



Metal Packaging Solutions



Your Best Partner for Metal Packaging

天津海晟包装材料有限公司
TIANJIN HIGHSEN PACKAGING CO.,LTD.





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About us

Tianjin Highsen Packaging Co., Ltd.

As a fast developing company, we focusing on providing metal packaging solutions, mainly deal with **Tinplate, Tin Free Steel, Printed & Lacquered Tinplate, Can Lids & Bottoms and Tin Cans**. We provide tailored solutions based on customer's requirements and aim to be your best partner for metal packaging.



80,000+ tonnes per year



77.6+ million net sales
as of Dec 31 2023



Exported to Europe, Africa, Southeast Asia, Middle East, Mexico, Brazil etc.

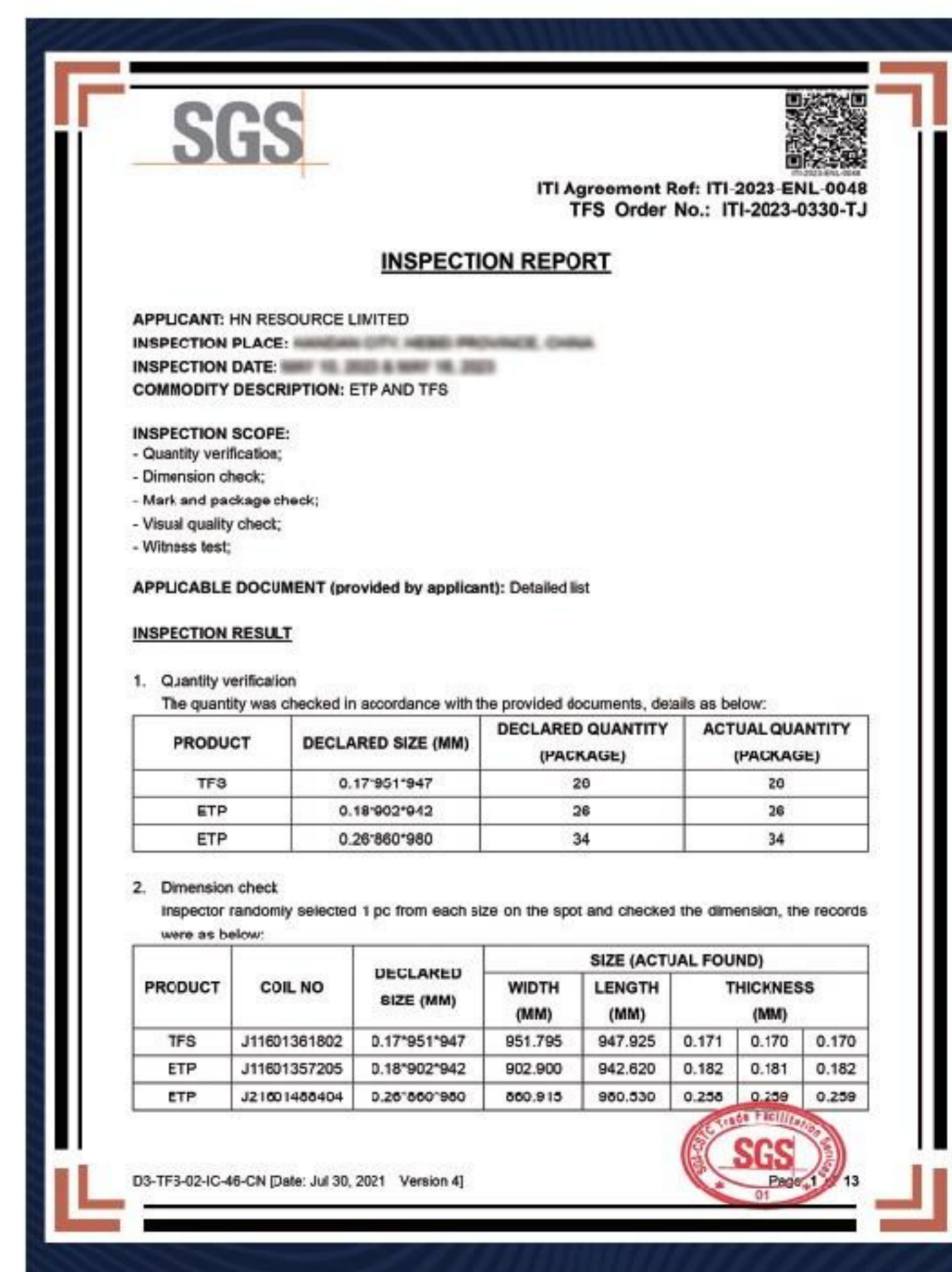
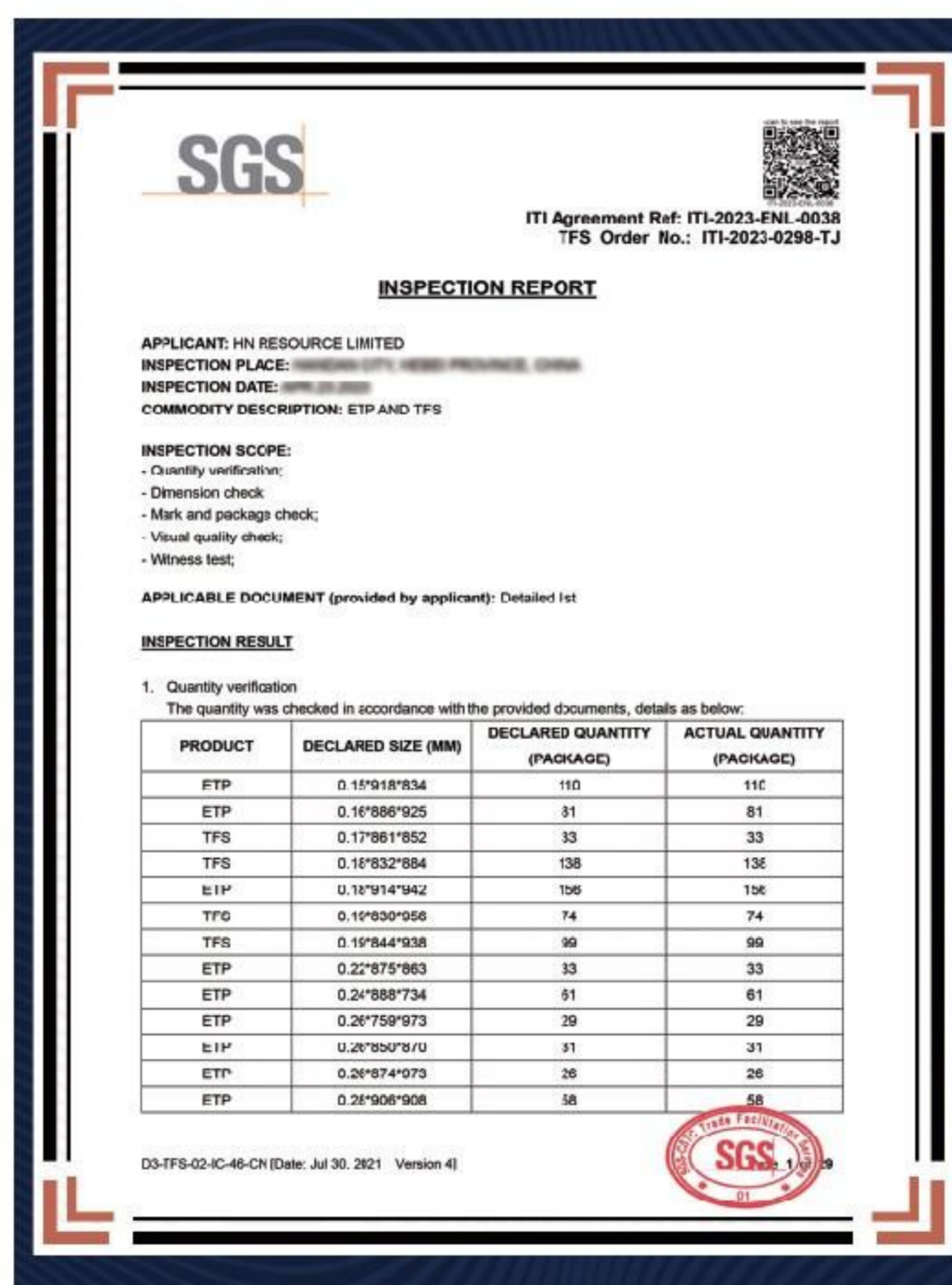
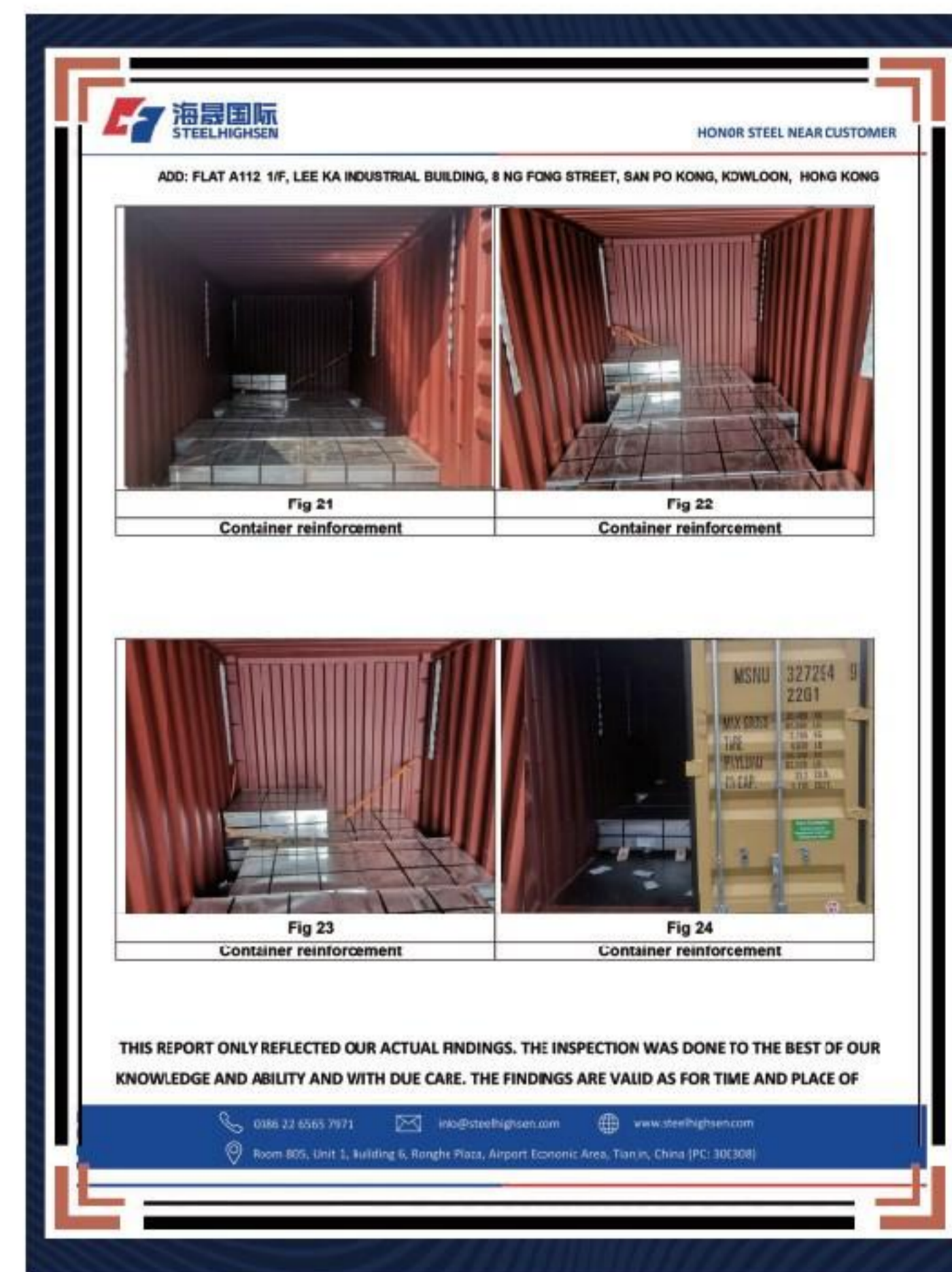
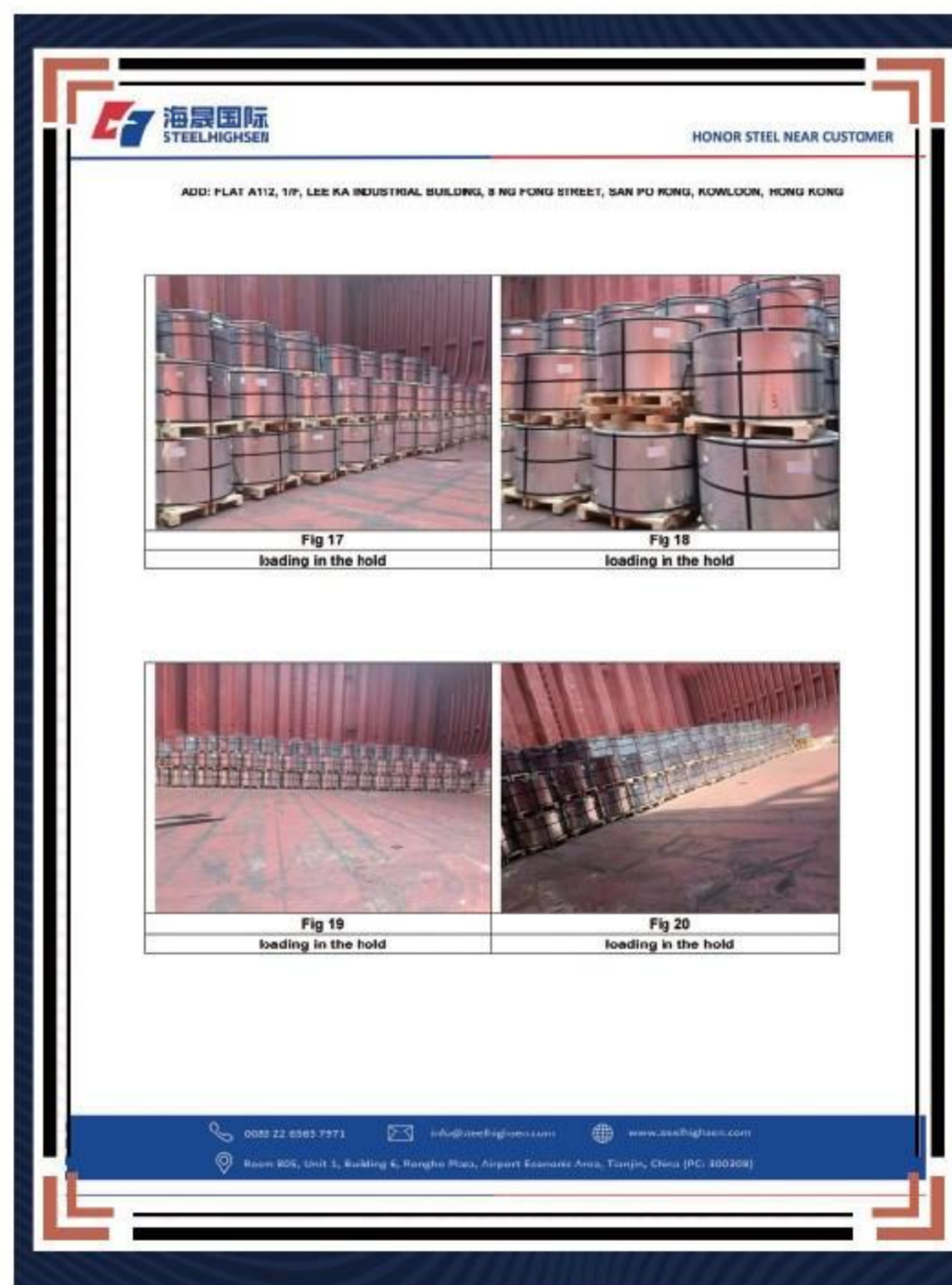
Our functions



