

PRODUCT CATALOG



Galvanized square pipe

THE STEEL GROUP

Product Reference Manual



Product specification

Galvanized square pipe

Product name	galvanized Steel Hollow Section China Manufacturer Yuantaiderun
Material	Gr A, Gr B, Gr C, S275J0H, S355JR, S355J0H, S355J2H, A36, SS400, Q195, Q235, Q345
Shape	square or rectangular or round
Thickness	1.0-32 mm or as customer's actual request
Length	3-12M according to client requirement
OD(outer diameter)	square 10*10-1000*1000mm rectangular:10*15 800*1000mm Round:10.3mm-609mm
Technology	ERW,LSAW,SSAW,Seamless
MOQ	5 Tons
Grade	10#-45#, 16Mn, A53-A369, Q195-Q345, ST35-ST52 Grade A, Grade B, Grade C,etc
Pipe Ends	Plain end/Beveled,protected by plastic caps on both ends, cut square,grooved,threaded and coupling,etc.
Application	1. Fence, greenhouse, door pipes,greenhouse 2. Low pressure liquid, water, gas, oil, line pipe 3. For both indoor and outdoor the building construction 4. Widely used in scaffolding construction which is much cheaper and convenient 5.Machinery manufacture , Roads and Bridges
Surface Treatment	1. Galvanized 2. PVC,Black and color painting 3. Transparent oil/anti-rust oil 4. According to clients requirement
Certification	CE,LEED,BV,PHD,SEPD,BCI,EN10210,EN10219,ISO9000,ASTMA500,ASTM A501,AS1163,JIS G3466
Brand	YUANTAI DERUN
Standards	Hollow section: API 5L, ASTM A53-2007, ASTM A671-2006, ASTM A252-1998, ASTM A450-1996, ASME B36.10M-2004, ASTM A523-1996, BS 1387, BS EN10296, BS 6323, BS 6363, BS EN10219, GB/T 3091-2001, GB/T 13793-1992, GB/T19711

Galvanized square pipe is a kind of square section steel pipe made by hot rolling or cold rolling galvanized strip or coil processing and welding, mainly divided into hot galvanized and cold galvanized two processes. Hot dip galvanizing by dipping into the zinc pool to form a coating, low cost but low strength; Cold galvanized by electrochemical method, corrosion protection performance is better but the cost is high. Its core features include excellent corrosion resistance (the zinc layer forms a dense barrier), high toughness, strong pressure resistance, as well as smooth surface, uniform specifications, environmental protection, etc. Widely used in construction (curtain wall, steel structure), machinery manufacturing, power engineering, transportation (guardrail, bridge), petrochemical (pipeline) and solar support and other fields.

Characteristic	Hot-dip galvanized pipe	Pre galvanized pipe
Coating thickness	The minimum average requirement in BS EN ISO 1461 is a thick coating of 45-85µm	The coating thickness may vary, but the coating thickness of plate is usually about 20µm, and the coating thickness of pipe and wire is usually about 20-30µm
Continuous coating	Apply continuous coating to the entire object	Cutting edge uncoated area
Coating bonding	Strong metallurgical bonding with the base steel	Strong metallurgical bonding with the base steel
Coating formability	It is not recommended to form after hot-dip galvanizing as this may damage the coating	Thin coatings can form normally without causing any damage
Coating appearance	Usually bright, but variable	Usually achieving uniform brightness
Wear resistance	The thicker hard zinc iron alloy layer has high wear resistance	Thin alloy layer reduces wear resistance
Sacrificial protection	Provide the highest level of sacrificial protection	Sacrificial protection is reduced due to thin coating and certain uncoated areas (cutting edges)

Pre-galvanized - Square and Rectangular Steel Pipe size chart

Square Hollow Section	Rectangular Hollow Section	Wall Thickness
15*15	10*20	0.4mm-1.5mm
20*20	/	0.4mm-2mm
25*25	20*30 15*30	0.4mm-2.3mm
30*30 40*40 50*50	20*40 30*40 35*55 30*50	
60*60 80*80	30*60 37*57 37*77 40*60	0.4mm-2.5mm
50*100 100*100	40*80 50*70 60*80 60*120	
37*37	27*4 25*50	0.4mm-2.3mm

Carbon steel square tube

EXD 07077 6000P

Product Reference Manual

About Square steel pipe

Steel Square Tube is widely used in industrial maintenance, agricultural implements, transportation equipment, truck beds, trailers, frames, etc. Its box-shape configuration allows for much greater strength and rigidity compared to angles or channels. This steel shape is easy to weld, cut, form and machine with the proper equipment and knowledge.

Product specification

Square Steel Pipe

Product Name	Carbon steel square tube
Technique	Seamless pipe, ERW pipe, SAW pipe
Wall Thickness	0.5MM-300MM
Outer Diameter	10MM-1200MM
Length	Lengths: Single random length / Double random length
Surface Treatment	1. Galvanized 2. PVC, Black and color painting 3. Transparent oil/anti-rust oil 4. According to clients requirement
Standard	API 5L, ASTM A53-2007, ASTM A571-2006, ASTM A252-1998, ASTM A450-1996, ASME B36.10M-2004, ASTM A523-1996, BS 1387, BS EN10296, BS 6323, BS 6363, BS EN10219, GB/T 3091-2001, GB/T 13793-1992, GB/T19711
Application	1. Fence, greenhouse, door pipe, greenhouse 2. Low pressure liquid, water, gas, oil, line pipe 3. For both indoor and outdoor the building construction 4. Widely used in scaffolding construction which is much cheaper and convenient
Edge	Plain end/Beveled, protected by plastic caps on both ends, cut square, grooved, threaded and coupling, etc.
Material	10#, 20#, 45#, 16Mn, A53(A,B), Q235, Q345, Q195, Q215, S137, S142, S137-2, S135.4, S152.4, S135
Packing	Bundle, or with all kinds of colors PVC or as your requirements
Container Dimension	20' HGP: 5898mm (Length) x 2352mm (Width) x 2393mm (High) 24-26CBM 40' HGP: 12032mm (Length) x 2352mm (Width) x 2393mm (High) 54CBM 40' HJ: 12032mm (Length) x 2352mm (Width) x 2698mm (High) 68CBM

Oil casing pipe

EXD 07077 6000P

Product Reference Manual



Product name	Seamless Oil Pipe
Process	Hot rolled and cold drawn
Standard	API 5L, API 5CT, ASTM A106/A53, ASTM A519, JIS G 3441, JIS G3444, JIS G3445, DIN 2391, EN10305, EN10210, ASME SA106, SA192, SA210, SA213, SA335, DIN17175, ASTM A179
Our diameter	1/8 - 30 inch (10.3-762mm)
Wall Thickness	0.049" - 2.5" (1.24-63.5mm)
Length	Random Length, Fixed Length, SRL, DRL
Steel Grade	API 5L: GR B, X42, X46, X56, X60, X65, X70 ASTM A53/A106: GR A, GR B, GR C ASME SA106: GR A, GR B, GR C ASME SA192: SA192 ASME SA209M: T1, T1a ASME SA210: GR A-1, GR C ASME SA213: T2, T5, T9, T11, T12, T22 ASME SA335: P2, P5, P9, P11, P12, P22, P91 DIN17175: ST35.8, ST45.8, 15Mo3, 19CrMo44
Surface	Fusion Bond Epoxy Coating, Coal Tar Epoxy, 3PE, FBE, Varnish coating, Bitumen coating, Black Oil coating as per customers requirement
Treatment	Heat treatment: Annealed: Bright annealed, Spheroidize annealed, Normalized, Stress relieved, Cold finished, Quenched and Tempered.
Application	Applicable to the general structure, mechanical structure, water wall panel, economizer, super heater, boiler and heat exchanger with seamless steel tubes, and to transport liquid, gas, oil etc.

Square tube is a versatile structural component that can also be used in appliances and fencing. Some of its common uses are steel frames for gate construction, door jambs, and grills. It can also be used in walk, rafters, floor joists, and studs for walls.

