

STEEL PLATE



JFE Steel Corporation

JFE Steel Co. has exerted the utmost effort to supply high-quality steel plates in response to customer's requirements throughout a history of more than 90 years. JFE Steel is continuously improving its production equipment, expanding product types, and intensifying quality control.

JFE Steel has 3 world-leading plate mills; they are East Japan Works (Keihin), West Japan Works (Kurashiki), and West Japan Works (Fukuyama). Manufacturing various kinds of steel plate products with the maximum width of 5,350mm (one of the largest-in-the-world), and the maximum thickness of 360mm, JFE has responded to the requirements of domestic and overseas customers.

A state-of-the-art, 4-high plate mill, was followed by the installation of a series of new facilities such as a modern heat-treatment facility, a ladle-refining station, and an on-line accelerated cooling system. These investments have permitted JFE Steel to maintain the world's highest technological level in steel plate production.

Being the first in Japan to adopt a computer-aided plate production system consistently from order to shipment, JFE Steel has gained high reliance of the customer by controlling all plate manufacturing processes completely.

With the expansion of products, a wide variety of steel plates are now being produced and marketed in addition to ordinary carbon steel plates. These include high-tensile strength steel plates with a tensile strength up to 980N/mm², steel plates for low-temperature uses, steel plates for boilers and pressure vessels, Ni type high atmospheric corrosion resistant steel plates, abrasion resistant steel plates, stainless steel plates and various types of clad steel plates. JFE Steel's high-quality steel plates are always available to meet the customers' needs.



East Japan Works (Keihin)



West Japan Works (Kurashiki)



West Japan Works (Fukuyama)

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JFE'S STEEL PLATES

1 The world's largest class steel plates are available.

Max. thickness 360mm, Max. length 30,000mm, Max width 5,350mm, Max. mass 70 tons.

2 High quality products and a wide range of types are available.

JFE's steel plates are supported by world leading technologies and extensive experience. In addition to producing plates specified by domestic and overseas industrial standards, JFE Steel produces a wide variety of unique steel plates.

These include high-tensile strength steel plates, steel plates for low-temperature use, atmospheric corrosion resistant steel plates, abrasion resistant steel plates, corrosion resistant steel plates in various corrosive environments, stainless steel plates and clad steel plates with various cladding materials.

3 The newest controlled rolling and on-line accelerated cooling technology.

JFE Steel has adopted powerful rolling machines for controlled rolling and highly efficient on-line accelerated cooling facilities, and developed world leading TMCP technology.

JFE Steel produces and supplies sophisticated high strength steel plates with high toughness and good weldability through TMCP technology. These products are widely applied in various fields focusing on ships, bridges and building.

4 The surface appearance is excellent.

Slabs are thoroughly cleaned before rolling, and scale is completely removed by high-pressure water jets during rolling. These operations produce rolled plates with clean and attractive surfaces. Heat treatment is performed in oxygen-free atmosphere where plates free from scale are produced.

5 Excellent dimensional accuracy and uniformity

JFE Steel produces steel plates by computer-controlled plate mills providing plates with excellent dimensional accuracy and uniformity.

JFE Steel adopts world leading technology to minimize plate crown and variation of thickness along the longitudinal direction, and succeeds in achieving optimum rolled shape.

6 Optimum delivery control

JFE Steel has extensive computer control systems from order receipt to shipment. Order information from the customer is exactly inputted to each production process, enabling products to be delivered meeting requirements correctly and with minimum lead time.

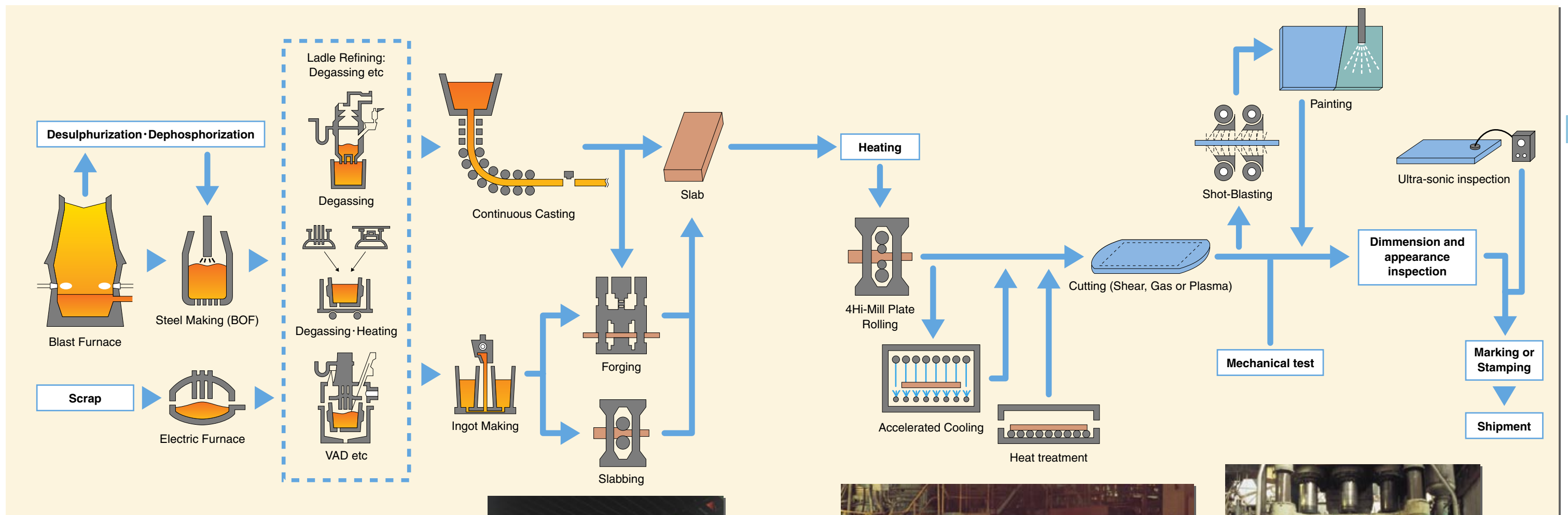
MANUFACTURING SHOPS AND MAJOR EQUIPMENT

Facility		Keihin	Kurashiki	Fukuyama
Blast furnace		1 unit	3 units	4 units
Basic oxygen furnace		2 units	6 units	5 units
Electric arc furnace		1 unit	1 unit	—
Ladle refining system		1 set	1 set	1 set
Continuous casting machine		3 units	5 units	6 units
Reheating furnace	Continuous type	2 units	2 units	2 units
	Batch type	2 units	3 units	3 units
Rolling mill		1 unit (5,500mm width)	1 unit (5,500mm width)	2 units (4,700mm width)
Accelerated cooling system		1 unit	1 unit	1 unit
Shearing machine		1 set	1 set	1 set
Heat treatment furnace		2 units	4 units	2 units
Quenching system		1 unit	2 units	1 unit
Shot blast and painting system		1 set	3 sets	1 set
Stainless steel pickling system		—	—	2 units
Stainless steel heat treatment furnace		—	—	1 unit
Stainless steel grinding machine		—	2 sets	3 sets
Clad slab assembly system		—	—	1 set