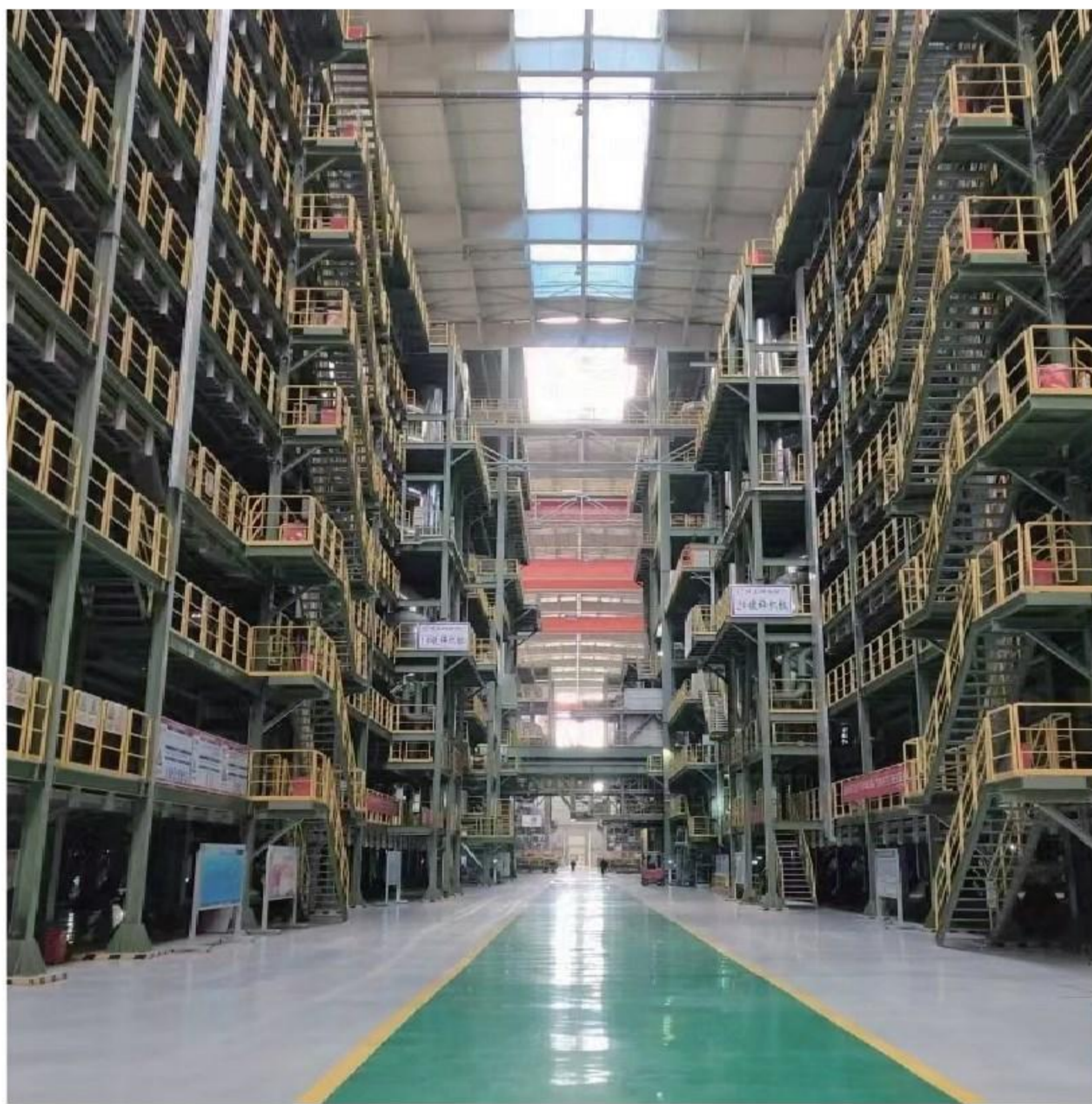
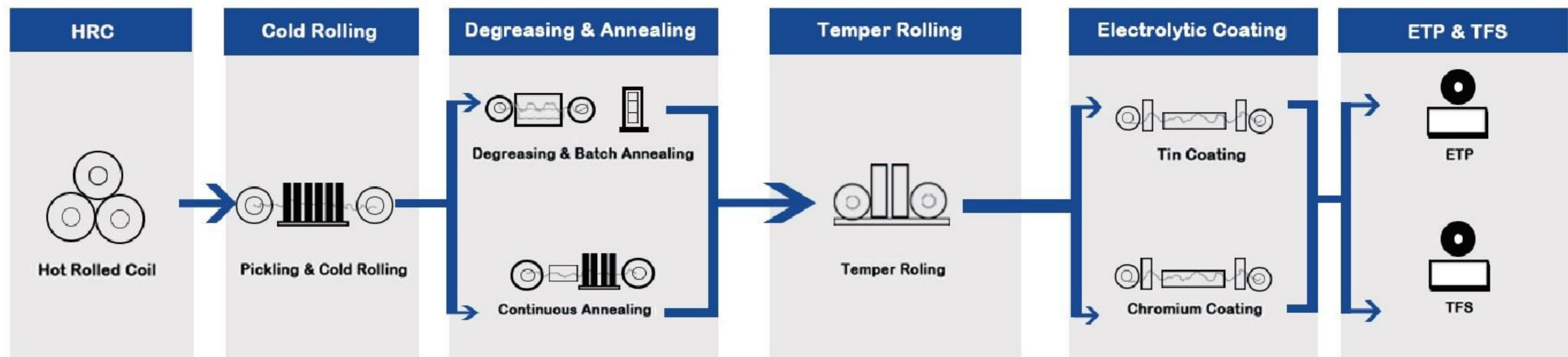
Our partners