SIZE (OUTER DIAMETER)	WALL THICKNESS	LENGTH
20x20 / 25x25	1.2MM -- 2.75MM	6M IN STOCK (OR CUSTOMIZED)
30x30 / 20x40 / 30x40 / 25x40	1.2MM -- 3.5MM	6M IN STOCK (OR CUSTOMIZED)
40x40 / 50x50/30x50 / 25x50 / 30x60 / 40x60	1.2MM -- 4.75 MM	6M IN STOCK (OR CUSTOMIZED)
60x60 / 30x70 / 40x80 / 40x50	1.2 MM -- 5.75 MM	6M IN STOCK (OR CUSTOMIZED)
70x70 / 60x80 / 50x80 / 100x40 / 50x90	1.5MM -- 5.75 MM	6M IN STOCK (OR CUSTOMIZED)
75x75 / 80x80 / 90x90 60x100 / 50x100 / 120x60 / 100x80 / 60x90	1.5MM -- 7.75 MM	6M IN STOCK (OR CUSTOMIZED)
100x100 / 120x80	1.8MM -- 7.75 MM	6M IN STOCK (OR CUSTOMIZED)
120x120 / 130x130 180x80 / 160x80 / 100x150 / 140x80 / 140x60	2.5MM -- 10.0 MM	6M IN STOCK (OR CUSTOMIZED)
140x140 / 150x150 / 100x180 / 200x100	2.5MM -- 10.0 MM	6M IN STOCK (OR CUSTOMIZED)
160x160 / 180x180 / 200x150	3.5MM -- 11.0 MM	6M IN STOCK (OR CUSTOMIZED)
200x200 / 250x150 / 100x250	3.5MM -- 11.0 MM	6M IN STOCK (OR CUSTOMIZED)
250x250 / 250x200 / 300x150 / 300x200	4.5MM -- 15.0 MM	6M IN STOCK (OR CUSTOMIZED)
300x300 / 350x200 / 350x250 / 300x150	4.5MM -- 15.0 MM	6M IN STOCK (OR CUSTOMIZED)
350x350 350x300 / 450x250 / 400x300 / 500x200	4.5MM -- 15.75 MM	6M IN STOCK (OR CUSTOMIZED)
400x400 / 280x280 450x300 / 450x200 / 400x350 / 400x250 / 500x250 / 500x300	4.5MM -- 15.75 MM	6M IN STOCK (OR CUSTOMIZED)



standard	model number	tensile strength (MPa)	yield strength (MPa)	durometer
API SPEC 5CT	J55	≥517	379-552	
	K55	≥517	≥655	
	N80	≥689	552-758	
	L80(13Cr)	≥655		≤241HB
	P110	≥862	758-965	
Packing	Export standard package or as customers' request			
Delivery time	Usually 7-15 days, or upon negotiation			
Samples	Free samples are provided but the freight is borne by the buyer			

Oil casing is a large caliber steel pipe used to secure the well wall of oil and gas wells. Its main functions include supporting the well wall to prevent collapse, ensuring the circulation of drilling mud, and isolating different formation pressures to ensure safe production. They are classified by application as conduit, surface casing, technical casing, and reservoir casing. The surface casing protects shallow layers from contamination, the technical casing separates pressure layers, and the reservoir casing directly exports oil and gas.

Casing materials are mainly high-strength steel, common steel grades include J55, N80, P110, etc., which should be selected according to well depth and geological conditions. Corrosion protection materials such as 3Cr and 13Cr should be used for corrosion environment. The API 5CT standard is implemented, usually in the OD range of 114.3 mm to 508 mm, and the end machining form includes thread connection, etc. Casing is a disposable consumption material, accounting for more than 70% of oil well pipe consumption. It has high quality requirements and needs to pass strict testing such as filtering test and tensile test.

Grade	Type	Total elongation under load (%)	Yield strength (min)Mpa	Yield strength (max)Mpa	Tensile strength min Mpa	Hardness Max (HRC)	Hardness Max (HBW)
J55	-	0.5	379	552	517	-	-
K55	-	0.5	379	552	655	-	-
N80	1	0.5	552	758	689	-	-
N80	Q	0.5	552	758	689	-	-
L80	1	0.5	552	655	655	23	241
L80	9Cr	0.5	552	655	655	23	241
L80	13Cr	0.5	552	655	655	23	241
C90	-	0.5	621	724	689	25.4	255
C95	-	0.5	655	758	724	-	-
T95	-	0.5	655	758	724	25.4	255
P110	-	0.6	758	965	862	-	-
Q125	All	0.65	862	1034	931	-	-

All specifications products can be customized according to customer requirements

PC Steel Strand

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Steel strand is a metal material formed by stranding multiple steel wires, which is mainly used in prestressed concrete structures. It has high strength, corrosion resistance and good workability. The manufacturing process includes cold drawing to produce a single wire, which is then twisted by a stranding machine. The prestressed steel strand also needs to be stabilized to reduce stress relaxation. Widely used in Bridges, tunnels, high-rise buildings, water conservancy engineering and other fields, can significantly improve the bearing capacity, seismic performance and service life of the structure.

Material	SAE1006-1080,WA1010,C195,SWRH32-37,SWRH42A-77A,SWRH42B-82B
Size Tolerance	±1%
Wire Gauge	1 - 50 mm
Dia tolerance	+/-0.3mm
Process	Hot rolled, Cold Drawn
Length	As customer's request
Technology	Hot roll, cold roll, cold drawn, ect.
Edge	Mill Edge Slit Edge
Certifications	MTC,ISO9001, BV,TUV
Sample	Free,Contact us to learn more
Packing	Industry standard packaging or according to client's requirement

Steel wire model comparison table

serial number	model	diameter
1	8#	4
2	10#	3.5
3	12#	2.8
4	14#	2.2
5	16#	1.6
6	18#	1.2
7	20#	0.9

PC Steel Strand Types:



Comparison of various standards

Grade	mm Nominal Diameter	mm Diameter Tolerance	mm ² Nominal Area	Kg/1000m Nominal Weight	kN Min.Breaking Strength	kN Min.Yield Strength	Relaxation			
							Min.Elongation at Max Load	Initial Load Of Min Nominal Breaking Strength	1000h Value No More Than	
250	9.3	+0.4	516	405	89	80.1	3.0%	60%	70%	TS: 2.5%
	10.5	570	448	101	93.1					
	11.8	636	548	120	104.1					
	13.2	705	654	140	116.1					
	14.7	783	774	160	129.1					
270	9.3	+0.60%	516	405	89	80.1	3.0%	60%	70%	TS: 4.5%
	10.5	570	448	101	93.1					
	11.8	636	548	120	104.1					
	13.2	705	654	140	116.1					
	14.7	783	774	160	129.1					

Type	mm Nominal Diameter	mm Diameter Tolerance	mm ² Nominal Area	Kg/1000m Nominal Weight	kN Strength grade	Min.Breaking Strength	Min.Yield Strength	mm Min Elongation at Max Load	Relaxation	
									Initial Load Of Min Nominal Breaking Strength	1000h Value No More Than
Strand 19	9.3	±0.3	52	408	1770	92	1050Min Breaking strength	3.00%	67%	73%
	10.5	±0.3	61	470	195	104				
	11.8	±0.4	71	532	213	116				
	13.2	±0.4	83	606	237	130				
	14.7	±0.4	95	682	262	144				
Strand 17	9.3	±0.3	52	408	1770	92	1050Min Breaking strength	3.00%	67%	73%
	10.5	±0.4	61	470	195	104				
	11.8	±0.4	71	532	213	116				
	13.2	±0.4	83	606	237	130				
	14.7	±0.4	95	682	262	144				

Type	mm Nominal Diameter	mm Diameter Tolerance	mm ² Nominal Area	Kg/1000m Nominal Weight	kN Min.Breaking Strength	kN Min.Yield Strength	Min.Elongation at Max Load	Relaxation		
								Initial Load Of Min Nominal Breaking Strength	1000h Value No More Than	
SWRH 19A	9.3		516	405	88.8	75.5	3.5%	70%	2.50%	
	10.5		570	448	101	87				
	11.8		636	548	120	102				
	13.2		705	654	140	116				
	14.7		783	774	160	130				
SWRH 19B	9.3		516	405	88.8	75.5	3.5%	70%	2.50%	
	10.5		570	448	101	87				
	11.8		636	548	120	102				
	13.2		705	654	140	116				
	14.7		783	774	160	130				

Steel wire mesh

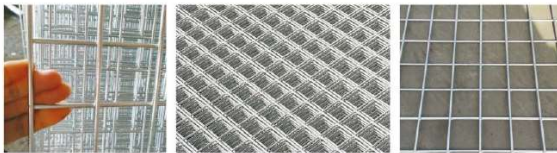
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Galvanized wire mesh is composed of a number of wires that are twisted together. The twisting creates a network of tiny channels in the metal, which protects the mesh from rust and other damages.

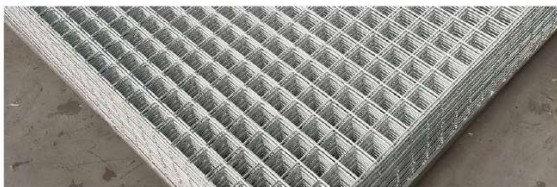
Galvanized wire mesh is strongest when placed over an area that contains high levels of stress or abuse, such as behind gates or around trees. This is because galvanized wire mesh can handle repeated impacts better than other types of fencing options.

The amount of protection that galvanized wire mesh provides depends on the quality of galvanization and zinc coating. Additionally, the size and shape of the wire can affect how well it protects against damage. There are many benefits to using galvanized wire mesh, including its durability, its low maintenance costs, and its resistance to rust.



