

Tinplate and Tin Free Steel

镀锡板
镀铬板





用户导向

合规经营

风险防控

安全健康



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01

产品简介 Introduction

镀锡产品包括电镀锡板、电镀铬板和原板。镀锡板钢板表面电镀一层金属锡,镀铬板在带钢表面经电镀形成金属铬层和氧化铬层,均具有非常漂亮的金属光泽,优异的耐性蚀和涂饰性。

宝钢股份是中国主要的镀锡产品制造商之一,拥有先进的工艺装备、丰富的生产管理经验、良好的服务以及一流的产品研发队伍,具备从冶炼、热轧、冷轧到涂镀全流程的制造能力,产品覆盖电镀锡板和电镀铬板,年产量超过120万吨。宝钢镀锡产品在全球销售,广泛应用于食品、饮料和工业品的包装,在业界享有良好的信誉和知名度。

Tin mill products include electrolytic tinplate, electrolytic chromium coated steel (also referred to as tin free steel or TFS), and black plate, the uncoated steel. Tinplate is a thin steel sheet coated by tin, while TFS is an electrolytic chrome-plated steel consisting of a thin layer of chromium and a layer of chromium oxidized deposited on the steel base. Both of them have a beautiful, metallic luster as well as excellent properties in corrosion resistance and paintability.

Baosteel is one of the largest manufacturers of tin mill products in China with advanced technical equipments, first class inspection devices, skilled operators, excellent services and outstanding product development personnel. It possesses integrated process lines including ironmaking, steelmaking, hot rolling, cold rolling and coating. The product catalogue covers ETP and TFS with an annual output of 1.2 million tons. Baosteel's tin mill products are widely sold and used throughout the world in application of packaging of food, beverage and industrial goods and enjoy high reputation in the global market.

02

产品系列

List of Tin Mill Products

镀锡产品 Tin Mill Products

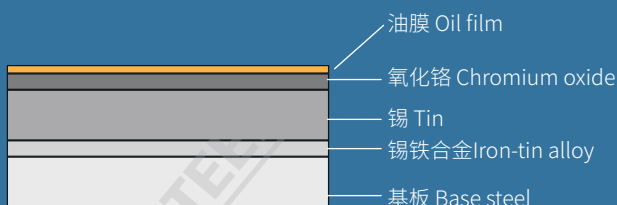
镀锡板 Tinplate Products	一次冷轧镀锡板 (SR ETP)
	二次冷轧镀锡板 (DR ETP)
镀铬板 TFS Products	一次冷轧镀铬板 (SR TFS)
	二次冷轧镀铬板 (DR TFS)

注：
镀锡板包括K-板、DI材、低锡铁、低铬铁等。

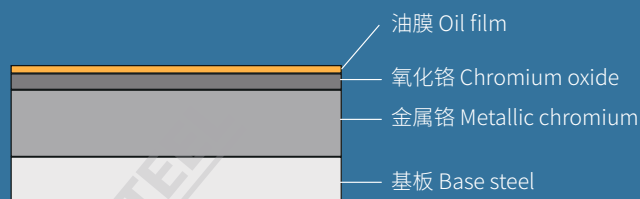
Note:
Tinplate includes K-tinplate, DI-tinplate, Low-Tin Plate, L-Cr Tinplate.

镀层结构 Coating structure

电镀锡产品 ETP Products



电镀铬产品 TFS Products





03

产品特性 Features

镀锡板特性

Features of Tinplate Products

优异的耐蚀性	选择合适的镀层厚度,可以满足不同内容物的耐蚀性要求
优异的涂饰性	可用各种涂料和油墨进行印刷
优异的焊接性	可用焊接(包括钎焊)制造各式各样的罐头
优异的加工性和强度	选择合适的调质度等级,可以满足加工要求以及成型后的强度
亮丽的外观	镀锡板表面金属光泽亮丽,选择不同表面状态的基板得到不同表面粗糙度的产品

Excellent Corrosion Resistance	By selecting a proper coating weight, appropriate corrosion resistance is obtained against container contents.
Excellent Paintability & Printability	Printing is beautifully finished using various lacquers and inks.
Excellent Solderability & Weldability	Tin plate is widely used for making various types of cans by soldering or welding.
Excellent Formability & Strength	By selecting a proper temper grade, appropriate formability is obtained for various applications as well as the required strength after forming.
Beautiful Appearance	Electrolytic ETP is characterized by its beautiful metallic luster. Products with various kinds of surface roughness are produced by selecting the surface finish of the substrate steel sheet.



镀铬板特性

Features of TFS Products

优异的涂料附着力	涂料附着力远远超过镀锡板,可以用于制造 DRD 罐和胶接罐
优异的耐热变性	耐高温烘烤,不变色,材料性能不劣化
优异的抗硫化性	金属铬层有良好的抗硫化物性能,适用于富含蛋白质食物如鱼的罐头
优异的耐丝状腐蚀性	漆膜下的耐丝状腐蚀能力优异
优异的耐碱性	镀铬层是非两性材料,更适用于碱性内容物如清洁剂、颜料分散剂的包装

Excellent paint adhesion	TFS has excellent paint adhesion properties that far surpass those of ETP,allowing its use for making DRD cans and adhesive bonded cans.
Excellent heat resistance	High-temperature baking causes neither discoloration nor deterioration in material properties.
Excellent resistance to sulphur blackening	The metallic chromium in TFS has excellent sulphide resistance property when canning protein-rich foodstuff such as fish, TFS compensates for the expensive sulphur resistant lacquer.
Excellent filiform rust resistance	TFS has a excellent under film corrosion resistance.
Excellent alkali resistance	The coating in TFS is not amphoteric. Alkaline products such as detergents and dispersion colours can be packed in TFS with advantage.