Our certification



Manufacturing process



Product classification

TMBP(Tin Mill Black Plate)

Tin Mill Black Plate (TMBP) is a low-carbon steel plate used as raw material for TFS and ETP .

Available sizes

Item	Coil	Tolerance
Annealing	BA/CA	-
Thickness	0.13 - 0.55 mm	±3%
Temper	T1-T5, DR8, DR9	-
Width	700 - 1,050mm	-0/ +2mm
Coil weight	5-20 MT	±0.3%
Coil ID	420/ 508 mm	±10 mm
Outside diameter	1,800 mm max	

Temper grade

Finish	Code		Steel base	Product	Flow-melted	Nominal roughness of the steel base
	Euro	China				Ra (µm)
Bright	BR	B	smooth	Tinplate	Yes	≤0.35
Fine stone	FS	R	fine stone	Tinplate	Yes	0.25-0.45
Stone	ST	R2	stone	Tinplate	Yes	0.35-0.60
Silver	SG	S	shot blast	Tinplate	Yes	≥0.90
Matte	MM	M	shot blast	Tinplate	No	Various
Fine stone	FS	R2	fine stone	TFS/ ECCS	-	0.25-0.45
Stone	ST	R1	stone	TFS/ ECCS	-	0.35-0.60

ETP & TFS

Electrolytic Tinplate (ETP) is produced by electroplating a layer of metallic tin on the surface of a steel plate, the tin layers on both sides can be same or different. It is widely used as raw material for metal packaging.