The benefits of galvanization include

1. Increased lifespan. Galvanized wire mesh has a longer lifespan than regular wire mesh, due to the protection it provides against corrosion.
2. Reduced maintenance costs. Galvanized wire mesh requires less maintenance than regular wire mesh, as it does not corrode as easily. This means that there are fewer opportunities for problems to occur, and maintenance costs are reduced overall.
3. Improved safety. Galvanized wire mesh is much safer than regular wire mesh when it comes to preventing accidents and injuries. This is because it is more difficult for people or animals to get through the fence material, which reduces the risk of accidents occurring.



The benefits of galvanization include

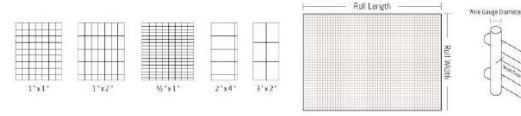
Wire mesh is a versatile material that can be used for a variety of purposes.

Galvanized wire mesh is most commonly used for fencing purposes. It is particularly popular for use in residential and commercial settings, as it provides a high level of security and protection against corrosion.

In addition to being used for fencing, galvanized wire mesh can also be found as component parts of other industrial applications, such as warehouses and manufacturing plants.

Some other applications of wire mesh include staining and screening. Galvanized wire mesh is available in different gauges and sizes, making it suitable for a wide range of applications. It is important to choose the right type of wire mesh for the intended application, as each type has specific benefits and drawbacks. For example, galvanized wire mesh is stronger than other types of wire mesh but less flexible.

Custom made wire mesh can be an ideal solution for certain applications. For example, if you need to create a custom shape or size of wire mesh, custom made wire mesh may be the best option for you. Alternatively, if you need to repair or replace damaged wire mesh, custom made wire mesh may be the best option for you because it will fit exactly where needed without any gaps or tears.



Opening	Wire Diameter BWC
In inch	In metric unit(mm)
1/4" x 1/4"	6.4 x 6.4mm
3/8" x 3/8"	9.5 x 9.5mm
1/2" x 1/2"	12.7 x 12.7mm
5/8" x 5/8"	15.9 x 15.9mm
3/4" x 3/4"	19.1 x 19.1mm
1" x 1/2"	25.4 x 12.7mm
1-1/2" x 1-1/2"	38 x 38mm
1" x 2"	25.4 x 50.8mm
2" x 2"	50.8 x 50.8mm
2" x 4"	50.8 x 101.6mm
4" x 4"	101.6 x 101.6mm
4" x 6"	101.6 x 152.4mm
6" x 6"	152.4 x 152.4mm
6" x 8"	152.4 x 203.2mm

Carbon steel coil

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Introduction to Carbon Steel

Carbon steel is the most commonly produced metal today. It is manufactured in a variety of shapes and sizes and is used in most applications of any metal. It is defined as steel with carbon content ranging from 0.05 percent to 2.1 percent by weight. The term carbon steel includes many different grades/classifications, such as low carbon, high carbon, and alloy steels. In general, carbon steel has a higher carbon content, a lower melting point, and greater durability than stainless steel.

Coil - a finished steel product, such as sheet or strip, that has been rolled and then coiled or wound. Based on the experience gained over the years, steel coils are classified into cold rolled steel coils and hot rolled steel coils, or stainless steel coils, carbon coils and galvanized steel according to current products and international standards.



Product specification

Carbon Steel Coil

Thickness	0.8-100 mm , as Your Request
Width	1250-2500mm, or as Your Request (regular width 1000mm, 1250mm, 1500mm)
Coil ID	508mm or 610mm
Coil Weight	5-30 Tons or as your request
Standard	ASTM EN DIN GB ISO JIS BA ANSI
Steel Grade	Q235B Q355B S5400 S235JR S355JR A36 65Mn 08F SAE1006 SAE1008 SAE1020 DD11 SPHT
Technique	Hot rolled cold rolled as Your Request
Surface Treatment	Bare, Black, Oiled, Shot Blasted, Spray Paint, Coated, Galvanized, or as Your Request
Application	Applies to appliances construction, machinery manufacturing, container manufacturing, shipbuilding, bridges, etc.
Package	Standard Export packing (Plastic film in the first layer, second layer is Kraft paper. Third layer is galvanized sheet)
Remarks	Insurance per to Contract terms; MTC will be handed on with shipping documents. We accept the third party certification test.

Carbon steel material comparison

Material	China/GB	USA/ASTM	Europe/EN	Germany/DIN	France/NFA	Italy/UNI	UK/BS
1.0035	Q235	A283 A,B,C,D	S185	St 33	A 33	Fe 320	-
1.0037	Q235A	A53 Gr.A	S235JR	St 37-2	E24-2	Fe 360 B	-
1.0121	-	-	S235JRG1	USt 37-2	-	Fe 37 BFU	-
1.0038	Q235A	A284 Gr.C,D	S235JR	RSt 37-2	E24-2	Fe 360 B	40(A)B
-	-	-	S235J0	St37-3U	E 24-3	Fe 360 C	40C
1.0116	-	-	S235J2+N	St 37-3 N	E24-4	Fe 360 D	40D
0.0117	Q235-F	A36	S235J2	-	-	-	40 EE
1.0044	Q295	A529 Gr.42,50	S275JR	St 44-2	E 28-2	Fe430B	43(A)B
0.0143	Q295	-	S275J0	St44-3U	E 28-3	Fe 430 C	43 C
0.0144	Q295	A572 Gr.42,50	S275J2+N	St 44-3N	E 28-4	Fe 430D	43 D
0.0145	Q295	-	S275J2	-	-	-	43EE
-	Q215	A573 Gr.58,65,70	-	-	-	-	-
0.0145	Q295	A633 Gr.A,C,D	S355JR	-	E 36-2	Fe 510 B	50 B
1.0353	Q345	-	S355J0	St 52-3 U	E 36-3	Fe 510C	50 C
1.0577	Q345	-	S355J2+N	St 52-3 N	-	Fe 510D	50 D
1.0577	Q345	A656 Gr.50	S355J2	-	-	-	-
1.0595	Q345	-	S355K2+N	-	E 36 -4	Fe 510 DD	50 DD
1.0596	Q345	-	S355K2	-	-	-	50 EE
-	-	A709 Gr.36,50,50	-	-	-	-	-
-	Q295	-	S275N	StE285	-	Fe E 275 kg N	-
-	Q295	-	S275NL	TStE285	-	Fe E 275 KT N	43EE
-	Q345	-	S355 N	StE355	E 355 R	Fe E 355 kg N	-
-	Q345	-	S355 NL	TStE355	E 355 FP	Fe E 355 KT N	50EE
-	Q420	-	S420N	StE420	E 420 R	-	-
-	Q420	-	S420NL	TStE420	E 420 FP	-	-
-	Q460	-	S460N	StE460	E 460 R	Fe E 460 kg N	-
-	Q460	-	S460NL	TStE460	E 460 FP	Fe E 460 KT N	55EE
-	Q295	-	S275M	-	-	Fe E 275 kg TM	-
-	Q295	-	S275ML	-	-	Fe E 275 KT TM	-
-	Q345	-	S355M	StE355 TM	-	Fe E 355 kg TM	-
-	Q345	-	S355ML	TStE355 TM	-	Fe E 355 KT TM	-
-	Q420	-	S420M	StE420 TM	-	-	-

Stainless steel coil

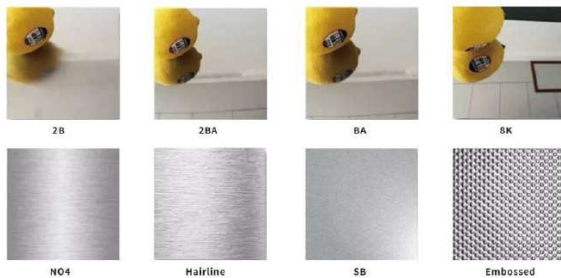
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About Stainless Steel Coil

Stainless steel is notable for its corrosion resistance, and it is widely used for food handling and cutlery among many other applications. Stainless steel does not readily corrode, rust or stain with water as ordinary steel does. However, it is not fully stain-proof in low-oxygen, or high-salinity environments. There are various grades and surface finishes of stainless steel to suit the environment the alloy must endure.

