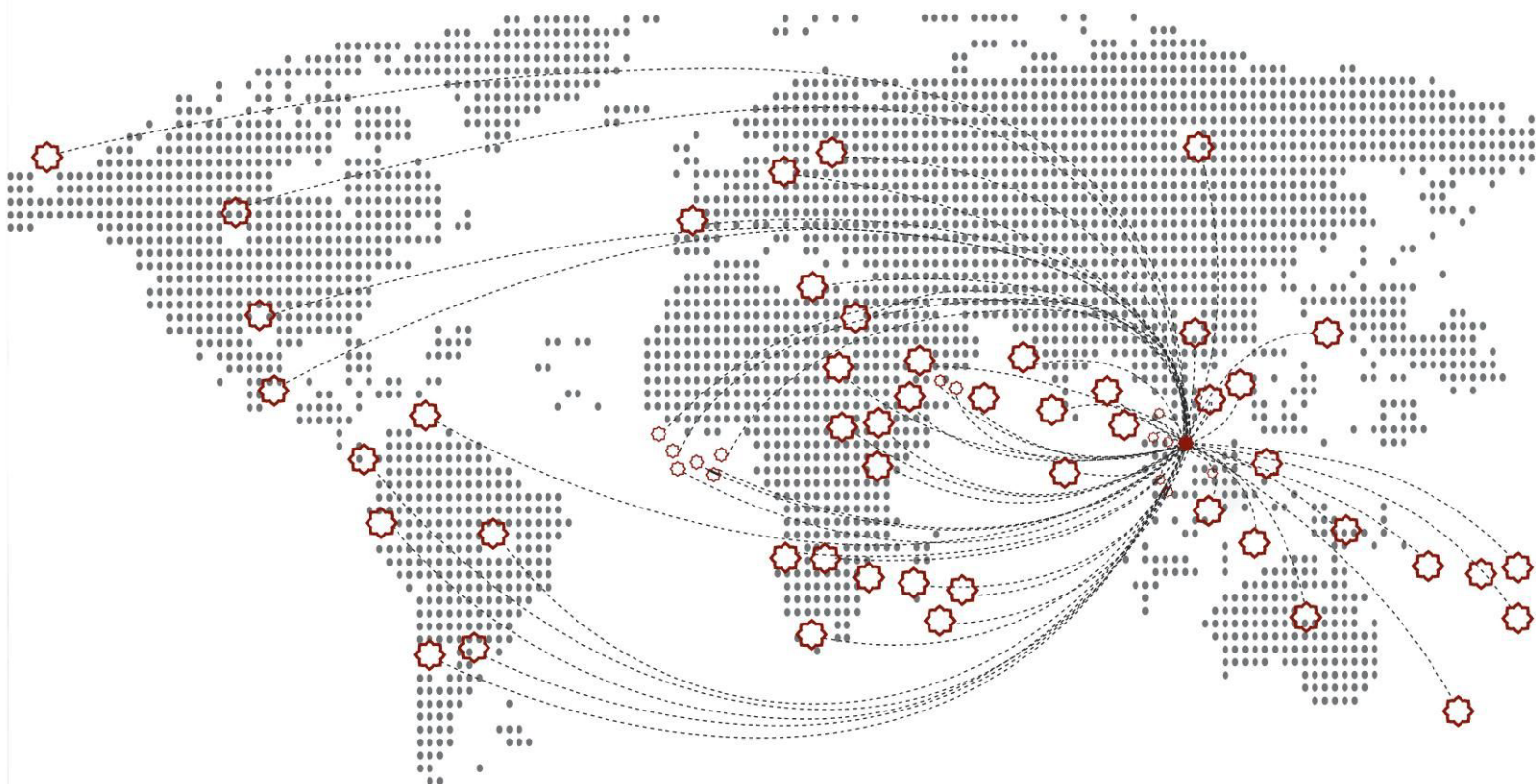


**HOA SEN**  
GROUP



# CATALOGUE

# **VIET NAM STEEL .COM**

[www.hoasengroup.vn](http://www.hoasengroup.vn) - [www.vietnamsteel.com](http://www.vietnamsteel.com)

**SCAN  
ME!**



# ADVANTAGES

## ADVANTAGES

With 10 coated steel mills located throughout Vietnam, Hoa Sen Group (HSG) obtains a variety of advantages in diminishing considerably transportation fee and lead time, as well as, utilizing production capacity.

Furthermore, all of Hoa Sen Group largest mills are situated near three deep-water ports including Nghi Son port (in the North), Qui Nhon port (in the Central), and Cai Mep port (in the South) which are able to serve bulk carriers with capacity from 50,000 DWT to 250,000 DWT. Accordingly, international buyers of Hoa Sen Group shall benefit from the most applicable and economical logistic solutions provided by the enterprise's exporting services.

Recently developed plants with modern technologies having the capacity of 2.6 million tonnes annually are the key factor that enables Hoa Sen Group not only to distribute high-quality products to traditional markets in Asia but also to satisfy the superior markets in Europe, America, Australia and Middle East.



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# HOA SEN GROUP

## CONTRIBUTE TO THE SUCCESS OF YOUR PROJECTS

Hoa Sen Group (HSG), an enterprise located in Vietnam, is currently among the largest companies in the field of manufacturing and distributing steel sheet and tube from South East Asia. The enterprise is also the leading supplier and exporter of flat sheet in more than 87 countries all over the world, including high-standard markets such as Europe, America and Australia.

At Hoa Sen Group, we believe that architecture is a new language or an image going far beyond the simple and functional needs since the requirements for advance from customers are forever growing. Many superb buildings nowadays emphasize this philosophy as they reflect the styles in vanguard of architecture. Acknowledging the above matter, Hoa Sen Group has concentrated in researching and developing a wide range of product categories that provides our beloved customers with the most optimal choice.

## VARIETY OF PRODUCTS

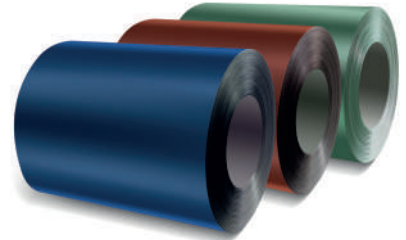
Hoa Sen Group owns 10 factories so that we can supply a variety of steel products such as:



Hot Dip Zinc  
Coated Steel Sheet (GI)



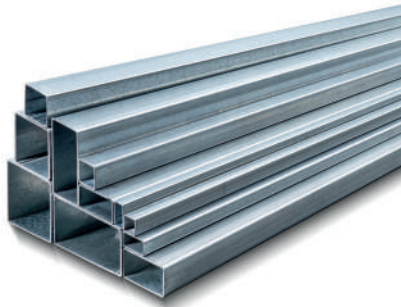
Hot Dip Aluminum Zinc Alloy  
Coated Steel Sheet (GL)



Pre-painted steel sheet with  
Polyvinylidene Fluoride (PVDF)



Pre-painted steel sheet with  
Silicone Modified Polyester (SMP)



Pre-Galvanized Steel  
Pipe/ Tube



Hot Dip Galvanized Steel  
Pipe/ Tube

## QUALITY MANAGEMENT

In prioritizing the advantages and competitiveness of our products in the market, we have significantly invested in the modern technologies which meet various international standards, including ASTM (American Society for Testing and Materials), BS EN (British Standards European Norm), AS (Australian Standard), JIS (Japanese Industrial Standards), etc...

At each stage of production, an appropriate and rigorous assessing procedure is conducted on account of confirming that the product complies with the standards and satisfies the requirements from customers.

Laboratories at Hoa Sen Group (certified with standard ISO 17025) are able to perform quality tests to verify the conformity of the steel's mechanical properties, an important feature in testing the technical quality of steel.