TFS 和 ETP 不同特性

Different Features between TFS and ETP



外观	即使使用相同表面状态的原板, TFS的表面外观与ETP不同, 呈现其独特的金属铬光泽。
耐蚀性	印涂后的 TFS 具有优良的耐蚀性, 因此通常是两面印涂;但依据内容物种类也可以采用罐内表面素铁。
钎焊性	TFS 不能钎焊。
焊接性	即使去除金属镀铬层 TFS 可焊接, 但焊接性差于镀锡板。
镀层重量	镀铬板一般仅有一种镀层厚度产品, 而镀锡板有一系列的厚度标准。
Appearance	Even when the same surface finish as ETP is applied to the substrate steel sheet, it provides the unique surface luster characteristic of metallic chromium.
Corrosion resistance	As it has excellent corrosion resistance after painting, it is generally used with both surfaces painted. It can also be used with the internal surface unpainted, depending on the contents.
Solderability	TFS is not compatible with soldering.
Weldability	Although TFS can be welded when the metallic coating layers are removed, its weldability is inferior to ETP.
Coating weights	Unlike the multiplicity of coating weights with tin, only one standardized chromium-coated product is manufactured.

性能对照表

Comparison of Properties

		镀锡板 Tinline		镀铬板 TFS
		2.8	Over 5.6	
素材耐蚀性(密封) Bare Corrosion Resistance (sealed) ⁽¹⁾	防锈能力 Rust Resistance	○	◎	○
	耐酸性 Acid Resistance	○	○	△
	耐碱性 Alkali Resistance	△	△	◎
	抗硫化黑斑 Black Sulfide Stain Resistance	△	△	◎
	抗应力开裂能力 Stress Cracking Resistance	◎	◎	○
涂装性 Paintability		○	○	◎
涂装后耐蚀性 Corrosion Resistance after Painting ⁽²⁾		◎	◎	○
抗丝状腐蚀性 Filiform Corrosion Resistance		◎	◎	◎
涂料附着力 Paint Adhesion		○	○	◎
加工性 Formability		◎	◎	○
钎焊性 Solderability		○	◎	×
焊接性 Weldability		○	○	△ ⁽³⁾
耐热变性 Heat Resistance ⁽⁴⁾		○	○	◎
◎ 优 EXCELLENT		○ 良 GOOD		△ 好 FAIR
				× 差 POOR

注:

- 1、素板耐蚀性测试应在完全密闭环境进行。
- 2、划线腐蚀测试用于评估涂装后的耐蚀性。
- 3、焊接性测试时, 未研磨去除金属镀层。
- 4、涂装或者印涂后的高温烘烤可能改变材料性能。

Note:

- 1、Bare corrosion resistance is evaluated under tightly sealed conditions.
- 2、Corrosion resistance after painting is evaluated by crosshatching corrosion tests.
- 3、The evaluation is for the case where welding is performed without grinding the surface to remove the metallic coating layer.
- 4、High-temperature baking after painting and printing may cause changes in material properties.

镀锡板食品罐的优点

Advantages of Tinplate Cans in Food Packaging

卫生
Hygienic

提供优异且无毒的屏障保护食品, 保持水份, 不受污染, 保持食品风味。
Provide excellent and non-toxic barrier properties to protect food products from impurities, bacteria, moisture, light, and odours.

安全
Safe

轻质和高强度的食品罐便于运输和储存。
Low weight and high strength make food cans easy to ship and store.

生态友好
Eco-friendly

可 100% 回收, 比铝的成本低。
Offer 100% recyclability; and significant cost benefits compared with aluminum.

镀锡 K- 板耐蚀能力

K-Tinplate's Resistance to Corrosion

酸浸时滞值 PLV
Pickling Lag Value

铁溶出值 ISV
Iron Solution Value

锡晶粒度 TCS
Tin Crystalite Size

合金-锡电偶合 ATC
Alloy-Tin Couple

≤ 10 Sec

≤ 20 μg/3in²

≤ 9#

≤ 0.12 μA/3in²

注: 差厚镀锡板检测厚镀层板面的性能。

Note: If different coating tinplate, the side of higher coating weight was tested.

DR 材镀锡产品 机械性能

Mechanical Properties of DR Tin Mill Products

调质度代号
Temper Grade

硬度(HR30Tm)Hardness

屈服强度目标
Yield Strength/ MPa

目标值 Target Value

范围 Range

DR-7

69

69±4

500

DR-7M

70

70±4

520

DR-8

72

72±4

550

DR-8M

73

73±4

580

DR-9

75

75±4

620

DR-9M

77

77±4

660

DR-10

80

80±4

760

注: 使用DR板时, 必须保持罐身成圆方向与板材的轧制方向一致。

Note: Making cans with DR materials, please pay a special attention to the rolling direction.



消费品、工业品的包装

Consumer Packaging and Industrial Packaging

镀锡板 TINPALTE

主要用于包装食品、饮料的罐头,也用于包装汽油、油脂、颜料、抛光剂、喷雾剂等化学品的容器,包括盖子和罐身。

ETP is primarily used for packaging foodstuffs and beverages, but it is also used in containers for oils, grease, paints, polishes, chemicals and many other products, Aerosol containers and caps and closures are also made from ETP.