Tin Free Steel (TFS), known as ECCS(Electrolytic Chromium Coated Steel), is used to make crown cork and two-piece can as tinplate substitute due to its low cost and similar specifications.

Available sizes

Item	Coil	Sheet	Tolerance
Annealing	BA/CA	BA/CA	-
Thickness	0.13 - 0.55 mm	0.13 - 0.55 mm	±3%
Temper	T1-T5, DR8, DR9	T1-T5, DR8, DR9	-
Width	700 - 1,200 mm	700 - 1,200 mm	-0/ +2mm
Length	-	500 - 1,200 mm	-0/ +2mm
Weight	3-10 MT per coil	2.5MT max per bundle	± 0.3%
Inside diameter	420/ 508 mm	-	±10 mm
Coating for ETP	1.1-15.1g/m ² (differential coating mark available)		
Coating for TFS	Metal chromium layer 50-150 mg/m ² , chromium oxide layer 5-35 mg/m ²		



Finish

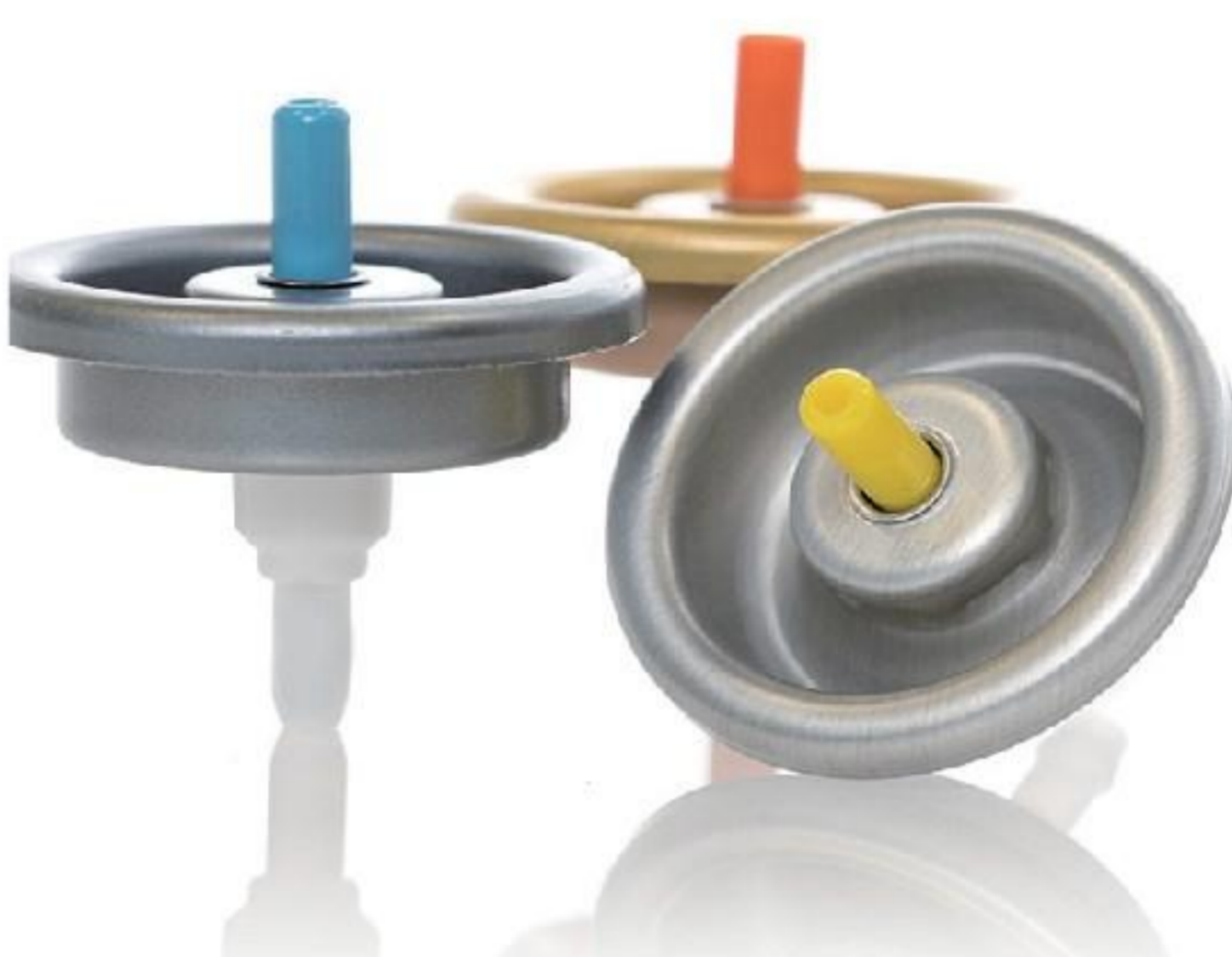
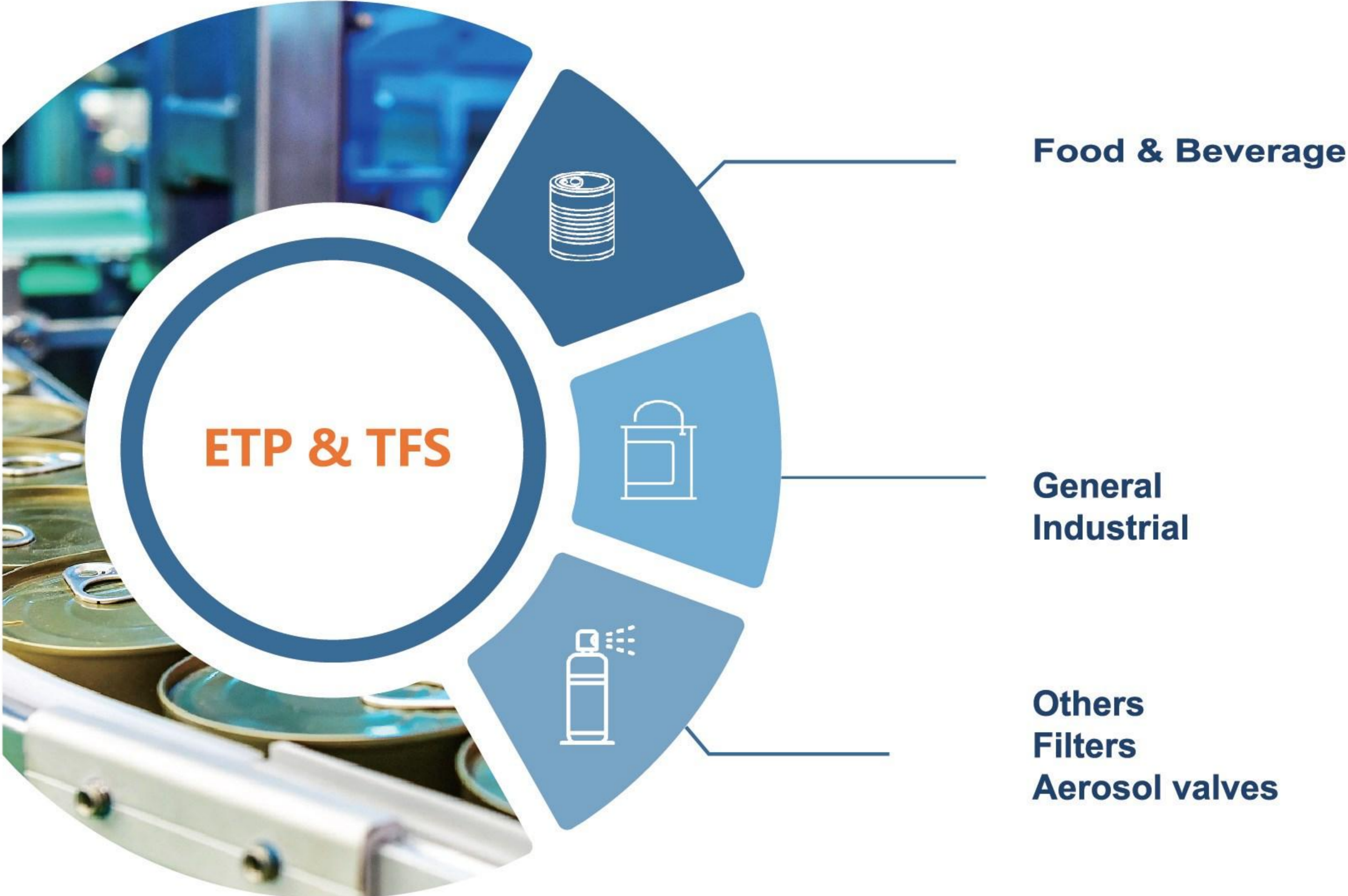
Type	Main usage	Features
Bright	General purpose cans	Finishing tin, with a bright shine
Matte	Crown cork	Matte finish without shine, with electrolytically deposited tin without melting on the matte finishes steel plate
Silver	Cans for different applications, crown cork	Finish with melted tin produced using a special treatment on the base metal
Stone	General use cans	Finish with melted tin, produced on the base metal, with a slightly matte appearance. Resist scratching during lithography or cans production