## REASONABLE PRICE FAST SHIPMENT PREMIUM SERVICE

Beside the international standard quality, we especially focus on other key factors that develop the product competitiveness, including reasonable price, swift delivery time, and good customer service. Therefore, Hoa Sen Group confidently export materials to more than 87 countries and territories around the world, especially to the US, Europe, and various Asian countries namely Indonesia, Malaysia, and Thailand etc. This actuality affirms the stature of Hoa Sen Group as a Global Growth Company awarded by the World Economic Forum.

## INTEGRITY - COMMUNITY - DEVELOPMENT

With the core value of Integrity - Community - Development, we have built an unique culture that demonstrates the organizational missions of contributing to the development of community and country. Expressively, Hoa Sen Group has contributed numerous key products with high value to the national economy, created thousands of jobs, joined and sponsored a variety of charities and social activities. As a modern and sustainable enterprise, we focus on 04 business philosophies:

- Products' quality is the focus
- Customers' benefit is the key
- Employees' income is the responsibility
- Sharing with the community is the obligation

Based on our affirmed quality and service, we desire to foster your valuable projects and merit your optimum choices. Furthermore, we are evolving into a dynamic and innovative Vietnamese enterprise that practices high standard conducts in both business and social corporate responsibility, as well as, establishing the accountable and recognizable position in the international market





# HA LONG BAY

VIET NAM



# STEEL SHEET

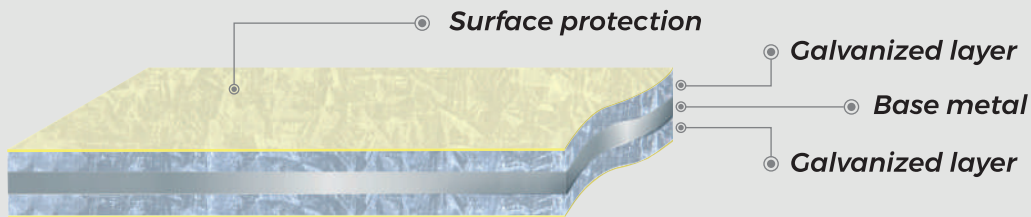
# HOT-DIP ZINC COATED STEEL

## ■ APPLICABLE STANDARDS

ASTM A653/A653M, BS EN 10346, AS 1397,  
JIS G3302, MS 2385, MS 2384, MS 2660,  
SNI 07-2053, IS 277, PNS 1990, PNS 67, TIS 50-2561

## ■ DIMENSIONAL CAPABILITIES

- Base metal thickness: 0.13 – 3.0 mm
- Full width: 762mm - 1260mm
- Slitting width: 19mm - 600mm



*Product's structure*

## ■ COATING TYPE

Zinc coating with minimum 99 % zinc content  
Coating mass: Z80 - Z600 (80 - 600 g/m<sup>2</sup>/both sides)

## ■ SURFACE FINISH

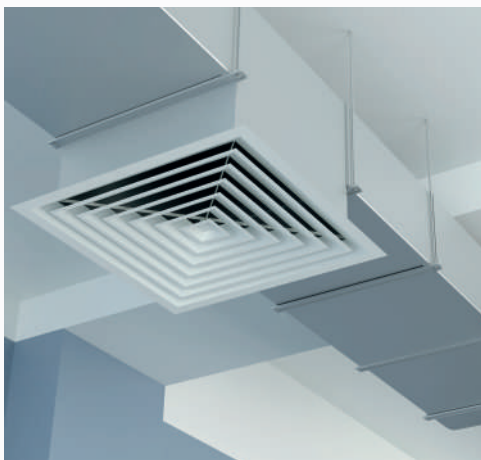
Surface with bright, shiny and minimized spangles

## ■ TYPICAL USE & APPLICATION

Construction/ Home appliance/ Industry/ Projects/ Building

## ■ SURFACE PROTECTION

- Chromium (VI)/ Chromium (III)/ Non-chromium compound to prevent humid storage stain
- Surface may also be treated with very small amounts of corrosion-inhibiting oil
- Anti-Fingerprint (AFP) treatment with Regular AFP/ Color AFP/ AFP Non-Chromium








*\* Product image is for illustrative purposes only*

## ■ INCOMPATIBILITIES

Copper, lead, unprotected steel, plaster, acidic wood, alkaline and strong acids

## ■ SPECIAL COATING PROPERTIES

All processes are ensured to follow the quality management system which is certified to ISO 9001 and test facilities accredited to ISO/IEC 17025.

Coating mass			Test method according to the product standard
Reaction to fire			Non-flammable according to ISO 11925-2
Flexibility	Folding bend		Max 2T
	Parallel bend		No fluting after bending
Salt Spray (fog)			Min. 100Hr, rust < 5% for normal passivation

## ■ RECOMMENDATION

Dry film thickness (µm)	C1 - Very Low (Clean atmospheres, e.g. offices, shops, schools, hotels)	C2 - Low (Low level of pollution, condensation may occur, e.g. rural, depots, sports halls)	C3 - Medium (Moderate sulfur dioxide pollution, low salinity, e.g. urban & industrial atmospheres, laundries, breweries, dairies)	C4 - High (Industrial areas, coastal areas with moderate salinity, chemical plants, marine)			
				Mixed	Coast (< 3km)	3 to 10 km	10 to 20 km
Z080 - Z120	S	S	NR	NR	NR	NR	NR
Z180 - Z200	S	S	L	NR	NR	L	L
Z275 - Z350	S	S	S	L	L	S	S
Z450 - Z600	S	S	S	S to L	S to L	S	S

### \*Notes:

**S:** Suitable    **L:** Limited    **NR:** Not Recommended

**C1, C2, C3, C4:** corrosivity categories (EN ISO 12944-2)

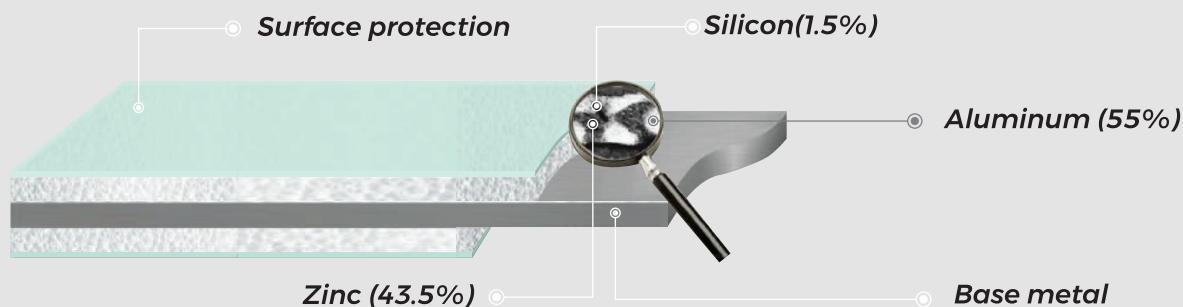
# HOT-DIP ALUMINUM ZINC ALLOY-COATED STEEL

## ■ APPLICABLE STANDARDS

ASTM A792/A792M, BS EN 10346, AS 1397, JIS G3321,  
MS 1196, SNI 4096, IS 15961, PNS 1993, PNS 67

## ■ DIMENSIONAL CAPABILITIES

- Base metal thickness: 0.13 - 3.0 mm
- Full width: 762mm - 1260mm
- Slitting width: 19mm - 600mm



Product's structure

## ■ COATING TYPE

Metallic coating with a 55 % aluminum content  
Coating mass: AZ30 - AZ200 (30 - 200 g/m<sup>2</sup>/both sides)

## ■ SURFACE FINISH

Surface with regular spangles, a handsome deep  
silver appearance

## ■ TYPICAL USE & APPLICATION

Construction/ Home appliance/ Industry/ Projects/ Building

## ■ SURFACE PROTECTION

With thin clear resin coating over the metallic coating  
to prevent humid storage stain

- Anti-Fingerprint (AFP) treatment with Regular  
AFP/ Color AFP/ AFP Non-Chromium

Other kinds of protection layer

- Chromium (VI)/ Chromium (III)/ Non-chromium  
compound to prevent humid storage stain
- Surface may also be treated with very small  
amounts of corrosion-inhibiting oil



\* Product image is for illustrative purposes only

## ■ INCOMPATIBILITIES




Copper, lead, unprotected steel, plaster, acidic wood, alkaline and strong acids

## ■ WARRANTY

10-25 years of anti-perforation warranty

## ■ SPECIAL COATING PROPERTIES

All processes are ensured to follow the quality management system which is certified to ISO 9001 and test facilities accredited to ISO/IEC 17025.