Rolling Mill

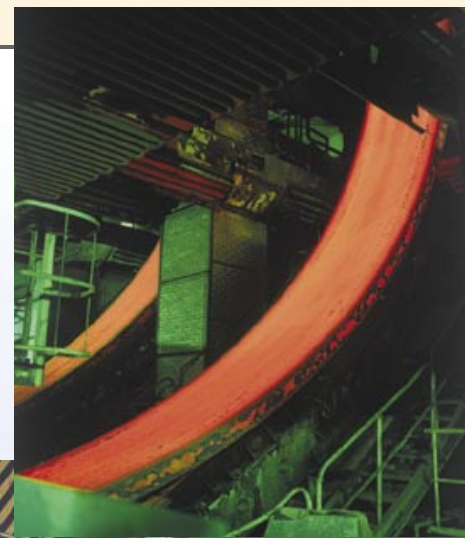
MANUFACTURING PROCESS FLOW



Blast furnace



Oxygen converter



Continuous casting machine



Rolling Mill



Super-OLAC (Online accelerated cooling equipment)



6000t Forging press



Heat treatment system

JFE'S PLATE PRODUCTS SPECIFIED BY TYPICAL STANDARDS

Type of steel		JIS		ASTM	API	BS	DIN	WES**	Ship's class Standard***	JFE Standard	
Steel Plates for Structural Use	Carbon-Manganese Steel	G3101	SS330 SS400	A36 A131	API 2H-42 2W-42	EN10025 S185 S235 S275			A B D E		
		G3106	SM400	A283		EN10113 S275					
		G3131	SPHC SPHD SPHE	A529 A573 Gr. 58							
		G3136	SN400								
	High Tensile Strength Steels	490N/mm ² Class	G3106	SM490 SM490Y	A572 A573	API 2H-50 2W-50	EN10025 S355 E295			A32,36,40 D32,36,40 E32,36,40	HBL325
			G3136	SN490	A633 A709 Gr. 50 A841		EN10225 S355 EN10113 S355				
		540N/mm ² Class	G3106	SM520	A572 Gr. 60 Gr. 65	API 2W-60	EN10225 S400 EN10113 S420 EN10225 S460	HW 355	A43 D43 E43 F43	JFE-HITEN540S HBL355 HBL385	
		590N/mm ² Class	G3106	SM570*	A678 Gr. C Gr. D A841		EN10025 E335 EN10113 S460 EN10137 S460	HW 450 HW450CF	A47 D47 E47 F47	JFE-HITEN570U2 JFE-HITEN570E JFE-HITEN590S JFE-HITEN590SL JFE-HITEN590AZ JFE-HITEN590 JFE-HITEN590U1 JFE-HITEN590U2 JFE-HITEN590E	
						EN10137 S500	HW 490 HW 490CF	A51 D51 E51 F51	JFE-HITEN610 JFE-HITEN610U1 JFE-HITEN610U2 JFE-HITEN610E SA440U		
690N/mm ² Class						EN10025 E360 EN10137 S550 S620	HW 550 HW 620	A56 D56 E56 A63,63N D63,63N E63	JFE-HITEN690S JFE-HITEN690 JFE-HITEN690M JFE-HITEN710 JFE-HITEN710M		
780N/mm ² Class	G3128	SHY685 SHY685N SHY685NS	A514 A709 Gr. 100		EN10137 S690	HW 685	A70,70N D70,70N E70,70N F70,70N	JFE-HITEN780EX JFE-HITEN780S JFE-HITEN780LE JFE-HITEN780F JFE-HITEN780M			
980N/mm ² Class					EN10137 S890 S960	HW 885		JFE-HITEN980S JFE-HITEN980			
Steel Plates for Low Temperature Use	Ni-alloy Steels	1.5%Ni Steel					LT360		JFE-LT 1.5Ni-TM		
		2.5%Ni Steel	G3127	SL2N255	A203 Gr. A Gr. B			KL2N30			
		3.5%Ni Steel	G3127	SL3N255	A203 Gr. D Gr. E		EN10028 12Ni14		KL3N32		
				SL3N275 SL3N440							
	9%Ni Steel	G3127	SL9N520	A353		EN10028 X8Ni 9		KL9N60			
			SL9N590	A553 I		EN10028 X7Ni 9					
	Al-Killed Steels	G3126	SLA325A SLA325B SLA360 SLA410			EN10028 P275 'L' P355 'L' EN10113 S275 'L' S355 'L' S420 'L'		KL24 KL33 KL37	JFE-LT415TM		
	High Tensile Strength Steels					EN10028 P460 'L'	LT450 LT490 LT550 LT685		JFE-HITEN590U2L JFE-HITEN590L JFE-HITEN610U2L JFE-HITEN610L JFE-HITEN690L JFE-HITEN710L JFE-HITEN780L JFE-HITEN780FL JFE-HITEN780ML		