Temper grade

Remark	Temper grade				Hardness	Yield strength
	GB/ T 2520 -2017	JIS G3303 : 2008	ASTM A623M : 2011	EN 10202 : 2001	(HR30T)	(Mpa)
Single Reduced (SR)	T-1	T-1	T-1(T49)	TS230	49±3	230±50
	T-2	T-2	T-2(T53)	TS245	53±3	245±50
	T-2.5	T-2.5	-	TS260	55±3	260±50
	T-3	T-3	T-3(T57)	TS275	57±3	275±50
	T-3.5	-	-	TS290	59±3	290±50
	T-4	T-4	T-4(T61)	TH415	61±3	415±50
	T-5	T-5	T-5(T65)	TH435	65±3	435±50
Double Reduced (DR)	DR-7M	-	DR-7.5	TH520	71±5	520±50
	DR-8	DR-8	DR-8	TH550	73±5	550±50
	DR-8M	-	DR-8.5	TH580	73±5	580±50
	DR-9	DR-9	DR-9	TH620	76±5	620±50
	DR-9M	DR-9M	DR-9.5	-	77±5	660±50
	DR-10	DR-10	-	-	80±5	690±50

Applications

With excellent corrosion resistance, weldability and processability, tinplate becomes one of the most popular materials in metal packaging. It is widely used in food, general line and other fields.



Lacquered & Printed tinplate

Lacquered & Printed tinplate (ETP) and Tin-Free Steel sheets are low carbon coated steel or printed with polymer coatings and inks respectively. Those materials are commonly used for metal cans and components, both for food (sanitary) and industrial applications.