镀铬板 TFS

主要用作罐头顶盖,旋开盖、凸盖、易拉盖、浅冲罐。

TFS are most frequently used for can tops, screw and lug caps, snap and press-on closures and shallow-drawn food cans.

其他用途

Miscellaneous

电子方面 | in Electronics

电极、电缆带、电磁屏幕罩壳等

Electrodes, cable tape, magnetic screen covers, etc.

工程方面 | in Engineering

汽车滤油器、汽车空滤、垫片等

Automotive oil filters, automotive air filters, gaskets, etc.

建筑方面 | in Construction

气体流量计内部件、热交换器、厨具、货架等

Gas meter internal components, heat exchangers, cookware, shelving, etc.

04

产品用途

Applications of Tinplate and TFS



宝钢产品应用实绩

Application Examples



DI罐

钢制二片易拉罐，代表着镀锡板生产的最高水平，目前宝钢DI材已大量用于cocacola、pepsi-cola等的包装。

DI can

Two-piece steel can represents the highest development level of tinplate production. Nowadays, Baosteel's DI material is used for two-piece can to pack beer and carbonated beverage such as Coca-Cola and Pepsi-Cola.



三片饮料罐

代表用户有王老吉、红牛、娃哈哈等品牌的包装。

Three-piece can for beverage

Representative clients:
Wanglaoji, Redbull, Robust, etc.



食品罐(三片罐和二片罐)

宝钢镀锡板已广泛应用于食品包装的各个领域，包括水果罐头、肉类罐头、鱼罐头、蔬菜罐头等。代表用户有黄罐、梅林、古龙等。

Food can (3-piece can & 2-piece can)

Baosteel's tin mill products are used for the package of all kinds of canned food such as Huangguan, Meilin and Gulong.

宝钢产品应用实绩

Application Examples



旋开盖、皇冠盖、易开盖

宝钢镀锡板已广泛地应用于百威、哈啤、燕京等知名品牌。是无锡华鹏、紫泉集团、义乌易开盖等制盖企业的主供应商。

Metal closure and ends

Baosteel's tinplate and TFS are used for Budweiser, Harbin and Yanjing beer, etc.

Baosteel's the major supplier of Ziquan Group, Huapeng closures, Yiwu Easy OpenEnd Industry Group, etc.



喷雾罐

目前代表用户有杭州美特、深圳华特、中山凯达等。

Spray can

Clients are Hangzhou Meite, Shenzhen Huate, zhongshan Kaida, etc.



高档化工罐

目前宝钢镀锡产品已用于立邦、国际油漆、司马等知名品牌的包装。

高档礼品罐

宝钢镀锡产品大量应用于礼品包装, 多为异形罐。

High-grade industrial package

Tinplate and TFS are used for the package of Nippon, International Paint, Sigma.

High-grade gift package

Irregular cans are made from Baosteel's tinplate and TFS for high-grade gift package.

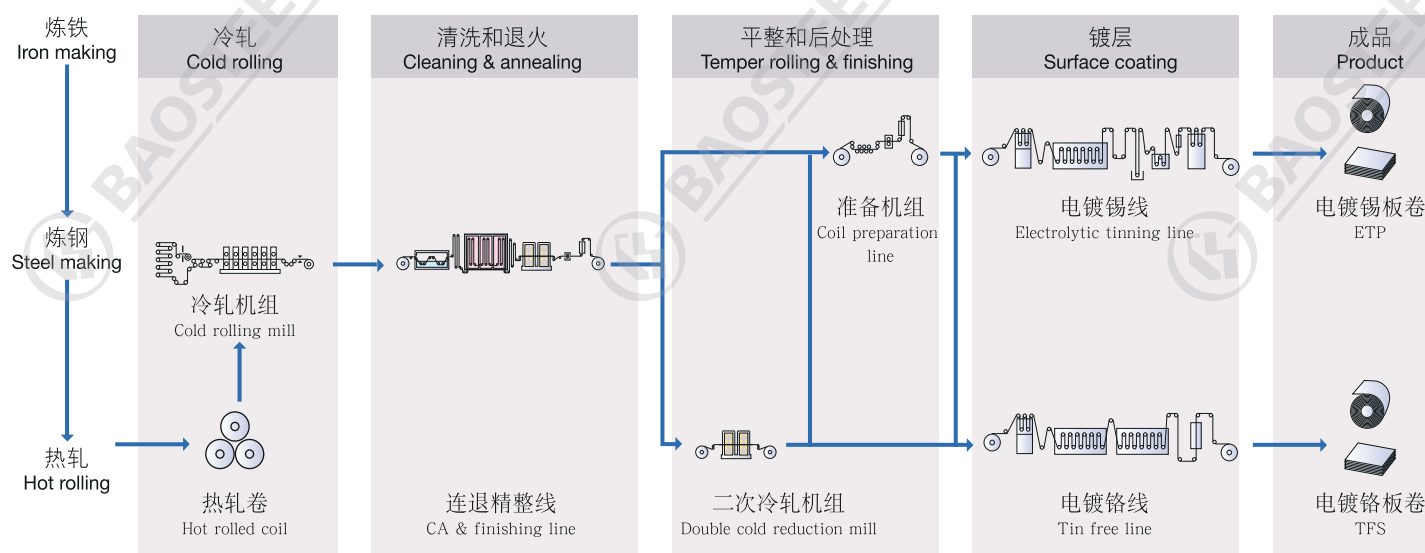
05

制造工艺

Manufacturing Process

生产流程示意图

Process Diagram



注：镀锡板和镀铬板在全工序制造流程中严格遵守宝钢“一贯制”质量管理的要求,因此保证了优异的耐蚀性和均匀的材料性能满足制罐材料要求。

Note : Tinplate and TFS products are manufactured under strict quality control all through the manufacturing process to provide the excellent corrosion resistance and uniform material properties required of can-making materials.