Type of steel		JIS	ASTM	API	BS	DIN	WES**	Ship's class Standard***	JFE Standard
Atmospheric Corrosion Resistant Steel Plates	400N/mm ² Class	G3114 SMA400							
	490N/mm ² Class	G3114 SMA490	A242Type2 A588						
	590N/mm ² Class	G3114 SMA570*							
	Ni Type High Corrosion Resistant Steel								JFE-ACL400Type1 JFE-ACL400Type2 JFE-ACL490Type1 JFE-ACL490Type2 JFE-ACL570Type1 JFE-ACL570Type2
Steel Plates for Boiler and Pressure Vessel	Carbon Steel	G3103 SB410 SB450 SB480	A285 A515		EN10028 P235GH P265GH			KP42 KP46 KP49	
		G3115 SPV235 G3118 SGV410 SGV450	A516 Gr. 55 Gr. 60 Gr. 65		EN10028 P295GH			KPV24	
	490N/mm ² Class	G3115 SPV315 G3118 SGV480 G3124 SEV245	A299 A455 A516 Gr. 70 A537 Cl. 1 A841		EN10028 P355N			KPV32	
		G3115 SPV355 G3124 SEV295	A612		EN10028 P355GH	HW 355		KPV36	
	590N/mm ² Class	G3115 SPV450 G3124 SEV345	A537 Cl. 2 A738 Gr. B A841		EN10028 P460N	HW 450		KPV46	JFE-HITEN570U2 JFE-HITEN570E JFE-HITEN590 JFE-HITEN590U1 JFE-HITEN590U2 JFE-HITEN590E
		G3115 SPV490				HW 490		KPV50	JFE-HITEN610 JFE-HITEN610U1 JFE-HITEN610U2 JFE-HITEN610E
	690N/mm ² Class		A543 Cl. 1			HW 620			JFE-HITEN690M
	780N/mm ² Class		A517 A543 Cl. 2			HW 685			JFE-HITEN780F JFE-HITEN780M
	980N/mm ² Class					HW 885			JFE-HITEN980
	Mo Steel	G3103 SB450M SB480M	A204			EN10028 16Mo3		KPA46 KPA49 KPA56	
	Mn-Mo, Mn-Mo-Ni Steel	G3119 SBV	A302						
		G3120 SQV	A533						
	Cr-Mo Steel	G4109 SCMV	A542 A387		EN10028 Steel 621	EN10028 13CrMo4-5 10CrMo9-10 11CrMo9-10			
	Stainless Steel Plates	G4304 SUS	A240						JSL
	Clad Steel Plates	G3601 SUS	A263						
		G3602 Ni-Alloy	A264						
		G3603 Ti	A265						
		G3604 Cu-Alloy	B432						

* JFE supplies high tensile strength steel plates based on JIS SM570 with high weldability, which are SM570TMC, SMA570WTMC, SM570TMC-LB, SMA570WTMC-LB, SM570-EX, SM570-EG respectively.

TMC: Produced by TMCP, with high weldability

EX: With high weldability

EG: For high heat input welding

** When ordered by WES Designation, the corresponding JFE-HITEN approved by WES is applied.

Please refer to details on [Approved or Authorized Products]. (P.38)

*** Ship's society approval is shown on [Approved or Authorized Products]. (P.36)

APPLICATIONS

BRIDGES

◆ Typical Plate Products

Steel Plates for Structural Use : JIS, ASTM etc

High Tensile Strength Steel Plates : JFE-HITEN

Atmospheric Corrosion Resistant Steel Plates :
JIS G3114 SMA, JFE-ACL

Seawater Corrosion Resistant Steel Plates : JFE-MARIN



BUILDINGS

◆ Typical Plate Products

Steel Plates for Structural Use : JIS, ASTM etc

Atmospheric Corrosion Resistant Steel Plates :
JIS G3114 SMA, JFE-ACL

Steel Plates for Building : HBL, SA440U, HBL-FR, JFE-LY



SHIPS

◆ Typical Plate Products

- Steel Plates for Hull Structural Use :
All Ship's Class Standards
- High Tensile Strength Steel Plates : JFE-HITEN
- Steel Plates for Low Temperature Use :
JFE-LT, JFE-HITEN-L
- Corrosion Resistant Steel Plates : JFE-NAC5



APPLICATIONS

OFFSHORE STRUCTURES

◆ Typical Plate Products

- Steel Plates for Structural Use :
JIS, ASTM, API, EN, Ship's Class Standard etc.
- High Tensile Strength Steel Plates : JFE-HITEN
- High Tensile Strength Steel Plates for Low
Temperature Use : JFE-HITEN-L



HYDRO POWER STATIONS

◆ Typical Plate Products

Steel Plates for Hull Structural Use : JIS, ASTM etc.
High Tensile Strength Steel Plates : JFE-HITEN
Atmospheric Corrosion Resistant Steel Plates :
JIS G3114 SMA
Abrasion Resistant Steel Plates : JFE-EH
Seawater Resistant Steel Plates : JFE-MARIN
Corrosion Resistant Steel Plates : JFE-ASA



STORAGE TANKS

◆ Typical Plate Products

Steel Plates for Pressure Vessels : JIS, ASTM etc.
High Tensile Strength Steel Plates : JFE-HITEN
Atmospheric Corrosion Resistant Steel Plates :
JIS G3114 SMA
Steel Plates for Low Temperature Use :
JFE-LT, JFE-HITEN-L
Stainless Steel Plates : JSL, JIS, ASTM etc.



BOILERS AND PRESSURE VESSELS

◆ Typical Plate Products

- Carbon Steel Plates for Boilers : JIS, ASTM etc.
- Alloy Steel Plates for Boilers :
 - Mo Steel, Cr-Mo Steel, Ni-Cr-Mo Steel
- Steel Plates for Pressure Vessels : JIS, ASTM etc.
- Clad Steel Plates : JIS, ASTM etc.
- Stainless Steel Plates : JSL, JIS, ASTM etc.



MACHINERY



◆ Typical Plate Products

- Steel Plates for Structural Use : JIS, ASTM etc.
- High Tensile Strength Steel Plates : JFE-HITEN
- Abrasion Resistant Steel Plates : JFE-EH