Coating mass		Test method according to the product standard
Reaction to fire		Non-flammable according to ISO 11925-2
Folding bend		Max 2T, no cracking, no peel off
Salt Spray (fog)		Min. 400Hr, rust < 5% for normal resin

## ■ RECOMMENDATION

Dry film thickness (µm)	C1 - Very Low ( Clean atmospheres, e.g. offices, shops, schools, hotels)	C2 - Low (Low level of pollution, condensation may occur, e.g. rural, depots, sports halls)	C3 - Medium ( Moderate sulfur dioxide pollution, low salinity, e.g. urban & industrial atmospheres, laudries, breweries, dairies)	C4 - High ( Industrial areas, coastal areas with moderate salinity, chemical plants, marine)			
				Mixed	Coast (< 3km)	3 to 10 km	10 to 20 km
AZ100 - AZ120	S	S	L	NR	NR	NR	NR
AZ150	S	S	S	NR	NR	L	L
AZ180 - AZ200	S	S	S	L	L	S	S

### \*Notes:

**S:** Suitable      **L:** Limited      **NR:** Not Recommended

**C1, C2, C3, C4:** corrosivity categories (EN ISO 12944-2)

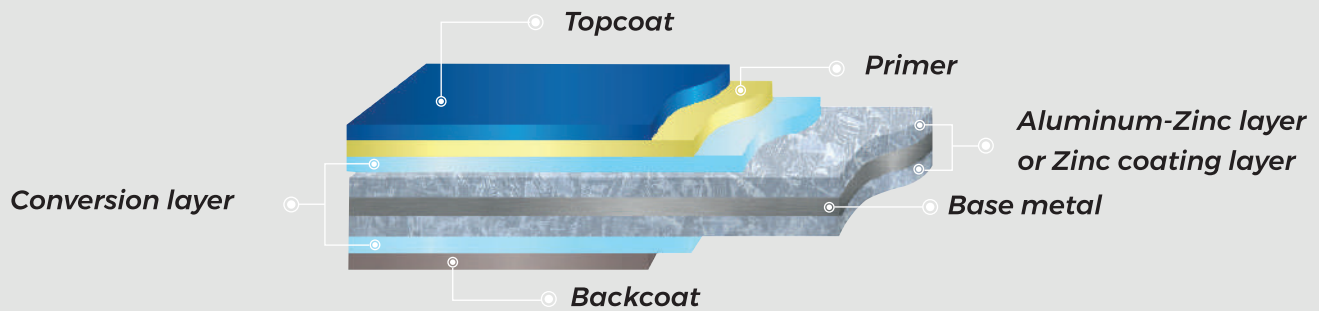
# PRE - PAINTED STEEL WITH REGULAR MODIFIED POLYESTER

## ■ APPLICABLE STANDARDS

Organic Coating shall be in accordance with ASTM A755/A755M, BS EN 10169 IS, G3322, JIS G3312, AS/NZS 2728, IS 15965, IS 14246, MS 2383, PNS 201

## ■ DIMENSIONAL CAPABILITIES

- Base metal thickness: 0.13mm - 1.20mm
- Full width: 762mm - 1260mm



*Product's structure*

## ■ COATING TYPE

Polyester/ Regular Modified Polyester

- Great durability and flexibility
- Beautiful and stable appearance
- Excellent overall adhesion
- Exceptional resistance to corrosion, rain, sun and other natural elements
- Optional with WRINKE, CLEAR for Topcoat and Epoxy for Backcoat

## ■ TYPICAL USE & APPLICATION

- Construction/ Home appliance/ Industry/ Projects/ Building
- Recommend for roofing or cladding in normal environmental climate, (location between 0 to 5000 meters from the sea)



*\* Product image is for illustrative purposes only*

■ DESCRIPTION




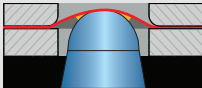


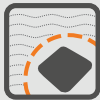
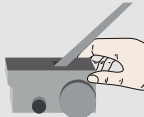


- Substrate: Aluminum-Zinc Alloy Coated (AZ30-AZ200)/ Galvanized (Z80-Z275)
- Color Coating:
  - Topcoat: 15 – 30 µm
  - Backcoat: 5 – 25 µm
  - Gloss: 30% - 80%
- Optional with LEAD-FREE systems  
(meet the lead content requirements of ASTM A755/A755M)

■ WARRANTY

5 – 10 years for Paint Coating

■ COATING PROPERTIES

All processes are ensured to follow the quality management system which is certified to ISO 9001 and test facilities accredited to ISO/IEC 17025.

Color & Gloss		$\Delta E < 1$ (CIE Lab)	Solvent resistance (M.E.K)		Min 100 DR
Dry Film Thickness		5 – 30 µm	Cupping test		No peel off
Flexibility (T-bend)		Max 3T	Impact test		No peel off
Salt Spray (fog)		Min 500h	Pencil hardness		Min 2H
QUV		Min 500h	Scratch resistance		As per standard

## RECOMMENDATION

Dry film thickness (µm)	C1 - Very Low (Clean atmospheres, e.g. offices, shops, schools, hotels)	C2 - Low (Low level of pollution, condensation may occur, e.g. rural, depots, sports halls)	C3 - Medium (Moderate sulfur dioxide pollution, low salinity, e.g. urban & industrial atmospheres, laundries, breweries, dairies)	C4 - High (Industrial areas, coastal areas with moderate salinity, chemical plants, marine)			
				Mixed	Coast (< 3km)	3 to 10 km	10 to 20 km
17 - 20	S	S	S	NR	NR	L	S
25 - 30	S	S	S	NR	NR	S	S

### \*Notes:

**S:** Suitable    **L:** Limited    **NR:** Not Recommended

**C1, C2, C3, C4:** corrosivity categories (EN ISO 12944-2)

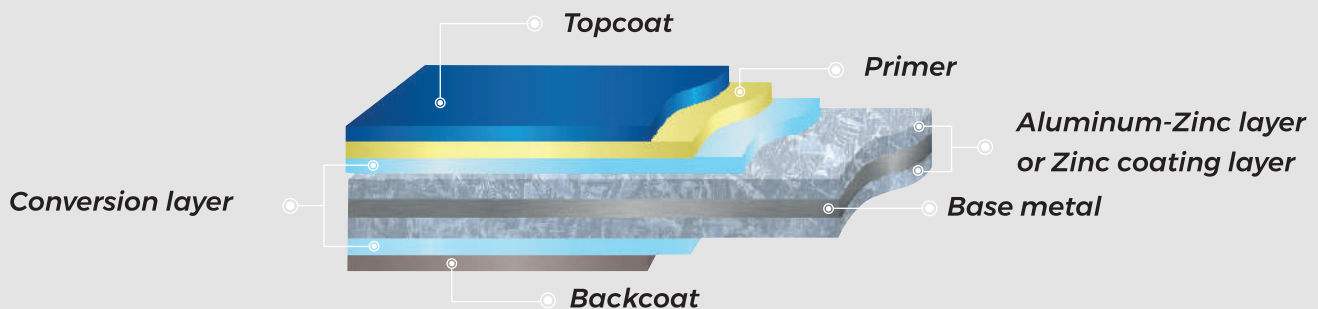
# PRE-PAINTED STEEL WITH HIGH DURABLE POLYESTER

## APPLICABLE STANDARDS

Organic Coating shall be in accordance with ASTM A755/A755M, BS EN 10169 IS, G3322, JIS G3312, AS/NZS 2728, IS 15965, IS 14246, MS 2383, PNS 201