主要制造工序的重要管理项目

Major Control items in the Manufacturing Process

炼钢 Steelmaking	化学成份、夹杂	Steelmaking: Chemical composition, minimization of inclusions.
热轧 Hot Rolling	终轧温度、卷取温度、厚度曲线	Finishing temperature, coiling temperature, gage profile.
冷轧 Cold Rolling	厚度、板形	Gage, flatness.
退火 Annealing	退火温度、均热温度、冷却温度、退火气氛	Heating temperature, soaking temperature, cooling temperature, atmospheric gas composition.
平整 Temper Rolling	板形、表面粗糙度	Shape, surface roughness.
电镀 Electrolytic Plating	镀层厚度、化学处理、涂油量	Coating weight, chemical treatment, oiling weight.

镀锡产品检测参数

ETP and TFS's Parameters Inspected

A	机械性能 Mechanical Properties	硬度(调质度)	Hardness (temper grade)
B	尺寸精度 Dimensional Accuracy	厚度 宽度 剪切长度	Thickness Width Cut-length
C	板形参数 Shape Parameters	翘曲 镰刀弯 不平度 边浪	Bowness Camber Flatness Edge waviness
D	润滑 Lubrication	油膜厚度	Oil weight
E	耐蚀性 Corrosion Resistant Property	锡层(镀锡板) 金属铬和氧化铬(TFS) 钝化层厚度 合金-锡电偶合(需要时) 铁溶出值(需要时) 锡晶粒度(需要时) 抗硫化性(需要时) 孔隙率(需要时) 酸浸时滞(需要时)	Tin coating (for Tinfoil) Metallic chromium and chromium in Cr-oxide (for TFS) Passivation film weight Alloy-tin couple (for required) Iron solution value (for required) Tin grain size (for required) Corrosion resistance SO ₂ test (for required) Porosity test (for required) Pickling lag value (for required)



06

低碳钢

Low-carbon product

BeyondECO

BeyondECO®是宝钢2022年正式推出的绿色低碳产品品牌，包含低碳、零碳钢产品。

BeyondECO® is a green and low-carbon brand launched by Baosteel in 2022, including low-carbon and zero-carbon steel products.



根据宝钢股份对未来气候变化机遇识别的结果，钢铁行业生产模式及其下游市场正发生深刻变化，为下游市场制造富有竞争力的绿色低碳产品将是未来重大历史机遇。为此，我们制定了 2035 低碳、零碳钢铁产品计划，并不断推出新成果。

According to Baosteel's prediction of future climate change opportunities, the production mode of the steel industry and its downstream markets are undergoing profound changes, for which manufacturing competitive green and low-carbon products for the downstream markets will be a significant historical opportunity in the future. As such, we have formulated the 2035 low-carbon and zero-carbon steel product plan and continuously made new achievements.

2022	2022年，推出BeyondECO®品牌的低碳钢铁，向市场供货较2020年减碳30%的绿色低碳产品	In 2022, we launched BeyondECO® low carbon steel, and supplied the market with green low-carbon products that reduced carbon emissions by 30% compared to 2020.
2025	2025年东山基地零碳示范线全线贯通，形成低碳板材每年180万吨生产能力，并逐步探索零碳钢生产技术	In 2025, the zero carbon demonstration line will be completed in the Dongshan Base, with annual capacity of 1.8 million tons of carbon plates, to explore the zero-carbon steel production technology.
2030	2030年前，再新增230万吨/年全废钢电炉生产的低碳排放高等级钢材	By 2030, low-carbon and high-grade steel will be produced by the full-scrap steel electric furnaces with a capacity of 2.3 million tons per year.
2035	2035年前，180万吨/年氢基竖炉电炉产线全线使用绿色电力和绿氢。	By 2035, the hydrogen based shaft furnace production line with a capacity of 1.8 million tons per year will fully utilize green power and green hydrogen.

2035 低碳、零碳钢铁产品计划

The 2035 Low-carbon and Zero-carbon Steel Product Plan



07

供货规格

**Available
Specifications
and Sizes**



钢种 Steel Types

钢种 Steel grade	特性 Characteristics	适用产品 Products
MR	非金属夹杂物含量与L类钢相近, 残余元素含量的限制没有L类钢严格, 具有良好的耐腐蚀性适用于大多数用途。 Base steel low in residual elements that has excellent corrosion resistance, widely used in general applications.	ETP、TFS
L	非金属夹杂物以及 Cu、Ni、Cr、Mo 等残余元素含量低, 用于对耐蚀性有较高要求的用途。 Base steel extremely low in residual elements such as Cu, Ni, Cr, and Mo that has excellent corrosion resistance to certain types of food products.	ETP、TFS
D	用于深冲压或限制滑移线产生的用途。 Aluminum-killed base steel used in applications involving deep drawing or other types of severe forming that tend to give rise to Lueder's lines.	ETP

注:

若需要特殊钢种, 请联系我们。

Note:

With regard to steel types other than those listed above, please consult us.