JFE STANDARDS

Type	Brand	Feature	Outline of Products
High Tensile Strength Steel Plates	JFE-HITEN540S JFE-HITEN570U2 JFE-HITEN570E JFE-HITEN590 JFE-HITEN590U1 JFE-HITEN590U2 JFE-HITEN590E JFE-HITEN590S JFE-HITEN590SL JFE-HITEN610 JFE-HITEN610U1 JFE-HITEN610U2 JFE-HITEN610E JFE-HITEN690 JFE-HITEN690M JFE-HITEN690S JFE-HITEN710 JFE-HITEN710M JFE-HITEN780F JFE-HITEN780M JFE-HITEN780EX JFE-HITEN780S JFE-HITEN780LE JFE-HITEN980 JFE-HITEN980S	Tensile Strength (TS): Over 540N/mm ² Over 570N/mm ² Over 570N/mm ² Over 590N/mm ² Over 590N/mm ² Over 590N/mm ² Over 590N/mm ² Over 590N/mm ² Over 590N/mm ² Over 610N/mm ² Over 610N/mm ² Over 610N/mm ² Over 610N/mm ² Over 690N/mm ² Over 690N/mm ² Over 690N/mm ² Over 710N/mm ² Over 710N/mm ² Over 780N/mm ² Over 780N/mm ² Over 780N/mm ² Over 780N/mm ² Over 780N/mm ² Over 980N/mm ² Over 980N/mm ²	Since 1952 JFE Steel has continued the research and development of JFE-HITEN steel plates which have good weldability and high tensile strength up to 980N/mm² class. These products have been extensively used for storage tanks, spherical gas holders, bridges, penstocks, motorcars, ships, buildings, machineries, steel towers, civil construction equipment, low-temperature vessels, as well as mining and farming machines. Most notably, JFE Steel has developed its "U1, U2" series and "EX" HITEN which enable relaxing the pre-heating before welding, "E" series HITEN for high heat-input welding, and HITEN "LE" for civil construction machinery which excels in low-temperature toughness. JIS SM570 with high weldability, produced by TMCP, has also been developed. These products, thereby, win high popularity among many engineering fields.
Atmospheric Corrosion Resistant Steel Plates	JFE-ACL400 Type1 JFE-ACL400 Type2 JFE-ACL490 Type1 JFE-ACL490 Type2 JFE-ACL570 Type1 JFE-ACL570 Type2	Ni Type High Corrosion Resistant Steel Plates for Seaside use	In addition to conventional atmospheric corrosion resistant steels, JFE Steel has developed corrosion resistant steels for sea side areas, where ordinary atmospheric corrosion steel is not practical without painting, because of salty exposure. These steels are the standard type (Type1), which includes 1.5%Ni-Mo, and higher resistant type (Type2) including 2.5%Ni. For the purposes of preventing stain by watery rust at the initiation of exposure in atmospheric environment, JFE markets the rust stability accelerating paint "CUPTEN COAT M" and "e-RUS".

Type	Brand	Feature	Outline of Products																																																																																
Steel Plates for Low Temperature Use	JFE-LT415TM JFE-LT1.5Ni-TM JFE-HITEN590U2L JFE-HITEN590L JFE-HITEN610U2L JFE-HITEN610L JFE-HITEN690L JFE-HITEN710L JFE-HITEN780L JFE-HITEN780FL JFE-HITEN780ML	Al-killed Steel 1.5%Ni Steel TS : Over590N/mm ² : Over590N/mm ² : Over610N/mm ² : Over610N/mm ² : Over690N/mm ² : Over710N/mm ² : Over780N/mm ² : Over780N/mm ² : Over780N/mm ²	Steel plates for low temperature services are generally applied to low temperature vessels, offshore structures, such as jack-up rigs operating in low temperature regions, among others. Regarding low temperature vessels, the steel plates suitable for liquefied gas temperature are specified by some official standards or private standards. "Evaluation of criterion of rolled steels for low temperature application" was enacted by Japan Welding Engineering Society in Japan, with its basic rules adopted to JIS standard. Steel plates for low temperature services are specified also by ASTM, ASME, BS, DIN and ship class such as NK. JFE Steel supplies steel plates in conformance with the above standards, and furthermore has developed the original steel plates and obtained the qualification from authorized associations. <table border="1"> <thead> <tr> <th colspan="2">Liquefied</th> <th colspan="2">Applicable Steel Grades</th> </tr> </thead> <tbody> <tr> <td>Ammonia -33.4°C</td> <td></td> <td>JFE-HITEN-L</td> <td></td> </tr> <tr> <td>Propane -45°C</td> <td></td> <td>SLA235</td> <td></td> </tr> <tr> <td></td> <td></td> <td>SLA325</td> <td></td> </tr> <tr> <td></td> <td></td> <td>JFE-LT1.5Ni-TM</td> <td></td> </tr> <tr> <td>-50°F</td> <td></td> <td></td> <td>-46°C</td> </tr> <tr> <td>Propylene -47.7°C</td> <td></td> <td>SL2N</td> <td></td> </tr> <tr> <td>-75°F</td> <td></td> <td>SL3N</td> <td></td> </tr> <tr> <td>Hydrogen sulfide -59.5°C</td> <td></td> <td></td> <td>-60°C</td> </tr> <tr> <td>CO₂ gas -78.5°C</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Acetylene -84°C</td> <td></td> <td></td> <td></td> </tr> <tr> <td>-150°F</td> <td></td> <td></td> <td>-101°C</td> </tr> <tr> <td>Ethane -88.3°C</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Ethylene -104°C</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td>SL9N</td> <td></td> </tr> <tr> <td>Methane -163°C</td> <td></td> <td></td> <td></td> </tr> <tr> <td>-320°F</td> <td></td> <td></td> <td>-196°C</td> </tr> <tr> <td>Oxygen -183°C</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Argon -186°C</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Fluorine -187°C</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Liquefied		Applicable Steel Grades		Ammonia -33.4°C		JFE-HITEN-L		Propane -45°C		SLA235				SLA325				JFE-LT1.5Ni-TM		-50°F			-46°C	Propylene -47.7°C		SL2N		-75°F		SL3N		Hydrogen sulfide -59.5°C			-60°C	CO ₂ gas -78.5°C				Acetylene -84°C				-150°F			-101°C	Ethane -88.3°C				Ethylene -104°C						SL9N		Methane -163°C				-320°F			-196°C	Oxygen -183°C				Argon -186°C				Fluorine -187°C			
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Abrasion Resistant Steel Plates	JFE-EH320 JFE-EH360 JFE-EH360LE JFE-EH400 JFE-EH450 JFE-EH500 JFE-EH500LE JFE-EH360A JFE-EH400A JFE-EH500A JFE-EH-SP	High hardness HB 320-500	Many components of civil engineering equipment, industrial machinery, and transportation equipment require abrasion resistance. To date, these components were composed of special steel plates, high carbon steel plates or high tensile strength steel plates. To cover all these steel materials, JFE Steel developed its first in the world steel plate exclusively for abrasion resistance, "JFE-EH (EVERHARD)" which is enjoying high popularity in the market. JFE-EH is given the required hardness by conditioning carbon and other special elements as well as by special heat treatment. In addition to Standard Type and Alloy Type, recently, JFE Steel has successfully developed "SP", of which resistance is over that of 500grade, and "LE" that has good low temperature toughness. The use of these steel plates can extend the life of machines, and shorten repair time, and thereby saving expenses and costs.																																																																																