Stainless steel surface treatment



Surface Finish	Definition	Application
2B	Finished by heat treatment, pickling or equivalent cold rolling, followed by skin pass to obtain adequate luster surface.	With bright and smooth surface, easy for further grinding to obtain brighter surface, suitable for medical instruments, milk containers, tableware and so on.
BA	Bright heat treatment after cold rolling.	Structural members, etc kitchen utensil, cutlery, electric appliances, medical instruments, building decorations, etc.
NO.3/NO.4	Polished with No.150-240 abrasives.	Milky food processing equipment, medical instruments, building decorations.
HL	Finished by polishing with abrasives of suitable grain size to obtain continuous streaks.	Building decorations, such as elevators, escalators, door etc.
6K/8K	A mirror-like reflective surface, which is obtained by polishing with successively finer abrasives and buffing extensively with all grilles are removed.	Building entrances, building column casting, elevator's wall doors, counters, sculptor.

Stainless Steel Coil/Sheet/Plate Information

Technique	Surface Finish	Grade Series	Thickness (mm)	Width(mm)					
				20-850	1000	1219	1240	1250	1500
Hot Rolled	No.1 / 2E	201/202/304	2.2-12.0	√	√	√	√	-	√
		2B	0.25-3.0	√	√	√	√	√	√
		410S/430	0.25-2.0	√	√	√	√	-	-
Cold Rolled	Hairline	201/304	0.22-3.0	√	√	√	√	√	-
		Mirror	0.22-3.0	√	√	√	√	√	-
	SB	410S/430	0.25-2.0	√	√	√	√	√	-
		201/304	0.2-1.8	√	√	√	√	-	-
		410S/430	0.25-2.0	√	√	√	√	-	-
2BA	410S/430	0.25-2.0	√	√	√	√	-	-	

Material list

Grade	C	Si	Mn	P	S	Ni	Cr	Mo
201	≤0.15	≤0.75	5.5-7.5	≤0.06	≤0.03	3.5-5.5	16.0-18.0	-
202	≤0.15	≤1.0	7.5-10.0	≤0.06	≤0.03	4.0-6.0	17.0-19.0	-
301	≤0.15	≤1.0	≤2.0	≤0.045	≤0.03	6.0-8.0	16.0-18.0	-
302	≤0.15	≤1.0	≤2.0	≤0.035	≤0.03	8.0-10.0	17.0-19.0	-
304	≤0.08	≤1.0	≤2.0	≤0.045	≤0.03	8.0-10.5	18.0-20.0	-
304L	≤0.03	≤1.0	≤2.0	≤0.035	≤0.03	9.0-13.0	18.0-20.0	-
309S	≤0.08	≤1.0	≤2.0	≤0.045	≤0.03	12.0-15.0	22.0-24.0	-
310S	≤0.08	≤1.5	≤2.0	≤0.035	≤0.03	19.0-22.0	24.0-26.0	-
316	≤0.08	≤1.0	≤2.0	≤0.045	≤0.03	10.0-14.0	16.0-18.0	2.0-3.0
316L	≤0.03	≤1.0	≤2.0	≤0.045	≤0.03	12.0-15.0	16.0-18.0	2.0-3.0
321	≤0.08	≤1.0	≤2.0	≤0.035	≤0.03	9.0-13.0	17.0-19.0	-
630	≤0.07	≤1.0	≤1.0	≤0.035	≤0.03	3.0-5.0	15.5-17.5	-
631	≤0.09	≤1.0	≤1.0	≤0.035	≤0.035	6.50-7.75	16.0-18.0	-
904L	≤2.0	≤0.045	≤1.0	≤0.035	-	23.0-28.0	19.0-23.0	4.0-5.0
2205	≤0.03	≤1.0	≤2.0	≤0.030	≤0.02	4.5-6.5	22.0-23.0	3.0-3.5
2507	≤0.03	≤0.80	≤1.2	≤0.035	≤0.02	6.0-8.0	24.0-26.0	3.0-5.0
2520	≤0.08	≤1.5	≤2.0	≤0.045	≤0.03	0.19-0.22	0.24-0.26	-
410	≤0.15	≤1.0	≤1.0	≤0.035	≤0.03	-	11.5-13.5	-
430	≤0.12	≤0.75	≤1.0	≤0.040	≤0.03	≤0.60	16.0-18.0	-

Stainless steel coil

EXB STEEL GROUP

Product Reference Manual

Austenitic Stainless Steel

China	Japan	USA	Korea	Germany	Australia	China-Taiwan	
GB	JIS	ASTM	UNS	KS	DIN	AS	CNS
12Cr17Mn6Ni5N	SUS201	201	S20100	STS201	1.4372	201-2	201
12Cr18Mn9Ni5N	SUS202	202	S20200	STS202	1.4373	-	202
12Cr17Ni7	SUS301	301	S20200	STS301	1.4319	301	301
06Cr19Ni10	SUS304	304	S30400	STS304	1.4301	304	304
022Cr19Ni10	SUS304L	304L	S30403	STS304L	1.4306	304L	304L
06Cr19Ni10N	SUS304N1	304N	S30451	STS304N1	1.4315	304N1	304N1
06Cr19Ni9NbN	SUS304N2	XM21	S30452	STS304N2	-	304N2	304N2
022Cr19Ni10N	SUS304LN	304LN	S30453	STS304LN	-	304LN	304LN
10Cr18Ni12	SUS305	305	S30500	STS305	1.4303	305	305
06Cr23Ni13	SUS309S	309S	S30908	STS309S	1.4833	309S	309S
06Cr25Ni20	SUS310S	310S	S31008	STS310S	1.4845	310S	310S
06Cr17Ni12Mo2	SUS316	316	S31600	STS316	1.4401	316	316
06Cr17Ni12Mo2Ti	SUS316Ti	316Ti	S31635	-	1.4571	316Ti	316Ti
022Cr17Ni12Mo2	SUS316L	316L	S31603	STS316L	1.4404	316L	316L
06Cr17Ni12Mo2N	SUS316N	316N	S31651	STS316N	-	316N	316N
022Cr17Ni13Mo2N	SUS316LN	316LN	S31653	STS316LN	1.4429	316LN	316LN
06Cr18Ni12Mo2Cu2	SUS316J1	-	-	STS316J1	-	316J1	316J1
022Cr18Ni14Mo2Cu2	SUS316JL	-	-	STS316JL	-	316JL	316JL
06Cr19Ni13Mo3	SUS317	317	S31700	STS317	-	317	317
022Cr19Ni13Mo3	SUS317L	317L	S31703	STS317L	1.4438	317L	317L
06Cr18Ni11Ti S	SUS321	321	S32100	STS321	1.4541	321	321
06Cr18Ni11Nb	SUS347	347	S34700	STS347	1.455	347	347

Duplex Stainless Steel

China	Japan	USA	Korea	Germany	Australia	China-Taiwan	
-	SUS329J1	329	S32900	STS329J1	1.4477	329J1	-
022Cr23Ni5Mo3N	-	S32205	F60	-	1.4462	2205	2205
022Cr25Ni7Mo4N	-	S32750	F53	-	1.441	2507	2507

Ferritic Stainless Steel

China	Japan	USA	Korea	Germany	Australia	China-Taiwan	
GB	JIS	ASTM	UNS	KS	DIN	AS	CNS
06Cr13Al	SUS405	405	S40500	STS405	1.4002	405	405
022Cr11Ti	SUH409	409	S40900	STS409	1.4512	409L	409L
022Cr12	SUS410L	-	-	STS410L	-	410L	410L
10Cr17	SUS430	430	S43000	STS430	1.4016	430	430
10Cr17Mo	SUS434	434	S43400	STS434	1.4113	434	434
022Cr18NbTi	-	-	S43940	-	1.4509	439	439
09Cr19Mo2NbTi	SUS444	444	S44400	STS444	1.4521	444	444

Martensitic Stainless Steel

China	Japan	USA	Korea	Germany	Australia	China-Taiwan	
12Cr12	SUS403	403	S40300	STS403	-	403	403
12Cr13	SUS410	410	S41000	STS410	1.4006	410	410
20Cr13	SUS420J1	410	S42000	STS420J1	1.4021	420	420J1
30Cr13	SUS420J2	-	-	STS420J2	1.4028	420J2	420J2
58Cr17	SUS440A	440A	S44002	STS440A	-	440A	440A

Chemical composition of stainless steel

Grade	C	Mn	Cr	Mo	S	P
2Cr18Ni9	0.12-0.22	≤ 2.0	17-19	-	≤ 0.03	≤ 0.035
1Cr18Ni9(304)	≤ 0.015	≤ 2.0	17-19	-	≤ 0.03	≤ 0.035
0Cr18Ni9(304L)	≤ 0.08	≤ 2.0	17-19	-	≤ 0.03	≤ 0.035
1Cr18Ni9Ti	≤ 0.12	≤ 2.0	17-19	-	≤ 0.03	≤ 0.035
0Cr18Ni9Ti(32?)	≤ 0.08	≤ 2.0	17-19	-	≤ 0.03	≤ 0.035
0Cr18Ni11Nb(316)	≤ 0.08	≤ 2.0	17-19	-	≤ 0.03	≤ 0.035
1Cr17Ni2Mo2(316)	≤ 0.08	≤ 2.0	16-19	1.8-2.5	≤ 0.03	≤ 0.035
00Cr26NiMo2Ti(双相)	≤ 0.03	≤ 1.5	25-27	1.5-2.5	≤ 0.03	≤ 0.035
1Cr13(410)	≤ 0.15	≤ 1.0	11.5-13.5	-	≤ 0.03	≤ 0.035
2Cr13(420)	0.15-0.25	≤ 1.0	12-14	-	≤ 0.03	≤ 0.035
3Cr13	0.26-0.35	≤ 1.0	12-14	-	-	≤ 0.03
4Cr13	0.36-0.45	≤ 1.0	12-14	-	-	≤ 0.03
1Cr17(430)	≤ 0.12	≤ 0.8	16-18	-	-	≤ 0.03

Galvanized steel coil

EXB STEEL GROUP

Product Reference Manual

Introduction to galvanizing

Galvanized steel is to prevent the surface of the steel sheet from corrosion and prolong its service life. A layer of metal zinc is coated on the surface of the steel sheet. This galvanized steel is called galvanized steel sheet or coil.