尺寸规格

Available Sizes

镀锡板 ETP			
基板类型 Black Plate	公称厚度 Normal Thickness	公称宽度 Normal Width	公称长度(钢板) Normal Length(sheet)
一次冷轧 Single Reduce	0.17~0.55mm	700~1200mm	500~1168mm
二次冷轧 Double Reduce	0.12~0.36mm		

镀铬板 TFS			
基板类型 Black Plate	公称厚度 Normal Thickness	公称宽度 Normal Width	公称长度(钢板) Normal Length(sheet)
一次冷轧 Single Reduce	0.17~0.55mm	700~1050mm	500~1168mm
二次冷轧 Double Reduce	0.12~0.36mm		

调质度

Temper Grade

基板类型 Black Plate	连续退火 Continuous Annealing
一次冷轧 Single Reduce	T2、T-2.5、T-3、T-3.5、T-4、T-5
二次冷轧 Double Reduce	DR-7、DR-7M、DR-8、DR-8M、DR-9、DR-9M、DR-10

注:

- (1) 连续退火(CA):调质度表示为T-4CA。
- (2) 二次冷轧材(DR材), 公称宽度范围为:700-1050mm。

Note :

- (1) Continuous annealing(CA). The symbol of "CA" is added after the temper grade symbol such as "T-4CA".
- (2) Normal width limited from 700~1050mm.Please consult us.

镀层厚度 Coating Weight

Available
Specifications
and Sizes

1

镀锡板 ETP

	原镀锡量代号 Former Coating Designation	镀锡量代号 Coating Weight Code	公称镀锡量 Nominal Coating Weight (g/m ²)	最小平均镀锡量 Minimum average Coating Weight (g/m ²)
等厚镀锡 Equally Coated	10#	1.1/1.1	1.1/1.1	0.9/0.9
	20#	2.2/2.2	2.2/2.2	1.8/1.8
	25#	2.8/2.8	2.8/2.8	2.5/2.5
	50#	5.6/5.6	5.6/5.6	5.2/5.2
	75#	8.4/8.4	8.4/8.4	7.8/7.8
	100#	11.2/11.2	11.2/11.2	10.1/10.1
差厚镀锡 Differentially Coated	25#/10#	2.8/1.1	2.8/1.1	2.5/0.9
	50#/10#	5.6/1.1	5.6/1.1	5.2/0.9
	50#/25#	5.6/2.8	5.6/2.8	5.2/2.5
	75#/25#	8.4/2.8	8.4/2.8	7.8/2.5
	75#/50#	8.4/5.6	8.4/5.6	7.8/5.2
	100#/25#	11.2/2.8	11.2/2.8	10.1/2.5
	100#/50#	11.2/5.6	11.2/5.6	10.1/5.2
	100#/75#	11.2/8.4	11.2/8.4	10.1/7.8
	125#/50#	15.1/5.6	15.1/5.6	13.9/5.2

注：

- (1) 应该按照产品最终用途选择镀锡层厚度:锡层厚的用于需要高耐蚀性或者素板的场合:锡层薄的用于耐蚀性要求不高或者印涂之后使用的场合。
- (2) 差厚镀层产品使用差厚标识线沿板的边缘进行标识,以示区别。
- (3) 有关标识的其他要求,请向我们咨询。

Note :

- (1) The tin coating weight is determined in accordance with specific end use applications, Tinplate with a heavy coating weight is used for making cans that require a high corrosion resistance or those used bare. Tinplate with a light coating weight is used for making cans that do not require so high a corrosion resistance or those used after painting or printing.
- (2) Differential Markings A white line (differential marking) is painted along the edge of a differentially coated product in order to clearly indicate that it is differentially coated.
- (3) With regard to other types of differential markings, please consult us.

2

镀铬板 TFS

金属铬镀层(每面) Metallic Chromium Layer (one side)		氧化物铬层(每面) Chromium Oxide Layer (one side)	
最小平均重量 Minimum Average Coating Weight	最大平均重量 Maximum Average Coating Weight	最小平均重量 Minimum Average Coating Weight	最大平均重量 Maximum Average Coating Weight
50 mg/m ²	150 mg/m ²	5 mg/m ²	35 mg/m ²