Type	Brand	Feature	Outline of Products
TMCP Type High Strength Steel Plates for Building Structure	HBL325 HBL355 HBL385	High standard strength and Low yield ratio in thickness 40~100mm of HBL325, 355 and 19~100mm of HBL385	HBL325, 355 has higher yield strength than that of JIS Standard in 40 to 100mm of thickness, authorized by minister of Land, Infrastructure, and Transport, and high plastic deformability is achieved by low yield ratio. In addition, JFE Steel has developed higher strength steel HBL385.
High- Performance 590N/mm ² High Strength Steel Plates for Building Structure	SA440 SA440U	High standard strength Good plastic deformability High toughness High weldability	"SA440U" is the 590N/mm ² class steel for building structure, which enables relaxing the preheating before welding, drastically, compared to conventional "SA440".
Fire Resistant Steel Plates for Building Structure	HBL325FR HBL355FR	Elevated temperature strength guaranteed	Conforming to JIS G3106 and G3136 in ambient temperature, and guaranteeing yield strength more than 2/3 of specified yield strength at 600°C, even in TMCP-type HBL325, and 355.
Low Yield Strength Steel Plates for Building Structure	JFE-LY100 JFE-LY160 JFE-LY225	Excellent deforming ability enables the absorption of earthquake energy.	Extremely low yield strength steels for earthquake damper which have high energy absorbing capacity and can be selected from three kinds of standard strength options. LY160 is special grade by JFE Steel.
Seawater Resistant Steel Plates	JFE-MARIN400 JFE-MARIN490 JFE-MARIN490Y	For welded structure use	JFE developed unique steel plates having high sea water resistance, named "JFE-MARIN" for use in offshore or so called "water front" structure, bridges and ships, particularly in such portion as requiring resistance against corrosion due to sea water.
Corrosion Resistant Steel Plates	JFE-ZP	For galvanizing pots	JFE's corrosion resistant steel plates provide corrosion resistance to various corrosive environments, and have been extensively used in various fields such as chemical planting, galvanizing, or ship building industries, etc.
	JFE-ASA400 JFE-ASA440	For sulfuric acid corrosion resistance	
	JFE-AH 1, 2	HIC resistance	
	JFE-NAC 5	For deck plates for tanker	
Pure Iron Plates for Magnetic Shielding	JFE-EFE	High purity and superior magnetization characteristic	Demonstrates excellent magnetization property, because of its high purity.
Steel Plates for Mold Use	JFE-MD1 JFE-MD2 JFE-MD3	Good machinability and workability with stability of fatigue and heat impact properties	Pre-hardened steels with reasonable chemical compositions and heat-treatment have 3 grades of hardness. They have good machinability, workability and stable performance in fatigue or heat impact in such temperature range as plastic forging.

Type	Brand	Feature	Outline of Products
High Strength Steel Plates for Hot-dip Zinc-coated Tower	JFE-HITEN590AZ	Tensile strength : over 590N/mm ²	High tensile strength steel plates for electric power transmitting towers, well designed to prevent galvanizing crack.
Longitudinally Profiled Steel Plates (LP Plates)	Ship's class standard A, B, D A32, D32, E32 A36, D36, E36 JIS Standard SS400 SM400, 490, 490Y SM520, 570Q SM570TMC SMA400, 490, 570	Thickness of this plate is continuously and linearly varied in length direction.	"LP Plates" are manufactured by advanced rolling technology and contributes to cost reduction in the fields of ships or bridge construction. There are 8 shape types in LP Plates. So, please consult with us the actual sizes required individually. Main size availability is as follows: Width 5,000mm and under Max. thickness difference 30mm Max. taper in thickness 8mm/M Min. thickness 10mm Total length 6~25m Min. weight 2.5T
Steel Plates for Rockets	JFE-HT140NP JFE-HT210P	Alloying steel plates for rocket chamber	"140NP" includes 4Ni-1.8Cr-0.5Mo-V, and "210P" includes 18Ni-9Co-5Mo-0.5Ti-Al-Zn-B, respectively. Both provide ultra high strength and elevated temperature resistance.
Stainless Steel Plates	JSL304 OL, OL1, OH JSL304LOL, LOH JSL316OL, OH JSL316LOL, LOH JSL310MoCu JSL Ni5Mo, Ni5	High corrosion resistance Weldability	These series plates have excellent corrosion resistance and are highly weldable products, realized through new processing and special heat treatment. "OL", "OH" series plates are manufactured by TMCP, respectively, and "OL" has a higher strength than "OH". JSL310MoCu shows excellent anti-corrosion property in the environment containing chloride and/or sulfuric acid, and is applicable to offshore structures, gates, smokestack, flue, etc. JSL Ni5Mo, Ni5 have been developed for a high speed ship "Techno-Super Liner".
Clad Steel Plates	Cladding Materials; Stainless, Cu & Cu alloy Ni & Ni alloy, Ti, Fe-Ni-Cr-Mo alloy (JIS, ASTM standard) Base Metals; JIS, ASTM standard Ship's class standard	Has convenient mechanical property of base metal and various functions of cladding materials. Consequently, used in a corrosive environment like chemical vessels, chemical tankers or seawater desalting equipments.	JFE Steel is a world-leading clad plate manufacturer, who has enjoyed high reliance of customers by the newest slab assembly and excellent bonding technology. JFE Steel successfully supplies clad products assembled with various kinds of cladding and base metals. The wider and longer steel plates are also available, thereby winning high popularity.