Product	Printed tinplate sheet
Base metal	Tinplate or TFS sheet
Internal lacquer	White/ Gold/ Aluminium
External printing	Printing/ Clear
Internal strip coating	White powder
Application	Food and industry cans
Color	CMYK/ PMS
Thickness	0.13-0.55 mm
Width	600 -1,200 mm
Annealing	BA or CA
Temper	T1-T5, DR7-DR9
Coating	1.1-15.1 g/m ²
Print	CMYK off-set printing
Origin	China



Lids and bottoms

▶ Canned food easy open end (EOE)

Material	Tinplate/ TFS
Design	Full Aperture-Round
Customization	Printing, lacquer, thickness, size, etc.
Application	Suitable for canned food (vegetables/ fruits/ meat/ pet food/ sea food)



202# (52.3mm)



211# (65.30mm)



214# (69.90mm)



300# (72.9mm)



305# (80.30mm)



307# (83.30mm)



315# (95.50mm)



401# (98.9 mm)



603# (153.4mm)

▶ **Bottom end**

Material	Tinplate/ TFS
Design	Full Aperture-Round
Customization	Printing, lacquer, thickness, size, etc.
Application	Suitable for meat, fish, tomato paste, potato crisps, vegetables, coffee etc.



200# (49.5mm)



202# (52.5mm)



209# (62.5mm)



211# (65.3mm)



300# (72.9mm)



307# (83.3mm)



401# (98.9mm)



502# (126.5mm)



603# (153.4mm)

▶ **Peel off end**

Material	Tinplate/ TFS
Design	Full Aperture-Round
Customization	Printing, lacquer, thickness, size, etc.
Application	Suitable for loose products such as milk powder, spices, supplements, coffee.



202# (52.5mm)



300# (72.9mm)



305# (78.3mm)



307# (83.3mm)



401# (98.9mm)



401-D# (98.9mm)



502# (126.5mm)



502-D# (126.5mm)

▶ Twist-off cap

Material	Tinplate/ TFS
Typical grade	MR DR-7M CA , MR DR-8 CA , MR DR-9 CA , MR DR-8 BA
Typical application	Soybean sauce
Normal size	30# , 38# , 43# , 48# , 53# , 58# , 63# , 66# , 70# , 82# etc



▶ Aerosol cap

Aerosol cap: 52mm, 57mm, 65mm



Tin cans

Food can

Model No.	202#	211#	300#	307#	404#
Diameter(mm)	52.3	65.3	72.9	83.3	105
Height(mm)	39~160	39~200	40~200	42~205	43~150
Body printing	As per your design				
Internal lacquer	Gold, White, Aluminum				
Application	Used to pack food such as fruit, vegetables, meat and aquatic products				



Chemical can

Diameter (mm)	Height(mm)		Volume(ml)	
	From	To	From	To
65	70	200	180	400
73	70	102	200	400
83	70	220	230	750
99	80	170	250	1.16
108	100	180	1.2	1.65
153	80	195	1.5	3.4
165	130	240	2.5	4
175	130	240	3	5
225	200	300	5	10
275/ 295	240	475	10	25
230 x 230	230	355	10	15

► **Beverage can**

Volume(ml)	180	250	330	960
Body diameter(mm)	52.3	52.3	65.3	83.3
Height(mm)	80	133	113	205 (Adjustable)
Top lid No.	113#, 200#, 206#, 209#, 300#			
Body printing	As per your design			
Aplication	Used to pack liquid tea, protein beverage, function drink, fruit juice, coffee, etc.			



► **Aerosol can**

#52		
Box height	Filled volume	Brimful volume
105	150	210
132	200	270
141	210	290
161	200	335
165	200	345
195	300	405
209	350	450
234	400	495
238	400	500
245	400	520