1

镀锡板 ETP

表面状态
Surface Finishes

原板类型 Black Plate	代号 Code	表面状态 Surface Finish	特征 Characteristics
一次冷轧 Single Reduce	B	光亮表面 Bright surface	在具有极细磨石花纹的光滑表面的原板上镀锡后进行锡的软熔处理得到的有光泽的表面。 Glazed surface obtained after melting treatment of electro tinned smooth raw material strip with extremely fine stone figures by processing.
	R	石纹表面 Stone surface	在具有一定方向性的磨石花纹为特征的原板上镀锡后进行锡的软熔处理得到的有光泽的表面。 Glazed surface obtained after melting treatment of electro-tinned raw material strip featuring certain oriented stone figures.
	R2	粗石纹表面 Stone rough surface	在具有一定方向性的磨石花纹为特征的原板上镀锡后进行锡的软熔处理得到的有光泽的表面,其表面粗糙度略高于石纹表面。 Glazed surface obtained after melting treatment of electro-tinned raw material strip featuring certain oriented stone figures, roughness higher than 'R'.
	S	银色表面 Silver surface	在具有粗糙无光泽表面的原板上镀锡后进行锡的软熔处理得到的有光泽的表面。 Glazed surface obtained after melting treatment of electro-tinned raw material strip with rough matt surface.
	S2	粗银色表面 Silver rough surface	在具有粗糙无光泽表面的原板上镀锡后进行锡的软熔处理得到的有光泽的表面,其表面粗糙度略高于银色表面。 Glazed surface obtained after melting treatment of electro-tinned raw material strip with rough matt surface, roughness higher than 'S'.
	M	无光表面 Matte surface	在具有一般无光泽表面的原板上镀锡后不进行锡的软熔处理的无光表面。 Matt surface of general matt raw material strip without reflowing treatment.
二次冷轧 Double Reduce	R	石纹表面 Stone surface	在具有一定方向性的磨石花纹为特征的原板上镀锡后进行锡的软熔处理得到的有光泽的表面。 Glazed surface obtained after melting treatment of electro-tinned raw material strip featuring certain oriented stone figures.
	M	无光表面 Matte surface	在具有一般无光泽表面的原板上镀锡后不进行锡的软熔处理的无光泽表面。 Matt surface of general matt raw material strip without reflowing treatment.

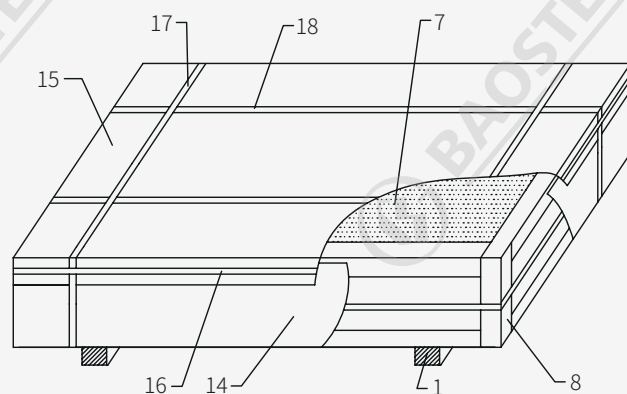
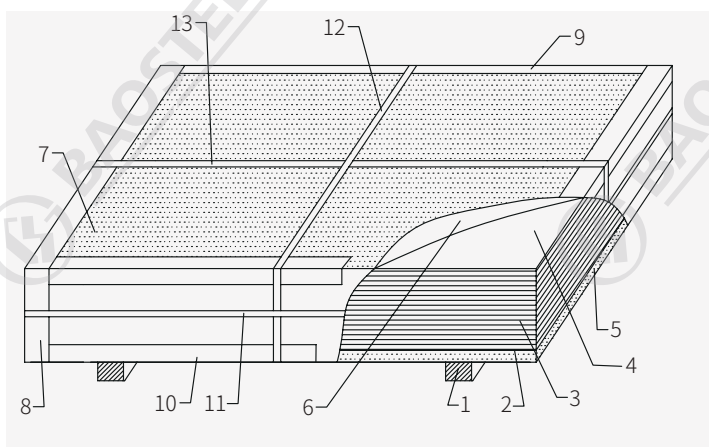
原板类型 Black Plate	代号 Code	表面状态 Surface finish	特征 Characteristics
一次冷轧 Single Reduce	B	光亮表面 Bright surface	在具有磨石花纹的光滑表面的原板上镀铬后得到的有光表面。 Glazed surface obtained by a thin layer of chromium and chromium oxide deposited on the smooth steel base with extremely fine stone figures by pocessing.
	R	石纹表面 Stone surface	在具有一定方向的磨石花纹表面的原板上镀铬后得到的有光表面。 Glazed surface obtained after a thin layer of chromium and chromium oxide deposited on the smooth steel base featuring certain oriented stone figures.
	R2	粗石纹表面 Stone rough surface	在具有一定方向的磨石花纹表面的原板上镀铬后得到的有光表面，表面粗糙度略高于石纹表面。 Glazed surace obtained after a thin layer of chromium and chromium oxide deposited on the smooth steel base featuring certain oriented stone figures roughness higher than "R".
	M	无光表面 Matte surface	表面无光泽。 Matt surface.
二次冷轧 Double Reduce	R	石纹表面 Stone surface	在具有一定方向的磨石花纹表面的原板上镀铬后得到的有光表面。 Glazed surface obtained after a thin layer of chromium and chromium oxide deposited on the smooth steel base featuring certain oriented stone figures.

涂油 Oiling

无特殊要求，表面涂DOS油，且采用静电涂油方式。

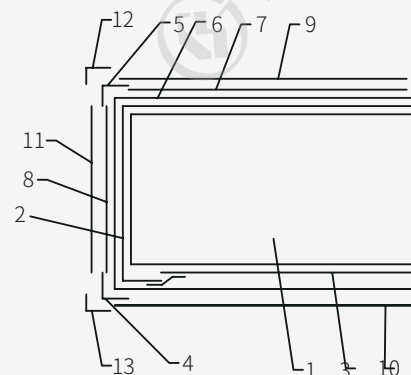
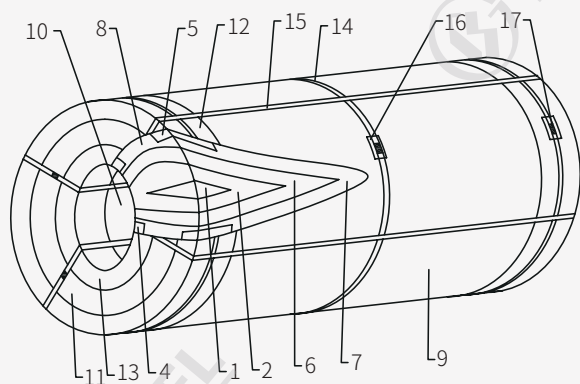
If no engagement, tinplate and TFS are electro statically oiled with DOS.