Galvanizing is an economical and effective rust prevention method that is often used, and about half of the world's zinc production is used in this process. The coating of galvanized steel sheet has strong toughness, and the galvanized layer forms a special metallurgical structure, which can withstand mechanical damage during transportation and use. The surface of galvanized steel sheet has strong anti-oxidation ability, which can strengthen the anti-corrosion penetration ability of parts.



Product specification

Galvanized Steel Coil

Width	1219mm/1250mm/1500mm/as you required
Thickness	0.12-6.0 mm or as your request
Weight	3-8Tons/Coil
Standard	AISI,ASTM,DIN,JIS,GB ,JIS,SUS,EN,etc
MOQ	5Tons
Technique	Hot rolled/Cold rolled
Coating Weight	20-800 g/m ² double side
Technology	Hot Dipped
Material	DX51D/dx52D/dx53D/etc
Application	making pipes, cutting sheets, making small tools, making corrugated sheets, making container, making fences
Shipment Time	2000 ton: Within 7 days after deposit Customize Size: Within 10 days after deposit OEM Product: Within 15 days after deposit
Capacity	20000Tons/Month

Galvanized material comparison

Chinese Standard	Japanese Standard	European Standards
DX51D+Z/DC51D+Z(CR)	SGCC	DX51D+Z
DX52D+Z/DC52D+Z	SGCD1	DX52D+Z
DX53D+Z/DC53D+Z/DC54D+Z	SGCD2/SGCD3	DX53D+Z/DC54D+Z
S220/250/280/320/350/550GD+Z	SGC340/400/440/480/570	S220/250/280/320/350GD+Z
DX51D+Z/DC51D+Z(HR)	SGHC	DX51D+Z

Galvanized pattern



Manufacturing process

Galvanized steel is a carbon steel that has been coated with zinc. The most common method of zinc coating is the hot-dip process.

The hot-dip process consists of submerging the carbon steel into a molten zinc bath (approximately 680 degrees Fahrenheit). When the material is removed from the zinc bath and cooled in the air occurs. The reaction causes the zinc to become part of the steel (an iron-zinc alloy bond). The new surface finish appears to have a crystalline finish or spangled finish.

Continuous galvanizing applies the zinc coating to the surface of a continuous ribbon of steel (coil) as it passes through a zinc bath. The coil travels at speeds of approximately 600 feet per minute.

As the coil leaves the zinc bath it carries with it an extra layer of molten zinc. The extra zinc is removed with high pressure air (air knives) to create the desired thickness. The material is then allowed to cool and the spangled finish is formed.

Continuous galvanizing allows for more precise control of the thickness and is typically used for steel products that have not yet been fabricated. As the coating thickness increases, the risk of losing some coating during fabrication or forming also increases.

Galvalume steel coil

THE STEEL GROUP

Product Reference Manual

About Galvalume Coil

Galvalume is a coating consisting of zinc, aluminum and silicon that is used to protect a metal (primarily steel) from oxidation. It is similar to galvanizing in that it is a sacrificial metal coating which protects the base metal.

Galvalume is applied to a material using the hot-dipping process. Therefore, a Galvalume coating has similar thicknesses to that of hot-dipped galvanized material. The thickness for the hot-dipping process is around 1 mil thick. The thickness can range somewhat depending on the coating specification. If the coating thicknesses of a Galvalume-coated steel and a galvanized steel are equal, the Galvalume steel will generally outlast the galvanized one, depending on the environment.



Product specification

Galvalume Coil

Standard	AISI, ASTM, DIN, JIS, GB, JIS, SUS, EN, etc.
Grade	DX51D+AZ, DX52D+AZ, DX53D+AZ, DX54D+AZ, S250GD+AZ, S300GD+AZ, S350GD+AZ, S450GD+AZ, S550GD+AZ
Thickness	0.12-5.0mm
Width	600-1500mm
Length	as customer requirements
Coil ID	508mm/610mm
Coil weight	3-8 Tons (as customer requirements)
Zinc coating	40-180g/m ²
Surface	Dry, Oil, Chromate, APF, Galva clean, Non-Gr, Gr-free
Tolerance	thickness \pm 0.02 or \pm 0.04, width \pm 5mm
Hrb	Soft Hard (\leq 60), Medium Hard (60-85), Full Hard (85-95)
Certification	ISO9001, CE, BV, SGS
Packaging	3 layers: kraft paper inside + water-proof plastic film in the middle + strong steel strips covered outside
Delivery time	It takes about 7 days for stock goods, or it will need 15-25 days if goods need to be customized

PPGI/PPGL

THE STEEL GROUP

Product Reference Manual

About Ppgi

The term is an extension of GI which is a traditional abbreviation for Galvanized Iron. Today the term GI typically refers to essentially pure zinc (>99%) continuously hot dip coated steel, as opposed to batch dip processes. PPGI refers to factory pre-painted zinc coated steel, where the steel is painted before forming, as opposed to post painting which occurs after forming.

The hot dip metallic coating process is also used to manufacture steel sheet and coil with coatings of aluminum, or alloy coatings of zinc/aluminum, zinc/iron and zinc/aluminum/magnesium which may also be factory pre-painted. While GI may sometimes be used as a collective term for various hot dip metallic coated steels, it more precisely refers only to zinc coated steel.



Product specification

PPGI

Production Name	PPGI
Thickness	0.12-2.0 mm or as Customized
Width	200-1250mm Or According To Customer's Requirement
Length	In Coil Or According To Customer's Demands
Paint Thickness	Top Side: 15-30um Back: 5-25um
Color	According to RAL color or clients sample
Coil Weight	2-10 Tons
Coil Inter Diameter	508mm/610mm
Coil Outer Diameter	800mm-1500mm
Package	Standard export packing or as customer's requirements
Delivery Time	15-30 days after T/T prepayment or L/C date
Application Range	Construction / machinery / stamping parts / A variety of tools / band saw material / saw blade deep drawing materials / electrical materials / automotive materials etc.
Coating Surface Condition	Common Coating PPGI Print Coating PPGI Embossed PPGI
Topcoat Types	Polyester (PE), Silicone Polyester (SMP), High Durable Polyester (HDP), Fluoropolymer (PVDF)

Surface style

The main difference between galvanizing and Galvalume is that galvalume is a combination of zinc, aluminum, and silicon, while galvanizing is 100% zinc. The makeup of the three elements in a Galvalume coating is just over 50% aluminum, just under 50% zinc, with trace amounts of silicon.



Galvalume material comparison

CHINA QB/T 14978	European EN10346	JAPAN JIS G 3321	US ASTM A792M
DX51D+AZ	DX51D+AZ	SGLCC	Cs Type B.C
DX52D+AZ	DX52D+AZ	SGLCD	DS
DX53D+AZ	DX53D+AZ	SGLCD2	-
DX54D+AZ	DX54D+AZ	-	-
S250GD+AZ	S250GD+AZ	-	S5255
S300GD+AZ	-	SGLC400	-
S350GD+AZ	S350GD+AZ	SGLC440	S5345 Class1
S450GD+AZ	-	SGLC490	S5410/480
S550GD+AZ	S550GD+AZ	SGLC570	S5550 Class1

Common application data

Usage	Grade	Yield Strength (MPa)	Tensile Strength (MPa)	Elongation rate %
Punching galvanized steel	DX51D+Z	-	270-500	\geq 20
	DX52D+Z	140-300	270-420	\geq 22
	DX53D+Z	140-260	270-380	\geq 26
	DX54D+Z	140-220	270-350	\geq 30
	S220GD+Z	\geq 220	\geq 300	\geq 18
Structure galvanized steel	S250GD+Z	\geq 250	\geq 330	\geq 17
	S280GD+Z	\geq 280	\geq 360	\geq 16
	S320GD+Z	\geq 320	\geq 390	\geq 15
	S350GD+Z	\geq 350	\geq 420	\geq 14
	S400GD+Z	\geq 400	\geq 470	-
	S500GD+Z	\geq 500	\geq 530	-
S550GD+Z	\geq 550	\geq 560	-	

PPGI/PPGL

THE STEEL GROUP

Product Reference Manual

About Ppgi

The term is an extension of GI which is a traditional abbreviation for Galvanized Iron. Today the term GI typically refers to essentially pure zinc (>99%) continuously hot dip coated steel, as opposed to batch dip processes. PPGI refers to factory pre-painted zinc coated steel, where the steel is painted before forming, as opposed to post painting which occurs after forming.