High Tensile Strength Steel Plates

JFE-HITEN590, 690 Series

Designation (Thickness mm)	Heat Treatment	Chemical Composition (%)																Tensile Test						Bending Test (180°)		Impact Test (2mmV Charpy)			
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	B	Ceq		P _{CM}			Yield Point or Proof Stress		Tensile Strength (N/mm ²)	Elongation			Bending Radius		Test Temperature		Absorbed Energy
														Thickness (mm)					Thickness (mm)	(N/mm ²)		Thickness (mm)	(%)	Test Specimen	Thickness (mm)	Test Specimen No. 1	Thickness (mm)	(℃)	
JFE- HITEN590 (6~150)	QT	≤0.16	0.15/ 0.55	≤1.50	≤0.025	≤0.015	≤0.30	≤1.00	≤0.30	≤0.30	≤0.08	—	—	t≤50 50<t≤75 75<t	≤0.44 ≤0.46 ≤0.48	≤0.26 ≤0.28 ≤0.28		—	≥450	590/710	t≤16 16<t≤50 20<t	≥20 ≥28 ≥20	No. 5 No. 5 No. 4	—	1.5t	12<t	−10	≥47	
JFE- HITEN610 (6~150)	QT	≤0.16	0.15/ 0.55	≤1.50	≤0.025	≤0.015	≤0.30	≤1.00	≤0.30	≤0.30	≤0.08	—	—	t≤50 50<t≤75 75<t	≤0.45 ≤0.47 ≤0.49	≤0.26 ≤0.28 ≤0.28		t≤75 75<t	≥490 ≥470	610/730	t≤16 16<t≤50 20<t	≥19 ≥27 ≥19	No. 5 No. 5 No. 4	—	1.5t	12<t≤32 32<t	−10 −15	≥47 ≥47	
JFE- HITEN690 (6~100)	QT	≤0.16	≤0.35	≤1.20	≤0.025	≤0.015	≤0.40	≤1.00	≤0.70	≤0.50	≤0.08	—	≤0.005	t≤50 50<t	≤0.54 ≤0.58	— —		t≤75 75<t	≥590 ≥570	690/820	t≤16 16<t≤50 20<t	≥17 ≥25 ≥17	No. 5 No. 5 No. 4	t≤32 32<t	1.5t 2.0t	12<t≤32 32<t≤50 50<t	−15 −20 −30	≥47 ≥47 ≥47	
JFE- HITEN710 (6~100)	QT	≤0.16	≤0.35	≤1.20	≤0.025	≤0.015	≤0.40	≤1.00	≤0.70	≤0.50	≤0.08	—	≤0.005	t≤50 50<t	≤0.55 ≤0.59	— —		t≤75 75<t	≥620 ≥600	710/840	t≤16 16<t≤50 20<t	≥17 ≥25 ≥17	No. 5 No. 5 No. 4	t≤32 32<t	1.5t 2.0t	12<t≤32 32<t≤50 50<t	−15 −20 −30	≥47 ≥47 ≥47	
JFE- HITEN690M (6~100)	QT	≤0.14	≤0.35	≤1.20	≤0.015	≤0.015	≤0.40	0.30/ 1.30	≤0.70	≤0.50	≤0.05	—	≤0.005	t≤50 50<t	≤0.53 ≤0.57	— —		t≤75 75<t	≥590 ≥570	690/820	t≤16 16<t≤50 20<t	≥17 ≥25 ≥17	No. 5 No. 5 No. 4	t≤32 32<t	1.5t 2.0t	12<t≤32 32<t≤50 50<t	−15 −20 −30	≥47 ≥47 ≥47	
JFE- HITEN710M (6~100)	QT	≤0.14	≤0.35	≤1.20	≤0.015	≤0.015	≤0.40	0.30/ 1.30	≤0.70	≤0.50	≤0.05	—	≤0.005	t≤50 50<t	≤0.53 ≤0.57	— —		t≤75 75<t	≥620 ≥600	710/840	t≤16 16<t≤50 20<t	≥17 ≥25 ≥17	No. 5 No. 5 No. 4	t≤32 32<t	1.5t 2.0t	12<t≤32 32<t≤50 50<t	−15 −20 −30	≥47 ≥47 ≥47	

JFE-HITEN780 Series and JFE-HITEN980

Designation (Thickness mm)	Heat Treatment	Chemical Composition (%)																Tensile Test					Bending Test (180°)		Impact Test (2mmV Charpy)					
		Thickness (mm)	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	B	Ceq			P _{CM}		Yield Point or Proof Stress		Tensile Strength (N/mm ²)	Elongation			Bending Radius		Test Temperature		Absorbed Energy
															Thickness (mm)					Thickness (mm)	(N/mm ²)		Thickness (mm)	(%)	Test Specimen	Thickness (mm)	(^{Test Specimen No. 1})	Thickness (mm)	(°C)	
JFE- HITEN780F (6~150)	QT	t ≤100 100<t	≤0.16 ≤0.18	≤0.55 ≤0.55	≤1.20 ≤1.20	≤0.020 ≤0.020	≤0.015 ≤0.015	≤0.50 ≤0.50	— ≤0.35	≤1.20 ≤1.50	≤0.60 ≤0.60	≤0.10 ≤0.10	—	≤0.005 ≤0.005	t≤50 50<t≤100 100<t	≤0.57 ≤0.60 ≤0.65	≤0.30 ≤0.32 —		t≤75 75<t	≥685 ≥665	780/930	t≤16 16<t≤50 20<t	≥16 ≥24 ≥16	No. 5 No. 5 No. 4	t≤32 32<t	1.5t 2.0t	12<t≤20 20<t≤32 32<t	−5 −15 −20	≥35 ≥35 ≥35	
JFE- HITEN780M (6~150)	QT	t ≤100 100<t	≤0.14 ≤0.18	≤0.35 ≤0.35	≤1.20 ≤1.20	≤0.015 ≤0.015	≤0.015 ≤0.015	≤0.50 ≤0.50	0.30/1.50 0.30/1.50	≤0.70 ≤0.80	≤0.60 ≤0.60	≤0.05 ≤0.05	—	≤0.005 ≤0.005	t≤50 50<t≤100 100<t	≤0.53 ≤0.57 ≤0.62	≤0.30 ≤0.32 —		t≤75 75<t	≥685 ≥665	780/930	t≤16 16<t≤50 20<t	≥16 ≥24 ≥16	No. 5 No. 5 No. 4	t≤32 32<t	1.5t 2.0t	12<t≤32 32<t≤50 50<t	−20 −25 −35	≥47 ≥47 ≥47	
JFE- HITEN980 (6~120)	QT	—	≤0.14	≤0.35	≤1.20	≤0.010	≤0.005	≤0.70	≤4.00	≤0.80	≤0.80	≤0.15	≤0.02	≤0.005	t≤50 50<t≤100 100<t	≤0.59 ≤0.62 ≤0.71	≤0.29 ≤0.33 ≤0.36		t≤75 75<t≤100 100<t	≥885 ≥865 ≥865	950/1130 950/1130 930/1110	t≤16 16<t≤50 20<t	≥12 ≥19 ≥12	No. 5 No. 5 No. 4	t≤32 32<	2.0t 2.5t	12<t	−60	≥47	