## DIMENSIONAL CAPABILITIES

- Base metal thickness: 0.13mm - 1.20mm
- Full width: 762mm - 1260mm



Product's structure

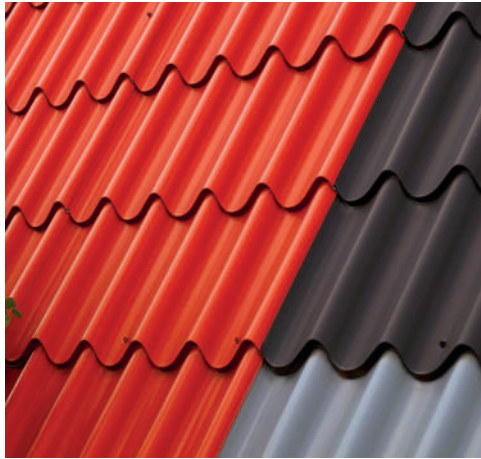
### ■ COATING TYPE

#### High Durable Polyester/ Super Polyester

- Exceptional resistance to rain, sun and other natural elements
- Superior resistance to ultraviolet rays
- Great durability and flexibility
- Outstanding color retention and consistency
- Excellent overall adhesion and resistance to corrosion

### ■ TYPICAL USE & APPLICATION

- Construction/ Home appliance/ Industry/ Projects/ Building
- Recommend for roofing or cladding in normal environmental climate, (location between 0 to 2000 meters from the sea)



*\* Product image is for illustrative purposes only*

### ■ DESCRIPTION




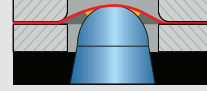


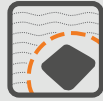



- Substrate: Aluminum-Zinc Alloy Coated (AZ070-AZ200)/ Galvanized (Z120-Z275)
- Color Coating:
  - Topcoat: 20 – 25  $\mu\text{m}$
  - Backcoat: 5 – 25  $\mu\text{m}$
  - Gloss: 30% - 60%
- Optional with LEAD-FREE systems (meet the lead content requirements of ASTM A755/A755M)

### ■ WARRANTY

10 years for Paint Coating

## ■ COATING PROPERTIES

All processes are ensured to follow the quality management system which is certified to ISO 9001 and test facilities accredited to ISO/IEC 17025.

Color & Gloss		$\Delta E < 1$ (CIE Lab)	Solvent resistance (M.E.K)		Min 100 DR
Dry Film Thickness		5 – 25 $\mu\text{m}$	Cupping test		No peel off
Flexibility (T-bend)		Max 3T	Impact test		No peel off
Salt Spray (fog)		Min 1000h	Pencil hardness		Min 1H
QUV		Min 1000h	Scratch resistance		As per standard

## ■ RECOMMENDATION

Dry film thickness ( $\mu\text{m}$ )	C1 - Very Low (Clean atmospheres, e.g. offices, shops, schools, hotels)	C2 - Low (Low level of pollution, condensation may occur, e.g. rural, depots, sports halls)	C3 - Medium (Moderate sulfur dioxide pollution, low salinity, e.g. urban & industrial atmospheres, laundries, breweries, dairies)	C4 - High (Industrial areas, coastal areas with moderate salinity, chemical plants, marine)			
				Mixed	Coast (< 3km)	3 to 10 km	10 to 20 km
20	S	S	S	NR	NR	L	S
25 - 30	S	S	S	NR	NR	S	S

### \*Notes:

**S:** Suitable    **L:** Limited    **NR:** Not Recommended

**C1, C2, C3, C4:** corrosivity categories (EN ISO 12944-2)

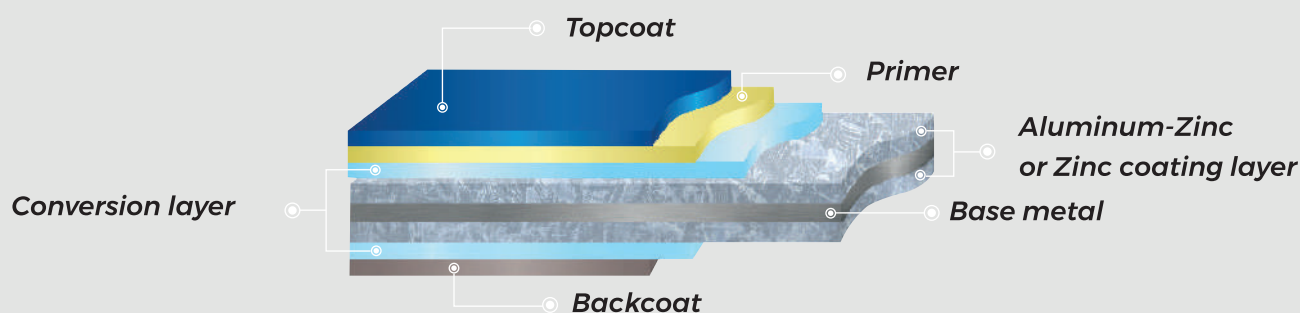
# PRE-PAINTED STEEL WITH POLYVINYLIDENE FLUORIDE

## ■ APPLICABLE STANDARDS

Organic Coating shall be in accordance with ASTM A755/A755M, BS EN 10169 IS, G3322, JIS G3312, AS/NZS 2728, IS 15965, IS 14246, MS 2383, PNS 201

## ■ DIMENSIONAL CAPABILITIES

- Base metal thickness: 0.13mm - 1.20mm
- Full width: 762mm - 1260mm



*Product's structure*

## ■ COATING TYPE: PVDF

- Exceptional resistance to rain, sun and other natural elements
- Exceptional dirt and stain resistance
- Great durability and flexibility
- Outstanding color retention and consistency
- Excellent overall adhesion and resistance to corrosion
- Optional with Clear film over the Paint Coating

## ■ TYPICAL USE & APPLICATION

- Construction/ Home appliance/ Industry/ Projects/ Building
- Recommend for roofing or cladding in normal environmental climate, (location between 0 to 2000 meters from the sea)



*\* Product image is for illustrative purposes only*

■ DESCRIPTION




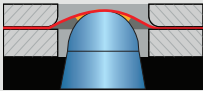






- Substrate: Aluminum-Zinc Alloy Coated (AZ100-AZ200)/ Galvanized (Z180-Z275)
- Color Coating:
  - Topcoat: 20 – 25 µm
  - Backcoat: 5 – 25 µm
  - Gloss: 25 - 30%
- Optional with lead-free systems  
(meet the lead content requirements of ASTM A755/A755M)

■ WARRANTY

20 years for Paint Coating

■ COATING PROPERTIES

All processes are ensure to follow to control as per the quality management system which is certified to ISO 9001 and test facilities accredited to ISO/IEC 17025.