The hot dip metallic coating process is also used to manufacture steel sheet and coil with coatings of aluminum, or alloy coatings of zinc/aluminum, zinc/iron and zinc/aluminum/magnesium which may also be factory pre-painted. While GI may sometimes be used as a collective term for various hot dip metallic coated steels, it more precisely refers only to zinc coated steel.



Product specification

PPGI

Production Name	PPGI
Thickness	0.12-2.0 mm or as Customized
Width	200-1250mm Or According To Customer's Requirement
Length	In Coil Or According To Customer's Demands
Paint Thickness	Top Side: 15-30um Back: 5-25um
Color	According to RAL color or clients sample
Coil Weight	2-10 Tons
Coil Inter Diameter	508mm/610mm
Coil Outer Diameter	800mm-1500mm
Package	Standard export packing or as customer's requirements
Delivery Time	15-30 days after T/T prepayment or L/C date
Application Range	Construction / machinery / stamping parts / A variety of tools / band saw material / saw blade deep drawing materials / electrical materials / automotive materials etc.
Coating Surface Condition	Common Coating PPGI Print Coating PPGI Embossed PPGI
Topcoat Types	Polyester (PE), Silicone Polyester (SMP), High Durable Polyester (HDP), Fluoropolymer (PVDF)

Standard Color

Our ppgi has a variety of colors for you to choose from. You can see part of RAL color cards here for reference of the colors you need. You can also visit our ppgi factory, where you can see the colors of these ppgi more directly.

If you need to know more colors, please contact our sales staff, we will provide you with the most detailed parameters and the products you need. I hope our quality service can let you get the most comfortable shopping experience.



Similarly, PPGI may sometimes be used as a general term for a range of metallic coated steels that have been pre-painted, but more often refers more precisely to pre-painted zinc coated steel.

Zinc coated steel substrate for PPGI is typically produced on a continuous galvanizing line (CGL). The CGL may include a painting section after the hot dip galvanizing section, or more commonly the metallic coated substrate in coil form is processed on a separate continuous paint line (CPL). Metallic coated steel is cleaned, pre-treated, applied with various layers of organic coatings which can be paints, vinyl dispersions, or laminates. The continuous process used to apply these coatings is often referred to as Coil Coating.



PPGI application

The main uses of pre-painted Ppgi are home appliances and construction.

Home appliance uses are mainly side door panels for refrigerators, and shells for air conditioners, freezers, and washing machines. The construction field is more widely used than home appliances.

PPGI for construction is used for roofing, gutters, sandwich panels, industrial building facades, cold storage panels, and rolling doors.

Color steel tile

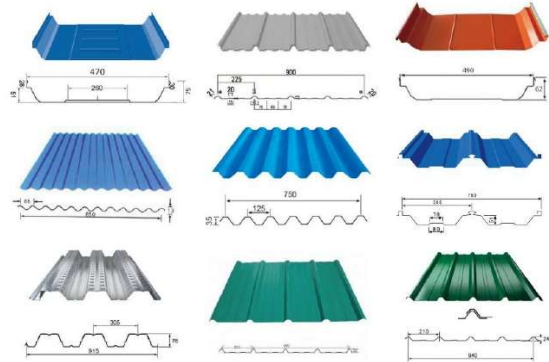
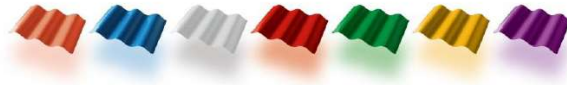
EXD 57271 COLOR

Product Reference Manual

About Roofing Sheet

Roofing Sheet Roofing sheet is a color coated steel sheet which is cold formed by roller into various wave shapes.

It is suitable for industrial and civil buildings, warehouses, special buildings, large-span steel structure of the roof, wall and interior and exterior wall decoration, with light weight, high strength, rich color, convenient construction, seismic, fire rain, long life, maintenance-free and other characteristics, has been widely used.



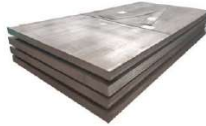
Application	Construction & Industrial
Thickness	0.2-0.8mm
Width	20-1250mm, 20-1250mm
Length	1400-1799mm, 1800-2000mm, 2001-3600mm, 3601-3650mm
Certificate	API, ce, RoHS, SNI, BIS, SASO, PVOC, SONCAP, SABS, srm, tsi, KS, JIS, GS, ISO9001
Coating	AZ10-AZ29 Z30-40 Z31-60 Z61-90
Tolerance	±1%
Processing Service	Welding, Punching, Cutting, Bending, Decoiling
RAL Color	Red, blue, white or any other Ral Color
Aluminium Content	0-20%
Hardness	Mid Hard
Delivery Time	8-14 days
Product name	Galvanized Color Coated Steel Plate
Color	Customers Samples Color
Thickness	0.2-0.8mm
Surface	Galvanized Coated
Surface Treatment	Galvanized Copper Coated Color Coated
Zinc Coating	30-275g/m2
length	1-12m or as Requirement, 1-12m or as Requirement
Packing	Standard Seaworthy Package
MOQ	1 Ton
Type	Steel Plate, Color Coated Steel Shee

Wear Resistant Steel Plate

EXD 57281 COLOR

Product Reference Manual

Wear-resistant steel plate is a special plate designed for high wear conditions. It is usually made of low carbon steel or low alloy steel substrate and high hardness alloy wear-resistant layer through metallurgical combination. Its alloy layer accounts for 1/3-1/2 of the total thickness, mainly containing chromium, manganese, molybdenum and other elements, hardness up to HRC58-62, wear resistance far beyond ordinary steel plate.



Product	Wear Resistant Steel Plate
Place of Origin	China Jilin
Standard	GB /ASTM/AISI
Material	NM360, NM400, NM450, NM500, Xar00, Xar450, Xar500, Xar550, Xar600, JFE-EH360, JFE-EH400, JFE-EH450, JFE-EH500, JFE-EH550
Width	500-3000mm or as required
Length	1000-12000 or as required
Tolerance	1%, 3%, 5%, 10%
Technology	hot rolled or cold rolled
Processing Service	Bending, Welding, Decoiling, Cutting, Punching
Surface treatment	clean, blasting and painting as required
Application area	Construction, machinery manufacturing, vehicle manufacturing, shipbuilding, etc
Package	standard seaworthy packing
Delivery Time	within 7 days

Mechanical property

Grade	Thickness (mm)	tensile strength (MPa)	Elongation A (%)	Surface Brinell hardness (HBW)
NM300	≤80	≥1000	≥14	270-330
NM360	≤80	≥1100	≥12	330-390
NM400	≤80	≥1200	≥10	370-430
NM450	≤80	≥1250	≥7	420-480
NM500	≤70	-	-	≥470

Material range of Wear Resistant Steel Plate

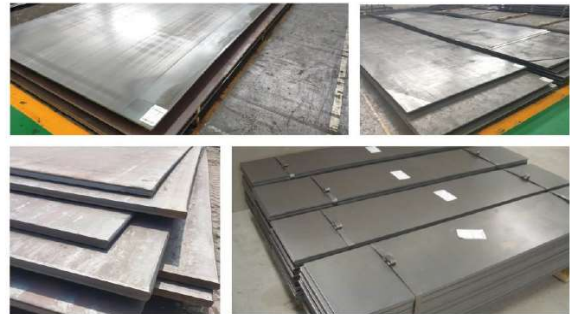
Steel/Grade	C	Si	Mn	P	S	AL	Cr+Ni+Mo
NM360/AR360	0.10-0.30	0.20-0.40	1.00-2.00	≤0.015	≤0.003	≥0.20	<0.6
NM400/AR400	0.10-0.40	0.20-0.40	1.00-2.00	≤0.015	≤0.003	≥0.20	<0.9
NM450/AR450	0.10-0.40	0.20-0.40	1.00-2.00	≤0.015	≤0.003	≥0.20	<1.2
NM500/AR500	0.10-0.40	0.20-0.45	1.00-2.00	≤0.015	≤0.003	≥0.20	<1.5
NM550/AR550	0.10-0.50	0.20-0.45	1.00-1.50	≤0.015	≤0.003	≥0.20	<2.0
NM600/AR600	0.10-0.50	0.20-0.45	1.00-1.50	≤0.015	≤0.003	≥0.20	<2.5

NM400 and NM450 are multi-purpose wear plates. Due to its high toughness, good bending and welding performance, it can also be used for load applications in some applications.