包装和标识 Packaging and Marking

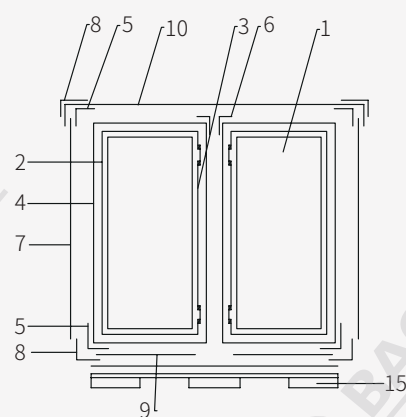
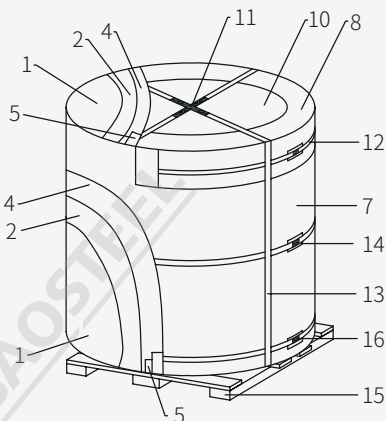


1. 木台	2. 下盖板	3. 钢板	4. 上盖板	5. 底部瓦楞纸	6. 防锈纸
1. wood bracket	2. bottom cover	3. steel sheet	4. top cover	5. bottom corrugated paper	6. anti-rust paper
7. 上部瓦楞纸	8. 边部护角	9. 上部护角	10. 下部护角	11. 周向捆带 (内)	12. 横向捆带 (内)
7. top corrugated paper	8. side corner guard	9. top corner guard	10. bottom corner guard	11. circumferential banding strip (inner)	12. horizontal banding strip (inner)
13. 纵向捆带 (内)	14. 围板	15. 盒盖	16. 周向捆带 (外)	17. 横向捆带 (外)	18. 纵向捆带 (外)
13. vertical banding strip (inner)	14. grard plate	15. steel package box	16. circumferential banding strip (outer)	17. horizontal banding strip (outer)	18. vertical banding strip (outer)

包装和标识 Packaging and Marking



1. 钢卷	2. 外周防锈纸	3. 内芯防锈纸	4. 纸内护角	5. 纸外护角	6. 塑料套
1. steel coil	2. external peripheral anti-rust paper	3. inner core anti-rust paper	4. paper inner corner guard	5. paper external corner guard	6. plastic sleeve
7. 外周瓦楞纸或纤维板	8. 圆护瓦楞纸;	9. 外周包板	10. 内周护板	11. 铁圆护板	12. 铁外护角
7. external peripheral corrugated paper or fibreboard	8. round corrugated paper guard	9. external peripheral wrapping plate	10. inner peripheral guard plate	11. iron round cover	12. iron external corner guard
13. 铁内护角	14. 周向捆带	15. 径向捆带	16. 锁扣垫片	17. 锁扣	
13. iron inner corner guard	14. circumferential banding strip	15. radial banding strip	16. shim for lock	17. lock	



1. 钢卷	2. 外周防锈纸	3. 内芯防锈纸	4. 纸内护角	5. 纸外护角	6. 铁圆护板
1. steel coil	2. external peripheral anti-rust paper	3. inner core anti-rust paper	4. paper inner corner guard	5. paper external corner guard	6. iron round cover
7. 铁内护角	8. 铁外护角	9. 外周包板	10. 内周护板	11. 周向捆带	12. 径向捆带
7. iron inner corner guard	8. iron external corner guard	9. external peripheral wrapping plate	10. inner peripheral guard plate	11. circumferential banding strip	12. radial banding strip
13. 锁扣垫片	14. 锁扣				
13. shim for lock	14. lock				

可提供钢卷和钢板产品,钢卷提供立式和卧式包装形式。
附有产品外标签和内标标签。
您需要的包装形式和标签要求,请联系我们确认。

Offers coils and sheets, coil packed in a vertical form or a horizontal.
A label that indicates the manufacturing history is affixed to the outside of the packaging. in addition, a service card is contained inside.
With regard to types of packing and markings, please consult us.

产品标准

Products Standard

镀锡板 ETP

电镀锡板订货标准为Q/BQB450,此标准非等效采用了JIS G 3303、DIN EN 10202、EN 10203。

ETP orders are placed with Baosteel in accordance with Q/BQB 450 standard which uses in a non-equivalent to JIS G 3303, DIN EN 10202, EN 10203 standards.

镀铬板 TFS

电镀铬板订货标准为Q/BQB455,此标准非等效采用了JIS G 3315、DIN EN 10202、EN 10203。

TFS orders are placed with Baosteel in accordance with Q/BQB 455 standard which uses in a non-equivalent to JIS G 3315, DIN EN 10202, EN 10203 standards.