Color & Gloss		$\Delta E < 1$ (CIE Lab)	Solvent resistance (M.E.K)		Min 100 DR
Dry Film Thickness		5 – 25 µm	Cupping test		No peel off
Flexibility (T-bend)		Max 3T	Impact test		No peel off
Salt Spray (fog)		Min 2000h	Pencil hardness		F - H
QUV		Min 1000h	Scratch resistance		As per standard

## RECOMMENDATION

Dry film thickness (µm)	C1 - Very Low (Clean atmospheres, e.g. offices, shops, schools, hotels)	C2 - Low (Low level of pollution, condensation may occur, e.g. rural, depots, sports halls)	C3 - Medium (Moderate sulfur dioxide pollution, low salinity, e.g. urban & industrial atmospheres, laundries, breweries, dairies)	C4 - High (Industrial areas, coastal areas with moderate salinity, chemical plants, marine)			
				Mixed	Coast (< 3km)	3 to 10 km	10 to 20 km
20	S	S	S	NR	NR	L	S
25 - 30	S	S	S	NR	NR	S	S

### \*Notes:

**S:** Suitable    **L:** Limited    **NR:** Not Recommended

**C1, C2, C3, C4:** corrosivity categories (EN ISO 12944-2)

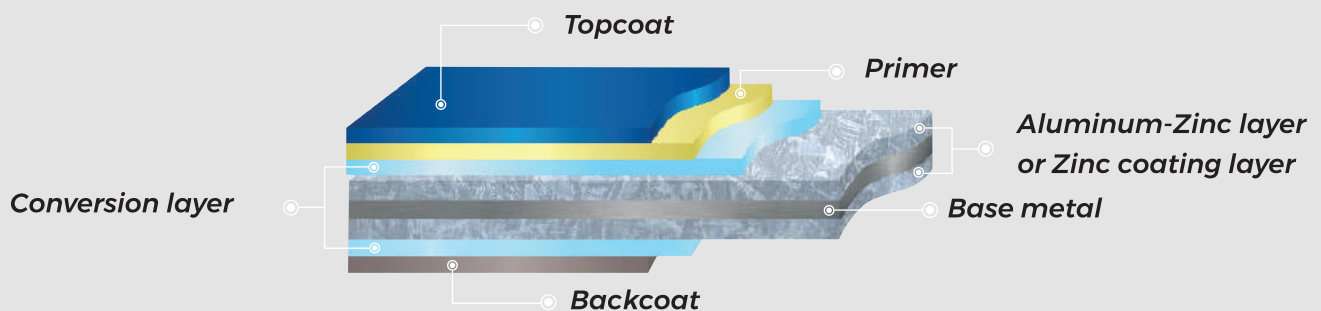
# PRE-PAINTED STEEL WITH SILICONE MODIFIED POLYESTER

## APPLICABLE STANDARDS

Organic Coating shall be in accordance with ASTM A755/A755M, BS EN 10169 IS, G3322, JIS G3312, AS/NZS 2728, IS 15965, IS 14246, MS 2383, PNS 201

## DIMENSIONAL CAPABILITIES

- Base metal thickness: 0.13mm - 1.20mm
- Full width: 762mm - 1260mm



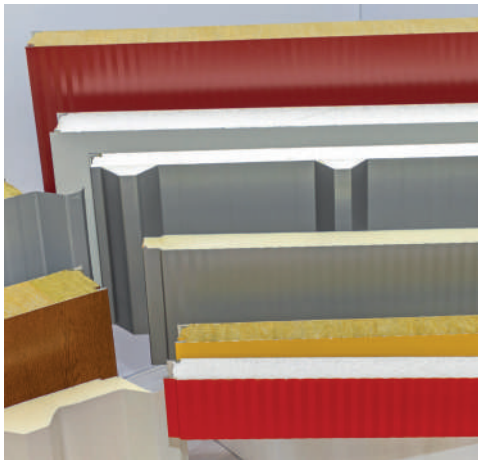
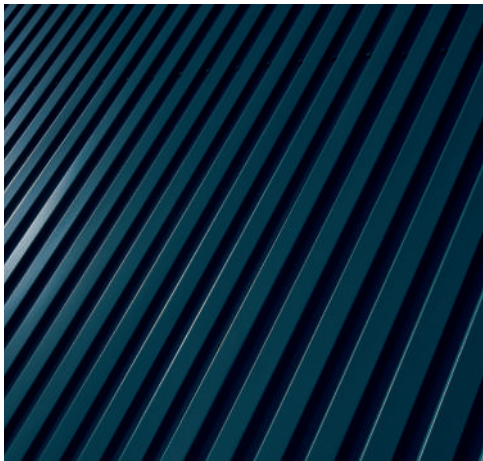
Product's structure

## ■ COATING TYPE

- Superior weatherability
- Exceptional color and gloss retention
- Best resistance yet to chalking, fading and scratching
- Great durability and flexibility
- Excellent overall adhesion and resistance to corrosion

## ■ TYPICAL USE & APPLICATION

- Construction/ Home appliance/ Industry/ Projects/ Building
- Recommend for roofing or cladding in normal environmental climate, (location between 0 to 2000 meters from the sea)



*\* Product image is for illustrative purposes only*

## ■ DESCRIPTION

- Substrate: Aluminum-Zinc Alloy Coated (AZ150-AZ200)/ Galvanized (Z180-Z275)
- Color Coating:
  - Topcoat: 25  $\mu\text{m}$
  - Gloss: 20% - 80%

## ■ WARRANTY

40 years for Paint Coating

## ■ COATING PROPERTIES

All processes are ensured to follow the quality management system which is certified to ISO 9001 and test facilities accredited to ISO/IEC 17025.

Color & Gloss




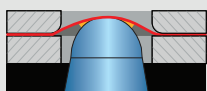



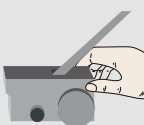


$\Delta E < 1$   
(CIE Lab)

Solvent  
resistance  
(M.E.K)



Min 100 DR

## PRE-PAINTED STEEL WITH SILICONE MODIFIED POLYESTER

Dry Film Thickness		5 - 25 µm	Cupping test		No peel off
Flexibility (T-bend)		Max 4T	Impact test		No peel off
Salt Spray (fog)		Min 2000h	Pencil hardness		F - H
QUV		Min 1000h	Scratch resistance		As per standard

## RECOMMENDATION

Dry film thickness (µm)	C1 - Very Low (Clean atmospheres, e.g. offices, shops, schools, hotels)	C2 - Low (Low level of pollution, condensation may occur, e.g. rural, depots, sports halls)	C3 - Medium (Moderate sulfur dioxide pollution, low salinity, e.g. urban & industrial atmospheres, laundries, breweries, dairies)	C4 - High (Industrial areas, coastal areas with moderate salinity, chemical plants, marine)			
				Mixed	Coast (< 3km)	3 to 10 km	10 to 20 km
25	S	S	S	NR	NR	S	S