NM500 is a bendable and welded wear plate that can be used in areas where wear resistance is required.

NM550 is an average hardness of 550HBW wear-resistant steel plate. Its toughness and NM500 the same, is used in high wear and tear occasions. It is mainly for users and manufacturers of wear-resistant steel plates using high manganese steel castings or Brinell hardness of 300. When upgrading from the NM500 steel sheet to the product, the Brinell hardness increased by 50 units, without loss of steel toughness in the case of extended wear life.

NM600 is the world's hardest wear-resistant steel plate, the hardness value of 600HBW. It is generally used in situations where wear is extremely severe and is mainly used to replace cast steel, chrome cast iron, and surface hardened metals. Despite its high hardness, we are still able to machine, weld and cut it. Although the hardness of the NM600 is very high, it still has a very high impact toughness.



Copper Tube

130 STEEL COMPANY

Product Reference Manual

About Copper Tube

Copper tube (also known as red copper tube), often used in water pipes, heating and cooling pipes, can be used in different environments. Copper pipe set the advantages of metal and non-metal pipe in a body, in the hot and cold water system exclusive torture, is the best connection pipe. Copper pipes are refractory and heat-resistant, and can maintain their shape and strength at high temperature without aging.

The pressure resistance of copper pipe is several times or even dozens of times that of plastic pipe and aluminum plastic pipe, and it can withstand the highest water pressure in today's buildings. In the hot water environment, with the extension of service life, the bearing capacity of plastic pipe significantly decreases, while the mechanical properties of copper pipe remain unchanged in all thermal temperature ranges, so its pressure resistance will not be reduced, nor will aging occur.



GB	Composition(%)			
	Cu	P	0	Othe
TU1	99.97	0.002	less than 0.002	balance
TU2	99.95	0.002	less than 0.003	balance
T2	99.9	-	-	balance
TP1	99.9	0.004-0.012	-	balance
TP2	99.9	0.015-0.040	-	balance
C10200	99.95	0.001-0.005	-	balance
C11000	99.9	-	-	balance
C12000	99.9	0.004-0.012	-	balance
C12200	99.9	0.015-0.040	-	balance

Grade(China)	Grade(Japan)	Temper	External diameter(mm)	Tensile strength(Mpa)		Elongation(%)	
				610	65	610	65
T2/T3/ TP1/TP2	C11000/C1201	Y	more than 10	315	-	-	-
			more than 100-360	295	-	-	-
	C1220	Y2	less than 100	235-345	-	-	-
			M	3-360	205	35	40

Aluminium coil

130 STEEL COMPANY

Product Reference Manual

For the majority of manufacturing uses, pure aluminum is too soft. As a result, most aluminum coils are produced and delivered as an alloy. These alloys contain two or more elements, at least one of which is aluminum. The Aluminum Association oversees the four-digit number system to identify aluminum alloys for sheet products. Aluminum's mechanical and other qualities can be adjusted to satisfy particular demands for strength, formability, and other properties when alloyed with other metals.

Aluminum coil, often known as "gauge," is offered in different lengths, widths, and thicknesses. The size of the components created and the production technique employed define the precise dimensions. In addition, many surface treatments are available, such as mill, matte, and brilliant. The choice will be based on the intended purpose and appearance of the finished component.



Product specification

Aluminium Coil

Thickness	0.2mm-4.0mm	
Width	600mm-1500mm	
Length	800-6000mm or as customer's requirements	
Temper	O, H, T	
Color	RAL Color or as customer's requirements	
Model (Alloy)	1000-8000 Series	
Features	1) Easy installation 2) High strength 3) Low in costs 4) Durable 5) Nice appearance 6) Anti oxidation	
Application	1) building and construction 2) decoration 3) curtain wall 4) Shelter 5) oil tank 6) mould	
Surface	Flat every pieces covered with PE film	
Packing	Export standard wooden pallets (as per requirements)	
Payment Terms	30% T/T in advance as deposit, or 100% irrevocable L/C at sight	
MOQ	5 tons pre size	
Delivery time	20-30 days after receiving L/C or deposit	
Loading Port	Tianjin QingDao port	
Remark	Specific requirement of alloy grade, temper or specification can be discussed at your request discussed at your request	
Technology	Hot Rolled/Cold Rolled	
Surface	1.Mill Finish/Without Any Surface Treatment	2.Embossed

Product specification

Copper Tube

Product name	copper tube
Material	copper
Standard	ASTM, AISI, JIS, GB, DIN, EN, etc.
Grade	T1, T2, C10100, C10200, C10300, C10400, C10500, C10700, C10800, C10910, C10920, TP1, TP2, C10930, C11000, C11300, C11400, C11500, C11600, C12000, C12200, C12300, T1, T2, C12500, C14200, C14420, C14500, C14510, C14520, C14530, C17200, C19200, C21000, C23000, C26000, C27000, C27400, C28000, C33000, C33200, C37000, C44300, C44400, C44500, C60800, C63020, C65500, C68700, C70400, C70600, C70620, C71000, C71500, C71520, C71640, C72200, etc.
Shape	Round, Square, Rectangular, Oval, Half-round
Round	OD: 2-914mm (1/16"-36") WT: 0.2-120mm (SCH5S-SCH160S)
Square	Size: 2"-1016*1016mm (1/16"-40") WT: 0.2-120mm
Rectangular	Size: 2"-1016*1219mm (1/16"-48") WT: 0.2-120mm
Length	1m, 2m, 3m, 6m, or as required
Hardness	1/16 hard, 1/8 hard, 3/8 hard, 1/4 hard, 1/2 hard, full hard, soft, etc.
Surface	mill, polished, bright, oiled, hair line, brush, mirror, sand blast or as required
Application	1. Pancake Coil for ACR, General Engineering Applications 2. LWC Coil for ACR, General Engineering Applications 3. Straight Copper Tubes for ACR and Refrigeration 4. Inner-grooved copper tube for ACR and Refrigeration 5. Copper Pipe for Transportation System of water, gas and oil 6. PE-coated copper tube for water/gas/oil transportation system 7. Semi-finished Copper tube for industrial applications



Domestic and foreign commonly used aluminum and aluminum alloy grade comparison table

Pure aluminium	1A99 1A97 1A95 1A93 1A90 1A85 1A80 1A80A 1070 1070A 1370 1070A 1050 1050A 1A50 1350 1145 1350 1A30 1160 1200 1235
Series 2	2A01 2A02 2A04 2A06 2A10 2A11 2B11 2A12 2A13 2A14 2A16 2B15 2A17 2A20 2A21 2A25 2A49 2A50 2A70 2A80 2A90 2004 2011 2014 2014A 2214 2017 2017A 2177 2218 2618 2219 2024 2124
Series 3	3A21 3003 3103 3004 3005 3105
Series 4	4A03 4A11 4A13 4A17 4004 4032 4043 4043A 4047 4047A
Series 5	5A01 5A02 5A03 5A05 5A06 5B06 5A12 5A30 5A33 5A41 5A42 5A66 5005 5019 5050 5251 5052 5154 5154A 5454 5154A 5754 5056 5356 5456 5082 5182 5086
Series 6	6A02 6802 6A51 6101 6101A 6005 6005A 6351 6060 6061 6063 6063A 6070 6181 6082
Series 7	7A01 7A03 7A04 7A05 7A09 7A10 7A15 7A19 7A31 7A33 7A52 7003 7005 7020 7022 7050 7075 7475 8A06 8011 8090

category	China	America	Britain	Japan	France	Germany
	GB	ASTM	BS	JIS	NF	DIN
Industrial pure aluminium	1A 99	1199	-	-	-	A199.99R
	1A 97	-	-	-	-	A199.98R
	1A 95	-	-	-	-	-
	1A 80	-	1080 (1A)	1080	1080A	A199.90
Antrist aluminium	1A 50	1050	1050 (1B)	1050	1050A	A199.50
	5A 02	5052	N54	5052	5052	AlMg2.5
	5A 03	-	N55	-	-	-
	5A 05	5056	N86	5056	-	AlMg5
duralumin	5A 30	5456	NC61	5556	5957	-
	2A 01	2036	-	2117	2117	AlCu2.5Mg0.5
	2A 11	HF15	2017	2017S	-	AlCuMg1
	2A 12	2124	-	2024	2024	AlCuMg2
Wrought aluminium	2B16	2319	-	-	-	-
	2A 80	-	-	2N01	-	-
	2A 90	2218	-	2018	-	-
	2A 14	2014	-	2014	2014	AlCuSiMn
superduralumin	7A 09	7175	-	7075	7075	AlZnMgCu1.5

Steel Structure

FAD 97272 68000

Product Reference Manual

Steel structure is a kind of building structure system with steel as the main material, which has the following characteristics and advantages

High strength and light weight: The compressive strength of steel is much higher than that of concrete, but its weight is only one third of that of concrete, so the steel structure has light weight and is suitable for large-span and heavy-duty structures.