常用规格表

List of Usual Specification

	调质度 Temper	公称厚度 Nominal Thickness(mm)	公称宽度 Nominal Width(mm)
SR-CA	T-2CA	0.22-0.25	700-840
		0.26-0.35	700-915
		0.36-0.49	790-960
	T-2.5CA	0.22	700-880
		0.23-0.26	700-1050
		0.27-0.45	700-1150
		0.46-0.55	900-1150
	T-3CA	0.18-0.19	700-840
		0.20-0.21	700-880
		0.22	700-940
		0.23-0.26	700-1050
		0.27-0.35	700-1150
		0.36-0.45	800-1150
		0.46-0.55	900-1150
	T-3.5CA	0.20-0.22	700-900
		0.23-0.32	700-1050
		0.33-0.50	800-1050
	T-4CA	0.18-0.22	700-1050
		0.23-0.26	700-1150
		0.27-0.36	700-1080
	T-5CA	0.18-0.22	700-1050
		0.23-0.26	700-1150
		0.27-0.29	700-960
		0.30-0.50	800-1000
	T-2CA IF T-2.5CA IF T-3CA IF	0.20-0.50	800-1000

注：

具体的可供规格以现场实际生产为准。

Note：

Specific specifications are available on-site subject to the actual production.

List of Usual Specification

	调质度 Temper	公称厚度 Nominal Thickness(mm)	公称宽度 Nominal Width(mm)
DR-CA	DR520 DR7M	0.15	700-880
		0.16	700-920
		0.17	700-940
		0.18-0.28	700-970
		0.29-0.40	800-970
	DR550 DR8	0.14	700-880
		0.15-0.16	700-920
		0.17-0.26	700-970
		0.27-0.38	800-970
	DR580 DR8M	0.14	700-920
		0.15	700-950
		0.16-0.25	700-970
		0.26-0.36	800-1000
	DR620 DR9	0.14	700-940
		0.15-0.23	700-970
		0.24-0.34	800-1000



08

使用须知

Usage Precautions

镀锡板使用注意事项

Usage Precautions for ETP

- 1、由于镀锡板的镀层为较软的金属锡,应采取适当保护措施,以避免运输途中的擦划伤。
- 2、由于镀锡板的耐蚀性、涂装性、焊接性和力学性能具有时效性,会随着时间流逝变化,所以请在收货后尽快使用。
- 3、尽管镀锡板具有出色的耐腐蚀性,但在潮湿环境下仍可能发生锈蚀,所以请在开包后尽快使用。
- 4、由于锡可溶于强碱性溶剂,因此镀锡板用于包装碱性内容物时,需要对内表面进行涂装。
- 5、含有硫化物质的内容物会导致镀锡板表面发黑,需要对内表面进行涂装。

- 1、As ETP is covered by soft metallic tin coatings, due precautions should be taken not to cause scratches by rough handling or vibration during transportation.
- 2、Paintability, printability, solderability, and mechanical properties of ETP tend to deteriorate as time elapses after production. Use as soon as possible after delivery.
- 3、Although ETP has excellent corrosion resistance, it tends to rust in a humid atmosphere. Use as soon as possible after unpacking.
- 4、Tin is dissolved by a strongly alkaline solution. When using ETP for making cans for alkaline contents, paint the internal surface.
- 5、As contents that contain sulfur cause blackening of the ETP surface, paint the internal surface.

镀铬板使用注意事项

Usage Precautions for TFS

- 1、镀铬板不适用于钎焊和拉拔成形;涂装后的镀铬板几乎等同于镀锡板。
- 2、镀铬板的金属镀层具有很高的电阻,焊接时应事先去除焊点区域的金属镀层。
- 3、镀铬板在潮湿环境下会发生锈蚀,所以请在开包后尽快使用。
- 4、使用镀铬板制作的罐头外表面应进行涂装,以防止锈蚀;内表面也应进行涂装,除非内容物为机油或食用油。
- 5、镀铬板不具备镀锡板所具有的阳极保护作用。应采取适当保护措施,以避免使用镀铬板在制成罐头并涂饰之后表面出现擦划伤。

- 1、TFS is not compatible with soldering and DI forming. However, once painted, it can be used in almost all applications where TIN PLATE is used.
- 2、The metallic coating layer of TFS has a high electrical resistance. When welding, the metallic coating layers in the welded areas should be removed in advance.
- 3、TFS tends to rust in a humid atmosphere. Use as soon as possible after unpacking.
- 4、The external surfaces of cans should be painted to prevent corrosion. The internal surfaces should also be painted to prevent corrosion except when the content is motor oil or cooking oil.
- 5、TFS does not provide sacrificial protection like TIN PLATE. Due precautions should be taken not to cause scratches on the surface of TFS after it is formed into cans and painted.

09 | 订货须知

Information Required with Orders and Inquiries



订货时用户需提供下列信息

1、产品名称
Product name

2、本产品标准号
Product standard

3、牌号
Grade

4、尺寸及其精度
(包括厚度、宽度、长度、钢带内径等)
Specification and precision
(including thickness, width,
and inside diameter of coil)

5、不平度精度
Flatness precision

6、镀层重量
Coating weight

7、表面处理
Surface treatment

8、表面质量
Surface quality

9、重量
Weight

10、包装方式
Packaging

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FAX: 0081-3-32379123

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FAX: 0082-2-5080891

BGM株式会社**BGM CO., LTD**

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FAX: 0082-31-3514558

高雄事务所**KAOSIUNG OFFICE**

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FAX: 00886-7-3356609

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FAX: 0061-8-94810536

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FAX: 0062-21-3040 8583

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