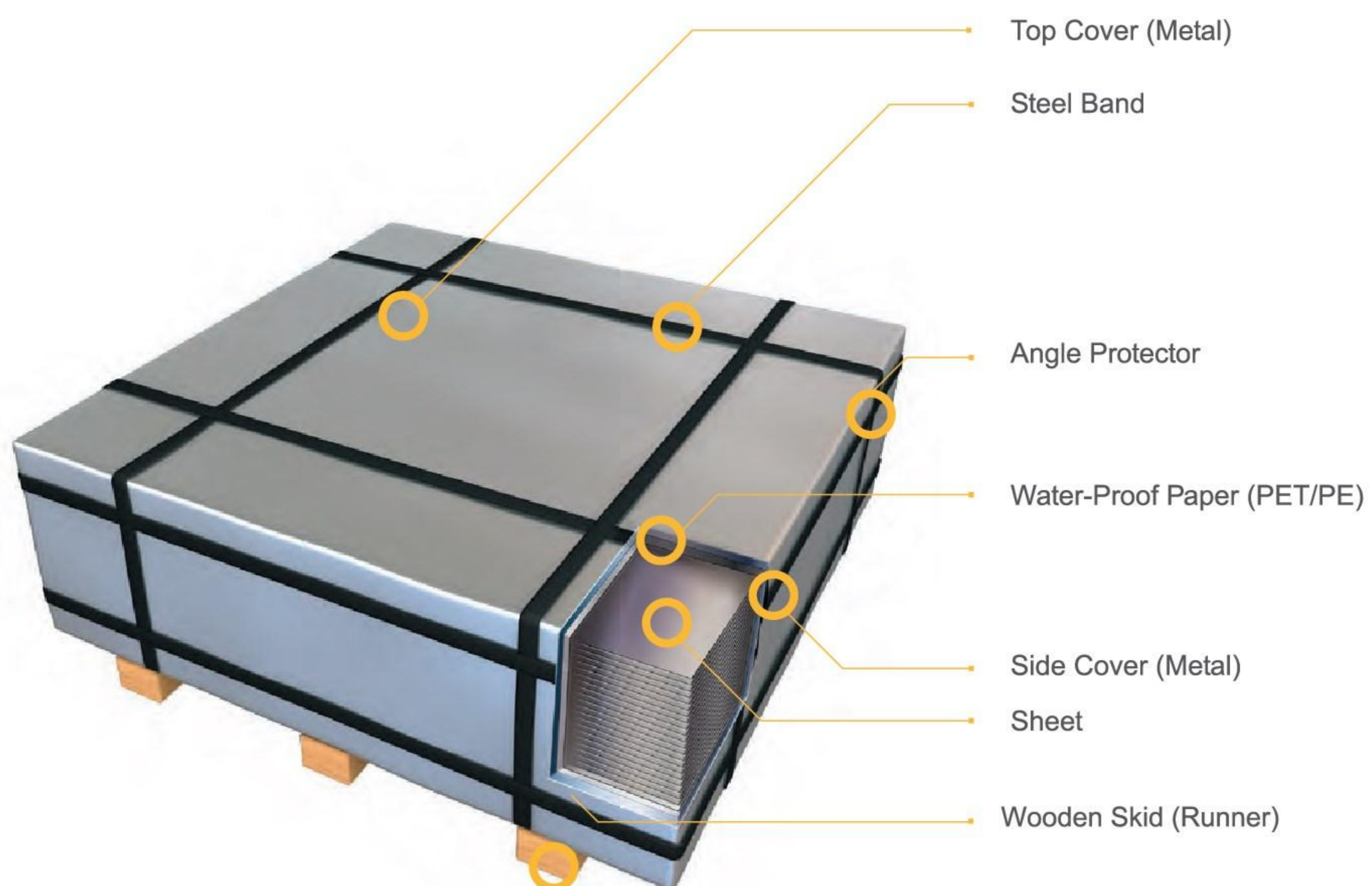
Packaging & Shipment

Packaging

Vertical packaging
(with wooden pallet)

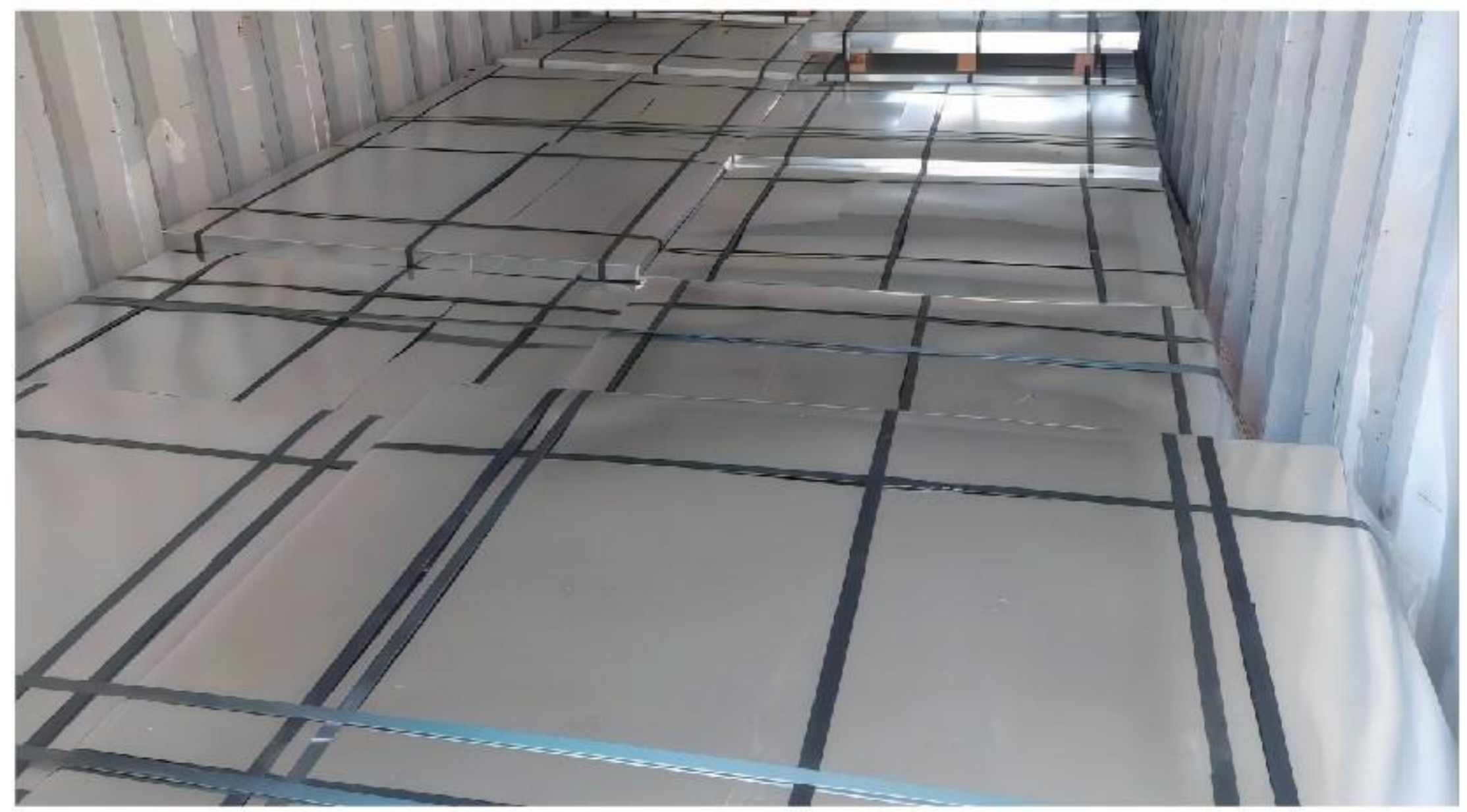


Sheet packaging
(with wooden pallet)



Shipment

By container



By bulk





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