Good plasticity and toughness: steel has excellent plasticity and toughness, deformation but not fracture when the force exceeds the carrying capacity, which makes it excellent in seismic performance, especially for earthquake-prone areas.

Fast construction speed: steel structure members can be prefabricated in the factory, simple on-site assembly, short construction period, significantly shorten the construction period.

Flexibility and diversity: The design of steel structure is flexible and can adapt to various complex building forms and space requirements, while facilitating expansion and transformation.

Environmental protection and sustainability: steel can be recycled, in line with the requirements of sustainable development, and high degree of industrialization, reduce environmental pollution.

Economy: Due to its light weight and fast construction, steel structures can reduce foundation expenses and save construction time, thus reducing costs.

Superior seismic performance: The ductility and toughness of steel make it perform well under external shocks such as earthquakes, making it an ideal choice for seismic fortification areas.

Industrial production: The components of steel structure are mostly prefabricated in the factory, the quality is easy to control, and the installation accuracy is high.



Container house

FAD 97272 68000

Product Reference Manual

SPACE CAPSULE

Streamlined appearance with panoramic floor glass, 270° unobstructed view of mountains, lakes and seas. The top skylight adopts electrically controlled atomized glass, which is transparent during the day and keeps warm. At night, you can see the stars while lying in bed by switching the transparent mode with one button. The cabin is equipped with an intelligent voice control system, which can adjust the lighting, air conditioning, curtains and other equipment through voice control, so that you can enjoy a comfortable experience without using your hands.

The whole house adopts constant temperature system, with quiet fresh air, to ensure fresh air in four seasons. Bathroom mirror integrated touch function, can check the weather in real time, adjust the light. Some rooms are equipped with an open-air hot spring pool, which can also enjoy the natural scenery while bathing. The building is made of lightweight aviation aluminum, which can be quickly installed without foundation, adapting to various terrain such as mountain and seaside, and is environmentally friendly without destroying the original ecology.



STRONG DESIGN SENSE



AREA:38sqm
WEIGHT:8Ton
CAPACITY:2-4



QUICK BUILD



AREA:28sqm
WEIGHT:6Ton
CAPACITY:2-4



SMART HOUSE



AREA:18sqm
WEIGHT:4Ton
CAPACITY:2



FLEXIBLE DEPLOYMENT



AREA:18sqm
WEIGHT:4Ton
CAPACITY:2



APPLE CABIN

Modular design and rapid construction: With modular design, it can be quickly and flexibly built and assembled. This design not only improves the construction efficiency, but also makes it highly adaptable in different scenarios. For example, it can be used as a temporary building, hotel, office, or residence, among other uses.

Environmental protection material and durability: the shell is made of weather resistant steel, with excellent corrosion and rust resistance performance, while the internal structure is made of WPC + PU foam material, both environmental protection and durability. In addition, it has good sealing performance and can effectively cope with various adverse weather conditions, such as rain and dust environment.

Versatility and comfort: The interior is well designed and fully equipped with facilities, including solar water heater, shower system, kitchen and toilet, etc., to meet the various needs of daily life. At the same time, its design focuses on aesthetics and practicality, such as the texture of the aluminum shell and the simple appearance, making it highly attractive.

Economy and long-term value: The construction cost is relatively low and the service life is long, usually with a one-year warranty service, which provides long-term economic value to the user.



SIZE:11.5M*2.2M*2.5M(Customizable)
AREA:25sqm
WEIGHT:7TON
CAPACITY:2-4

SIZE:5.8M*2.2M*2.5M(Customizable)
AREA:13sqm
WEIGHT:3TON
CAPACITY:2



Container house

END STEEL GROUP

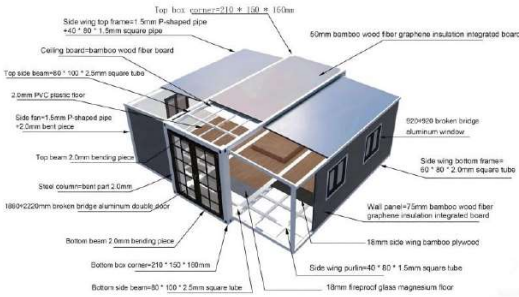
Product Reference Manual

EXPANDABLE HOUSE

Flexibility and adaptability: The expandable house has a modular design that allows space to be easily added or removed as required, adapting to changing living needs and land conditions. This flexibility makes it ideal for extending an existing home or as a multifunctional space.

Economy: Compared to traditional construction, the cost of extendable houses is lower, which is suitable for individuals or families with limited budget. In addition, they are less expensive to build and maintain, such as waterproofing systems and low-maintenance designs.

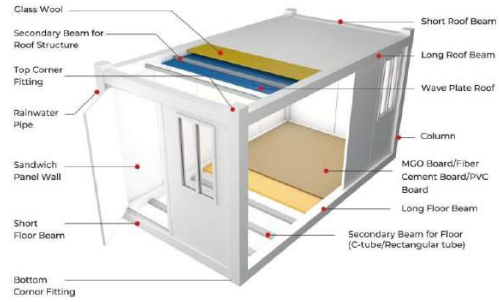
Environmental protection and sustainability: Use recycled materials and sustainable resources to reduce the impact on the environment. At the same time, its design focuses on energy saving, such as reducing air conditioning use through shading curtains.



Product illustration - Take 40FT as an example



FOLDING HOUSE



Product illustration



Section steel

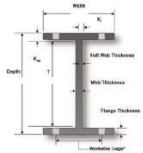
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Product Reference Manual

About Steel Section

Steel sections are a key component in steel fabrication owing to their extremely versatile properties. These properties enable steel sections to be manufactured in an array of shapes and, therefore, give engineers many factors to consider when choosing sections for their projects, including weight, size and profile.

Most common usages of this section are connection between I-shapes and/or other shapes, bracing in truss members, Chords, Buttens and/or Laces of built-up member, Diaphragm members in bridge girder system, Web stiffening elements for I-shape sections, etc.

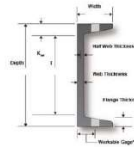


I-beams

I-beams are sometimes called the universal beam or wide flange beams. The name describes the shape of the cross-section and legs that are parallel. I-beams act as the critical support trusses in construction framework.

C-channels

C-channels have a slight slope on the inner flange surface. They are not typically applied as primary load-bearing beams. Rather, they provide a great amount of structural support, most useful as frames and for bracing.



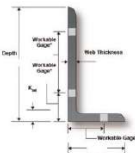
Product specification

Steel Section 型钢

Length	5-19m Or customer customization
Thickness	1.5mm-25mm Or customer customization
Usage	Building Construction etc
Species	Angle Sections/Channel Sections/T-Sections/I-Sections/Round Bars/Square Bars/Flat Bars/Steel Plates etc.
Technique	Hot Rolled
Material	195/Q235/Q345/Q304/316L/Other Metal Materials
Quality	High Quality. Inspection
Color	Black/Silver



* H beam we can supply: JIS,ASTM,HEA/HEB,EN10025 HP/UB,UC standard



Angle Steel

Structural steel angles is a hot rolled product with an L-shaped cross-section that's appropriate for a number of applications. A standard structural angle is 90 degrees and is measured by the length of the legs as well as the leg thickness.

L-shapes are produced with both equal and unequal leg lengths. When notating unequal leg angles in measurement, the longer leg is always first, and thickness last. All measurements are always taken from the outside.

Applications include structural reinforcement, framework, shelving, and repair.

Structural Steel Tubing – Hollow Structural Sections

Hollow structural section (HSS) refers to high-strength welded steel tubing. Sometimes referred to as hollow steel sections, they are produced in round, square, and rectangular shapes that support multidirectional load bearing. As the name suggests, regardless of shape, the mid-sections are hollow.



Tubes are a hollow steel shape that can be further distinguished as either mechanical or structural tubing. Mechanical tubing is used in low-stress applications and is characterized by a thinner wall. Structural tubing is designed for high-stress structural applications in bridges, buildings, roll cages, and underwater platforms. The walls are thicker and stronger.

Pipes are another hollow structure that is intended to carry liquids, gasses, or even solids. Its wall thickness is described by its schedule, which is a system created by the American Standards Association.

T-beams

T-beams have a T-shape, like the universal beam but without a bottom flange. T-beams are best for reinforcement, as they do not resist bending to bear equal weight as well as the I-beam.