### \*Notes:

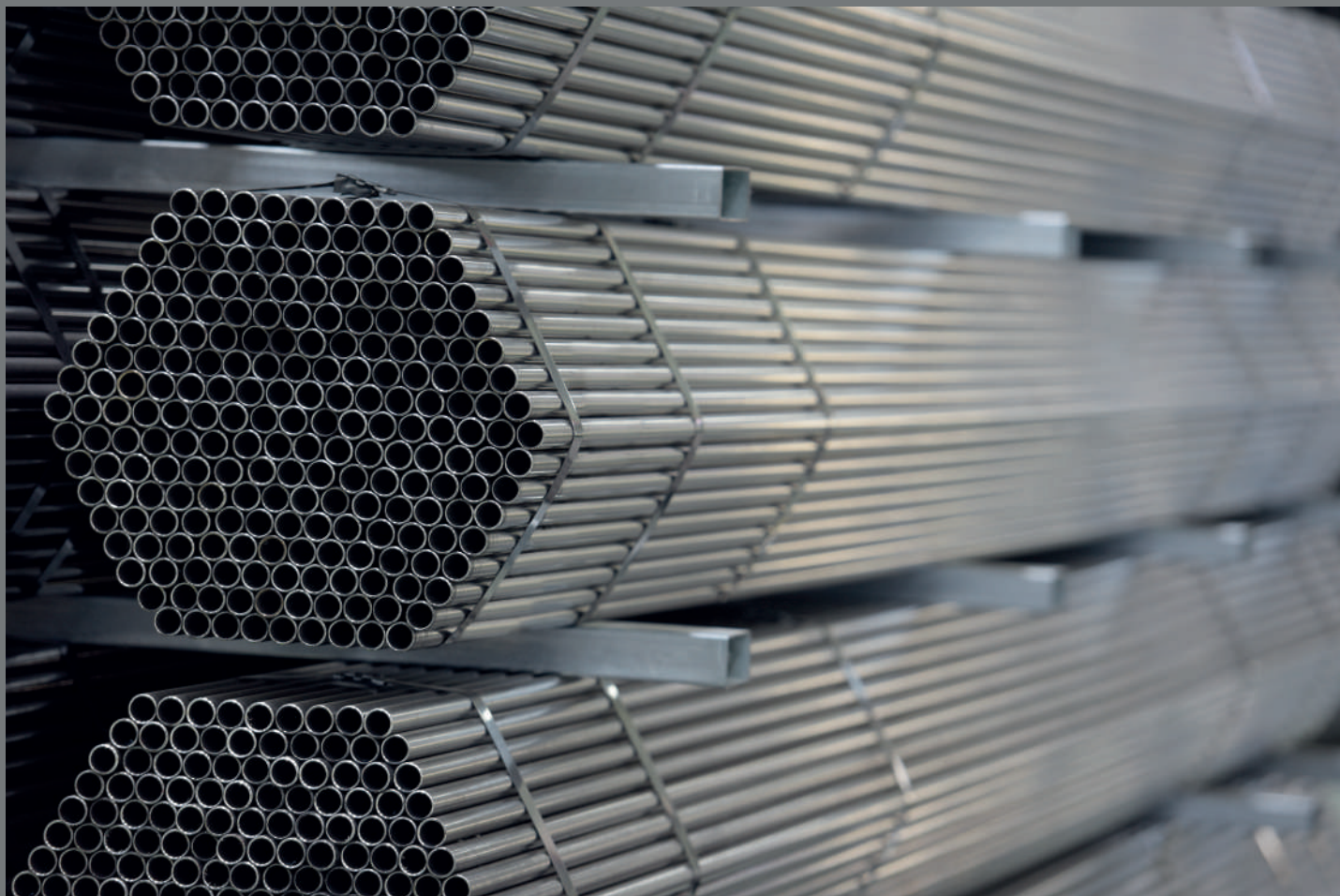
**S:** Suitable    **L:** Limited    **NR:** Not Recommended

**C1, C2, C3, C4:** corrosivity categories (EN ISO 12944-2)



# MU CANG CHAI

SAPA - VIET NAM



# STEEL PIPE

# PRE-GALVANIZED STEEL PIPE

## ■ APPLICABLE STANDARDS

ASTM A500/A500M, EN 10219-1, JIS G3444,  
JIS G3466, AS/NZS 1163, IS 4923, IS 1161, MS 1862

## ■ DIMENSIONAL CAPABILITIES

- Wall Thickness: 0.55mm - 3.80mm
- Square tube: 14x14 - 100x100mm
- Rectangular tube: 13x26 - 60x120mm
- Round tube: Ø21 - Ø114mm
- Length: 4m - 9m



## ■ COATING TYPE

- . Zinc coating with minimum 99 % zinc content
- . Coating mass: Z80 - Z450 (80 - 450 g/m<sup>2</sup>/both sides)

## ■ SURFACE FINISH

Surface with bright, shiny and silvery-white in color

## ■ SURFACE PROTECTION

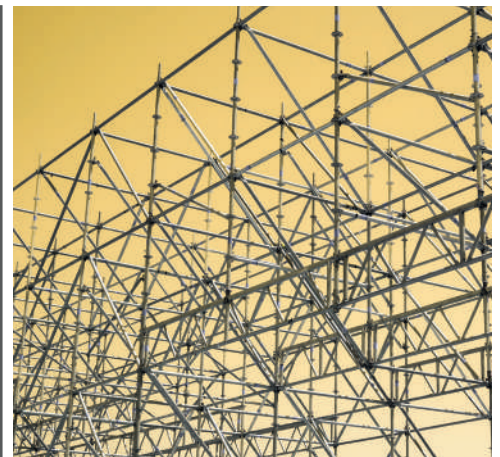
Surface may also be treated with very small amounts of corrosion-inhibiting oil

## ■ INCOMPATIBILITIES

Copper, lead, unprotected steel, plaster, acidic wood, alkaline and strong acids






## ■ TYPICAL USE & APPLICATION

- Civil works, architecture, steel tower, scaffolding, rail, housing frame, piles, veranda, fence and post etc.
- Other structures



*\* Product image is for illustrative purposes only*

## MECHANICAL PROPERTIES

Radius of Corners		Max 3T
Squareness of Sides		$90^{\circ} \pm 20^{\circ}$
Twist		According to product standard
Bending test		Free from flaws or crack surfaces
Flattening test		Free from flaws or crack surfaces

## AVAILABLE SIZE RANGE

As per the following table

### SQUARE TUBE/PIPE

Size (mm)	Pcs/ Bundle	Wall Thickness (mm)																															
		0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00	1.05	1.10	1.15	1.20	1.40	1.50	1.60	1.70	1.80	1.90	2.00	2.10	2.20	2.40	2.50	2.80	3.00	3.50	3.80			
14 x 14	400																																
16 x 16	361																																
19 x 19	225																																
20 x 20	225																																
25 x 25	144																																
30 x 30	100																																
34 x 34	64																																
35 x 35	64																																
35.5 x 35.5	64																																
36 x 36	64																																
38 x 38	64																																
40 x 40	64																																
50 x 50	49																																
75 x 75	25																																
100 x 100	9																																

**\*Note:** Size outside of the available range is subject to negotiation

## RECTANGULAR TUBE/PIPE

Size (mm)	Pcs/ Bundle	Wall Thickness (mm)																															
		0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00	1.05	1.10	1.15	1.20	1.40	1.50	1.60	1.70	1.80	1.90	2.00	2.10	2.20	2.40	2.50	2.80	3.00	3.50	3.80			
13 x 26	200																																
14 x 34	144																																
15 x 35	144																																
15.5 x 35.5	144																																
16 x 36	144																																
20 x 40	128																																
25 x 50	72																																
30 x 60	50																																
40 x 60	48																																
30 x 90	44																																
40 x 80	32																																
50 x 100	18																																
60 x 120	18																																

**\*Note:** Size outside of the available range is subject to negotiation

## ROUND TUBE/PIPE

Size (mm)	Pcs/ Bundle	Wall Thickness (mm)																															
		0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00	1.05	1.10	1.15	1.20	1.40	1.50	1.60	1.70	1.80	1.90	2.00	2.10	2.20	2.40	2.50	2.80	3.00	3.50	3.80			
Ø21	169																																
Ø27	127																																
Ø34	91																																
Ø42	61																																
Ø49	61																																
Ø60	37																																
Ø76	37																																
Ø90	19																																
Ø114	10																																

**\*Note:** Size outside of the available range is subject to negotiation

All processes are ensured to follow the quality management system which is certified to ISO 9001 and test facilities accredited to ISO/IEC 17025.