High Tensile Strength Steel Plates with High Weldability

Designation (Thickness mm)	Heat Treatment	Chemical Composition (%)																Tensile Test						Bending Test (180°)		Impact Test (2mmV Charpy)			
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	B	Ceq		P _{CM}			Yield Point or Proof Stress		Tensile Strength (N/mm ²)	Elongation			Bending Radius		Test Temperature		Absorbed Energy
														Thickness (mm)					Thickness (mm)	(N/mm ²)		Thickness (mm)	(%)	Test Specimen	Thickness (mm)	Test Specimen No. 1	Thickness (mm)	(°C)	
JFE- HITEN570U2 (6~100)	QT	≤0.09	0.15/ 0.55	≤1.60	≤0.025	≤0.010	≤0.30	≤0.30	≤0.30	≤0.30	≤0.06	≤0.03	—	—	—	≤0.20		t≤16 16<t≤40 40<t≤75 75<t	≥460 ≥450 ≥430 ≥420	570/700	t≤16 16<t≤50 20<t	≥20 ≥28 ≥20	No.5 No.5 No.4	t≤32 32<t	1.5t 2.0t	12<t	—5	≥47	
JFE- HITEN590U1 (6~100)	QT	≤0.09	0.15/ 0.55	1.20/ 1.60	≤0.025	≤0.010	≤0.30	≤0.80	≤0.30	≤0.30	≤0.06	≤0.03	≤0.005	—	—	≤0.20		t≤75 75<t	≥450 ≥430	590/710 570/690	t≤16 16<t≤50 20<t	≥20 ≥28 ≥20	No.5 No.5 No.4	t≤32 32<t	1.5t 2.0t	6≤t≤20 20<t≤32 32<t≤50 50<t	5 —5 —10 —20	≥47** ≥47 ≥47 ≥47	
JFE- HITEN590U2 (6~75)	QT	≤0.09	0.15/ 0.55	1.20/ 1.60	≤0.025	≤0.010	≤0.30	≤0.30	≤0.30	≤0.30	≤0.06	≤0.03	—	—	—	≤0.20		—	≥450	590/710	t≤16 16<t≤50 20<t	≥20 ≥28 ≥20	No.5 No.5 No.4	t≤32 32<t	1.5t 2.0t	6≤t≤20 20<t≤32 32<t≤50 50<t	5 —5 —10 —20	≥47** ≥47 ≥47 ≥47	
JFE- HITEN610U1 (6~100)	QT	≤0.09	0.15/ 0.55	1.20/ 1.60	≤0.025	≤0.010	≤0.30	≤0.80	≤0.30	≤0.30	≤0.06	≤0.03	≤0.005	—	—	≤0.20		t≤75 75<t	≥490 ≥470	610/730 590/710	t≤16 16<t≤50 20<t	≥19 ≥27 ≥19	No.5 No.5 No.4	t≤32 32<t	1.5t 2.0t	6≤t≤20 20<t≤32 32<t≤50 50<t	0 —5 —15 —25	≥47** ≥47 ≥47 ≥47	
JFE- HITEN610U2 (6~75)	QT	≤0.09	0.15/ 0.55	1.20/ 1.60	≤0.025	≤0.010	≤0.30	≤0.30	≤0.30	≤0.30	≤0.06	≤0.03	—	—	—	≤0.20		—	≥490	610/730	t≤16 16<t≤50 20<t	≥19 ≥27 ≥19	No.5 No.5 No.4	t≤32 32<t	1.5t 2.0t	6≤t≤20 20<t≤32 32<t≤50 50<t	0 —5 —15 —25	≥47** ≥47 ≥47 ≥47	
JFE- HITEN780EX (6~60)	QT	≤0.09	≤0.55	0.60/ 1.50	≤0.015	≤0.010	≤0.50	0.30/ 1.50	≤0.80	≤0.60	≤0.05	≤0.03	≤0.005	t≤34 34<t≤60	≤0.53* ≤0.57*	≤0.23 ≤0.25		t≤50 50<t≤60	≥685 ≥665	780/930 760/910	t≤16 16<t≤50 20<t	≥16 ≥24 ≥16	No.5 No.5 No.4	t≤32 32<t	1.5t 2.0t	12<t≤32 32<t≤60	—20 —25	≥47 ≥47	

* WES+Cu/13 (Cu≥0.30)
** 6≤t≤8 24J (1/2 Size)
8<t≤10.5 35J (3/4 Size)
10.5<t<12 39J (3/4 Size)

High Tensile Strength Steel Plates for High Heat-input Welding

Designation (Thickness mm)	Heat Treatment	Chemical Composition (%)														Tensile Test					Bending Test (180°)		Impact Test (2mmV Charpy)			
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	B	P _{CM}		Yield Point or Proof Stress		Tensile Strength (N/mm ²)	Elongation			Bending Radius		Test Temperature		Absorbed Energy
																Thickness (mm)	(N/mm ²)		Thickness (mm)	(%)	Test Specimen	Thickness (mm)	Test Specimen No. 1	Thickness (mm)	(°C)	
JFE-HITEN570E (6~100)	QT	≤0.09	0.15/0.55	≤1.60	≤0.020	≤0.010	≤0.30	≤0.30	≤0.30	≤0.30	≤0.06	≤0.03	—	≤0.20		t≤16 16<t≤40 40<t≤75 75<t	≥460 ≥450 ≥430 ≥420	570/700	t≤16 16<t≤50 20<t	≥20 ≥28 ≥20	No.5 No.5 No.4	t≤32 32<t	1.5t 2.0t	12<t	—5	≥47
JFE-HITEN590E (6~75)	QT	≤0.09	0.15/0.55	1.00/1.60	≤0.020	≤0.010	≤0.30	≤0.30	≤0.30	≤0.30	≤0.06	≤0.03	—	≤0.20		—	≥450	590/710	t≤16 16<t≤50 20<t	≥20 ≥28 ≥20	No.5 No.5 No.4	t≤32 32<t	1.5t 2.0t	6≤t≤20 20<t≤32 32<t≤50 50<t	5 —5 —10 —20	≥47** ≥47 ≥47 ≥47
JFE-HITEN610E (6~75)	QT	≤0.09	0.15/0.55	1.00/1.60	≤0.020	≤0.010	≤0.30	≤0.30	≤0.30	≤0.30	≤0.06	≤0.03	—	≤0.20		—	≥490	610/730	t≤16 16<t≤50 20<t	≥19 ≥27 ≥19	No.5 No.5 No.4	t≤32 32<t	1.5t 2.0t	6≤t≤20 20<t≤32 32<t≤50 50<t	0 —5 —15 —25	≥47** ≥47 ≥47 ≥47