# HOT-DIP GALVANIZED STEEL PIPE

## ■ APPLICABLE STANDARDS

ASTM A53/A53M, EN 10255, BS 1387, BS 1139-1,  
JIS G3452, JIS G3454, AS 1074, SNI 0039, MS 863

## ■ DIMENSIONAL CAPABILITIES

- Wall Thickness: 1.6mm - 8.2mm
- Round tube: Ø21.2mm - Ø219.1mm
- Length: 5m - 7.3m



## ■ COATING TYPE

Zinc coating with minimum 99 % zinc content  
Coating thickness: 35µm - 100µm (245 - 705 g/m<sup>2</sup>/side)

## ■ SURFACE FINISH

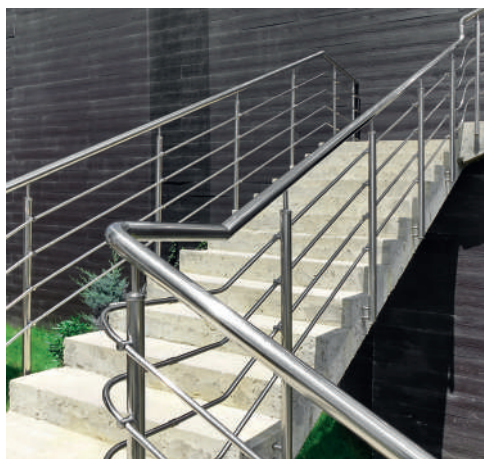
Surface with bright, shiny and silvery-white in color

## ■ SURFACE PROTECTION

- Chromium (VI)/ Chromium (III)/ Non-chromium compound to prevent humid storage stain
- Surface may also be treated with very small amounts of corrosion-inhibiting oil

## ■ TYPICAL USE & APPLICATION

- Construction/ High-quality industry and agriculture/ Aquaculture
- Fire alarm systems inside buildings and factories
- Gas transmission systems
- Handrails, staircases, fences, carcasses, scaffoldings
- Road and bridge structures
- Structural frames for shrimp farming and aquaculture projects
- Electric wire conduit
- Other civil application



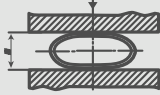




\* Product image is for illustrative purposes only

## ■ INCOMPATIBILITIES

Copper, lead, unprotected steel, plaster, acidic wood, alkaline and strong acids

## ■ MECHANICAL PROPERTIES

Coating thickness		35µm - 100µm
Bending Test		Free from flaws or crack surfaces
Flattening Test		Free from flaws or crack surfaces
Hydrostatic Test		Without leakage through the weld seam or the pipe body
Nondestructive Electric Test		Without leakage through the weld seam or the pipe body

## AVAILABLE SIZE RANGE

As per the following table

Size			Pcs/ Bundle	Wall Thickness (mm)																				
NPS (inch)	DN	Outside Diameter (mm)		1.60	1.90	2.10	2.30	2.60	2.90	3.20	3.60	3.96	4.00	4.50	4.60	4.78	5.00	5.16	5.40	5.56	6.35	6.55	7.11	8.20
1/2	15	21.2	169																					
3/4	20	26.65	127																					
1	25	33.5	91																					
1 1/4	32	42.2	61																					
1 1/2	40	48.1	37																					
2	50	59.9	37																					
2 1/2	65	75.6	19																					
3	80	88.3	19																					
		102	19																					
		108	19																					
4	100	113.5	19																					
		126.8	10																					
5	125	141.3	7																					
6	150	168.3	7																					
8	200	219.1	7																					

**\*Note:** Size outside of the available range is subject to negotiation

## ASTM A53/A53M-12 STANDARD SIZES AND WEIGHT TABLE FOR BLACK AND HOT-DIP GALVANIZED STEEL PIPES

NPS Designator	DN Designator	Specified Outside Diameter		Specified Outside Thickness	Nominal Weight	Weight Class	Schedule No.	Test Pressure, psi [kPa]	
		in.	mm	mm	kg/pcs ( 6m )			Grade A	Grade B
1/2	15	0.840	21.3	2.77	7.62	STD	40	700 [4800]	700 [4800]
3/4	20	1.050	26.7	2.87	10.14	STD	40	700 [4800]	700 [4800]
1	25	1.315	33.4	3.38	15.00	STD	40	700 [4800]	700 [4800]
				4.55	19.44	XS	80	850 [5900]	850 [5900]
1 1/4	32	1.660	42.2	3.56	20.34	STD	40	1200 [8300]	1300 [9000]
1 1/2	40	1.900	48.3	3.68	24.30	STD	40	1200 [8300]	1300 [9000]
				5.08	32.46	XS	80	1800 [12400]	1900 [13100]
2	50	2.375	60.3	3.91	32.64	STD	40	2300 [15900]	2500 [17200]
				5.54	44.88	XS	80	2500 [17200]	2500 [17200]
2 1/2	65	2.875	73	5.16	0.00	STD	40	2500 [17200]	2500 [17200]
3	80	3.500	88.9	3.18	40.32	—	—	1290 [8900]	1500 [1000]
				3.96	49.74	—	—	1600 [11000]	1870 [12900]
				4.78	59.52	—	—	1930 [13300]	2260 [15600]
				5.49	67.74	STD	40	2220 [15300]	2500 [17200]
3 1/2	90	4.000	101.6	3.18	46.32	—	—	1120 [7700]	1310 [19000]
				3.96	57.18	—	—	1400 [6700]	1640 [11300]
				4.78	68.46	—	—	1690 [11700]	1970 [13600]
4	100	4.500	114.3	3.18	52.26	—	—	1000 [6900]	1170 [8100]
				3.96	64.68	—	—	1250 [8600]	1460 [10100]
				4.78	77.46	—	—	1500 [10300]	1750 [12100]
				5.56	89.46	—	—	1750 [12100]	2040 [14100]
				6.02	96.42	STD	40	1900 [13100]	2210 [15200]
				6.35	101.40	—	—	2000 [13800]	2330 [16100]
				7.14	113.22	—	—	2250 [15100]	2620 [18100]
				7.92	124.68	—	—	2500 [17200]	2800 [19300]
5	125	5.563	141.3	3.96	80.46	—	—	1010 [7000]	1180 [8100]
				4.78	96.54	—	—	1220 [8400]	1420 [9800]
				5.16	0.00	—	—	1220 [8400]	1420 [9800]
				5.56	111.66	—	—	1420 [9800]	1650 [11400]
				6.55	130.62	STD	40	1670 [11500]	1950 [13400]
				7.14	141.72	—	—	1820 [12500]	2120 [14600]
6	150	6.625	168.3	7.92	156.30	—	—	2020 [13900]	2360 [16300]
				4.78	115.62	—	—	1020 [7000]	1190 [8200]
				5.56	139.86	—	—	1190 [8200]	1390 [9600]
				6.35	152.16	—	—	1360 [9400]	1580 [10900]
				7.11	169.56	STD	40	1520 [10500]	1780 [12300]
8	200	8.625	219.1	7.92	187.92	—	—	1700 [11700]	1980 [13700]
				4.78	151.56	—	—	780 [5400]	920 [6300]
				5.16	163.32	—	—	850 [5900]	1000 [6900]
				5.56	175.68	—	—	910 [6300]	1070 [7400]
				6.35	199.86	—	—	1040 [7200]	1220 [8400]
				7.04	217.86	—	—	1160 [7800]	1350 [9300]
				7.92	247.44	—	—	1300 [9000]	1520 [10500]
				8.18	255.30	STD	40	1340 [9200]	1570 [10800]

\* Thickness tolerance: -12.5%; + not specified

\* Mass tolerance: ±10%

\* Diameter tolerance: ±0.4mm for DN40 or smaller; ±1% for DN50 or larger

## EN 10255:2004 STANDARD SIZES AND WEIGHT TABLE FOR BLACK AND HOT-DIP GALVANIZED STEEL PIPES

Weight Class	Nominal Size		Specified Outside Diameter		Specified Outside Thickness	Nominal Weight	Test Pressure
			Max	Min			
	in.	DN	mm	mm	mm	kg/pcs ( 6m )	bar
Heavy (H)	1/2	15	21.8	21.0	3.2	8.64	50
	3/4	20	27.3	26.5	3.2	11.22	50
	1	25	34.2	33.3	4.0	17.58	50
	1 1/4	32	42.9	42.0	4.0	22.74	50
	1 1/2	40	48.8	47.9	4.0	26.22	50
	2	50	60.8	59.7	4.5	37.14	50
	2 1/2	65	76.6	75.3	4.5	47.58	50
	3	80	89.5	88.0	5.0	61.80	50
	4	100	115	113.1	5.4	87.00	50
Medium (M)	1/2	15	21.8	21.0	2.6	7.26	50
	3/4	20	27.3	26.5	2.6	9.36	50
	1	25	34.2	33.3	3.2	14.46	50
	1 1/4	32	42.9	42.0	3.2	18.60	50
	1 1/2	40	48.8	47.9	3.2	21.36	50
	2	50	60.8	59.7	3.6	30.18	50
	2 1/2	65	76.6	75.3	3.6	38.52	50
	3	80	89.5	88.0	4.0	50.16	50
	4	100	115	113.1	4.5	73.20	50
Light (L)	1/2	15	21.7	21.0	2.3	6.48	50
	3/4	20	27.1	26.4	2.3	8.40	50
	1	25	34	33.2	2.9	13.20	50
	1 1/4	32	42.7	41.9	2.9	16.92	50
	1 1/2	40	48.6	47.8	2.9	19.50	50
	2	50	60.7	59.6	3.2	27.06	50
	2 1/2	65	76	75.2	3.2	34.50	50
	3	80	88.7	87.9	3.2	40.56	50
	3 1/2		101.2	100.3	3.6	52.20	50
	4	100	113.9	113.0	3.6	58.98	50
	5	125	140.8	138.5	4.5	0.00	50
	6	150	166.5	163.9	4.5	0.00	50
Light 1 (L1)	1/2	15	21.7	21.0	2.3	6.48	50
	3/4	20	27.1	26.4	2.3	8.34	50
	1	25	34	33.2	2.9	13.20	50
	1 1/4	32	42.7	41.9	2.9	16.92	50
	1 1/2	40	48.6	47.8	2.9	19.44	50
	2	50	60.7	59.6	3.2	26.94	50
	2 1/2	65	76.3	75.2	3.2	34.38	50
	3	80	89.4	87.9	3.6	45.30	50
	4	100	114.9	113.0	4.0	64.80	50
Light 2 (L2)	1/2	15	21.4	21.0	2.0	5.68	50
	3/4	20	26.9	26.4	2.3	8.28	50
	1	25	33.8	33.2	2.6	11.88	50
	1 1/4	32	42.5	41.9	2.6	15.24	50
	1 1/2	40	48.4	47.8	2.9	19.38	50
	2	50	60.2	59.6	2.9	24.48	50
	2 1/2	65	76	75.2	3.2	34.26	50
	3	80	88.7	87.9	3.2	40.32	50
	4	100	113.9	113.0	3.6	58.50	50

\* Thickness tolerance:  
 - Type M, H, L: +/-10%  
 - Type L1, L2: -8%, + mass tolerance  
 \*1 bar = 10<sup>5</sup> N/m<sup>2</sup> =10<sup>5</sup> Pa

\* Mass tolerance:  
 - Type M, H, L: ±7.5% on bundles of 10MT or more  
 - Type L1, L2: -8%, +10% on individual tube

## BS 1387:1985 & AS 1074:1989 STANDARD SIZES AND WEIGHT TABLE FOR BLACK AND HOT-DIP GALVANIZED STEEL PIPES

Weight Class	Nominal Size		Specified Outside Diameter		Specified Outside Thickness	Nominal Weight	Test Pressure
			Min	Max			
	in.	DN	mm	mm	mm	kg/pcs ( 6m )	bar
Light (L)	1/2	15	21.4	21.0	2.0	5.68	50
	3/4	20	26.9	26.4	2.3	8.28	50
	1	25	33.8	33.2	2.6	11.88	50
	1 1/4	32	42.5	41.9	2.6	15.24	50
	1 1/2	40	48.4	47.8	2.9	19.38	50
	2	50	60.2	59.6	2.9	24.48	50
	2 1/2	65	76.0	75.2	3.2	34.26	50
	3	80	88.7	87.9	3.2	40.32	50
	4	100	113.9	113.0	3.6	58.50	50
Medium (M)	1/2	15	21.7	21.1	2.6	7.26	50
	3/4	20	27.2	26.6	2.6	9.36	50
	1	25	34.2	33.4	3.2	14.46	50
	1 1/4	32	42.9	42.1	3.2	18.60	50
	1 1/2	40	48.8	48.0	3.2	21.42	50
	2	50	60.8	59.8	3.6	30.18	50
	2 1/2	65	76.6	75.4	3.6	38.58	50
	3	80	89.5	88.1	4.0	50.22	50
	4	100	114.9	113.3	4.5	73.20	50
Heavy (H)	1/2	15	21.7	21.1	3.2	8.64	50
	3/4	20	27.2	26.6	3.2	11.22	50
	1	25	34.2	33.4	4.0	17.64	50
	1 1/4	32	42.9	42.1	4.0	22.80	50
	1 1/2	40	48.8	48	4.0	26.28	50
	2	50	60.8	59.8	4.5	37.14	50
	2 1/2	65	76.6	75.4	4.5	47.58	50
	3	80	89.5	88.1	5	61.80	50
	4	100	114.9	113.3	5.4	87.00	50

\*Thickness tolerance:

- Type Light: -8%, + not specified

- Type Medium, Heavy: -10%, + not specified

\* Mass tolerance: -8%, +10%

\* 1 bar =  $10^5 \text{ N/m}^2 = 10^5 \text{ Pa}$

Hoa Sen Group was established according to the core value of "Integrity- Community- Development" which laid the foundation of 10 letters of T's (in Vietnamese) corporate culture from the early stage of establishment: Integrity- Loyalty - Dedication - Wisdom - Friendliness. That is the guideline for the sustainable development of Hoa Sen Group.

Over 21 years of establishment and development, Hoa Sen Group has become a leading corporation in the field of production and trading of steel sheets, steel pipes and plastic pipes, occupying the leading steel sheet exporter from South East Asia.

Chairman of Hoa Sen Group





**DA NANG**  
**VIET NAM**



Hoa Sen Home is a platform of Building Materials and Furniture Supermarket owned by Hoa Sen Group – a company with more than 20 years of experience in steel manufacture and trading in Vietnam, including over 600 branches of retail stores nation-wide and the worldwide export activities expanding into more than 87 countries and territories.

Hoa Sen Home is proud to be one of the official distribution partners of high-end and reputable brands for building materials and interior equipment in which more than 15 categories and over 3,000 items are presented, ranging from not only the basic building materials such as corrugated sheets, steel pipes, plastic pipes, construction steel, tiles, cement, sand, and stone..., but also finished products such as tiles, sanitary-wares, paints, and home appliances...

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