** 6≤t≤8 24J (1/2 Size)
8<t≤10.5 35J (3/4 Size)
10.5<t<12 39J (3/4 Size)

High Tensile Strength Steel Plates for Civil Engineering and Industrial Machinery

Designation (Thickness mm)	Heat Treatment	Chemical Composition (%)															Tensile Test					Bending Test (180°)		Impact Test (2mmV Charpy)					
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	B	Ceq			P _{CM}		Yield Point or Proof Stress		Tensile Strength (N/mm ²)	Elongation			Bending Radius		Test Temperature		Absorbed Energy
														Thickness (mm)					Thickness (mm)	(N/mm ²)		Thickness (mm)	(%)	Test Specimen	Thickness (mm)	(Test Specimen No. 1)	Thickness (mm)	(°C)	
JFE- HITEN540SA (6~30)	CR or TMCP	≤0.18	≤0.55	≤1.80	≤0.030	≤0.025	Other elements are added as required.							—	—	—		—	≥355	540/660	t ≤16 16<t 20<t	≥14 ≥17 ≥23	No.1A No.1A No. 4	—	1.5t	—	—	—	
JFE- HITEN540SB (6~30)																										12<t	0	≥47	
JFE- HITEN590SA (6~40)	CR or TMCP	≤0.18	≤0.55	≤2.00	≤0.030	≤0.020	Other elements are added as required.							—	≤0.45	—	—	≥450	590/710	t ≤16 16<t ≤50 20<t	≥20 ≥28 ≥20	No.5 No.5 No.4	t ≤32 32<t	1.5t 2.0t	—	—	—		
JFE- HITEN590SB (6~40)		≤0.18	≤0.55	≤2.00	≤0.030	≤0.015								Other elements are added as required.											—	≤0.45	—	12<t	—10
JFE- HITEN590SL (6~50)	CR or TMCP	≤0.16	0.20/ 0.55	0.80/ 1.60	≤0.030	≤0.015	—	—	—	≤0.35	≤0.08	≤0.05	—								—	≤0.46	≤0.22		t ≤32 32<t	≥450 ≥430	590/710 570/705	t ≤16 16<t ≤20 20<t	≥20 ≥26 ≥20
JFE- HITEN690S (6~25)	CR or TMCP	≤0.15	≤0.55	≤2.00	≤0.030	≤0.015	Nb,V,Ti and other elements are added as required.							—	≤0.50	—		—	≥550	690/830	t ≤16 16<t	≥17 ≥25	No.5 No.5	—	1.5t	12<t	—10	≥47	
JFE- HITEN780S (6~50)	QT	≤0.25	≤0.55	≤1.60	≤0.030	≤0.015	—	—	≤0.40	—	Ti : 0.005/0.02		≤0.005	—	≤0.53	—		—	≥685	780/930	t ≤16 16<t ≤50 20<t	≥16 ≥24 ≥16	No.5 No.5 No.4	t ≤32 32<t	1.5t 2.0t	12<t ≤20 20<t ≤32 32<t	—5 —15 —20	≥35 ≥35 ≥35	
JFE- HITEN780LE (6~32)	TMCP	≤0.20	≤0.40	≤1.40	≤0.025	≤0.015	—	—	≤0.20	≤0.15	≤0.08	—	≤0.005	t ≤19 19<t	≤0.40* ≥0.43*	—		—	≥685	780/930	t ≤16 16<t ≤32 20<t	≥16 ≥24 ≥16	No.5 No.5 No.4	—	1.5t	6 ≤t ≤32	—40	≥40***	
JFE- HITEN980S (6~50)	QT	≤0.18	≤0.35	≤1.20	≤0.020	≤0.015	≤0.70	≤2.00	≤0.80	≤0.80	≤0.08	≤0.02	≤0.005	—	≤0.65	—		—	≥885	950/1130	t ≤16 16<t ≤50 20<t	≥12 ≥19 ≥12	No.5 No.5 No.4	t ≤32 32<t	2.0t 2.5t	12<t ≤20 20<t ≤32 32<t	—10 —25 —30	≥35 ≥35 ≥35	

* C+Mn/6+(Cu+Ni)/15+(Cr+Mo+V)/5 ** 6≤t<8.5 19J (1/2 Size) *** 6≤t<8.5 20J (1/2 Size)
8.5≤t≤12 24J (3/4 Size) 8.5≤t≤12 30J (3/4 Size)

Ni Type High Atmospheric Corrosion Resistant Steel Plates

Designation (Thickness mm)	Heat Treatment	Chemical Composition (%)													Tensile Test						Impact Test (2mmV Charpy)		
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	B		Yield Point or Proof Stress		Tensile Strength (N/mm²)	Elongation			Test Temperature		Absorbed Energy (J)
															Thickness (mm)	(N/mm²)		Thickness (mm)	(%)	Test Specimen	Grade	(°C)	
JFE-ACL 400A Type1 400B Type1 400C Type1 (6~100)	AR or N	≦0.18	0.15/ 0.65	≦1.25	≦0.035	≦0.035	—	1.00/ 2.00	—	0.20/ 0.60	Nb,V and others are added as required.				t≦16 16<t≦40 40<t	≧245 ≧235 ≧215	400/540	t≦16 16<t 40<t	≧17 ≧21 ≧23	No.1A No.1A No.4	A B C	— 0 0	— ≧27 ≧47
JFE-ACL 400A Type2 400B Type2 400C Type2 (6~100)	AR or N	≦0.18	0.15/ 0.65	≦1.25	≦0.035	≦0.035	0.30/ 0.50	2.00/ 3.00	—	—	Nb,V and others are added as required.				t≦16 16<t≦40 40<t	≧245 ≧235 ≧215	400/540	t≦16 16<t 40<t	≧17 ≧21 ≧23	No.1A No.1A No.4	A B C	— 0 0	— ≧27 ≧47
JFE-ACL 490A Type1 490B Type1 490C Type1 (6~100)	AR or N	≦0.18	0.15/ 0.65	≦1.40	≦0.035	≦0.035	—	1.00/ 2.00	—	0.20/ 0.60	Nb,V and others are added as required.				t≦16 16<t≦40 40<t≦75 75<t	≧365 ≧355 ≧335 ≧325	490/610	t≦16 16<t 40<t	≧15 ≧19 ≧21	No.1A No.1A No.4	A B C	— 0 0	— ≧27 ≧47
JFE-ACL 490A Type2 490B Type2 490C Type2 (6~100)	AR or N	≦0.18	0.15/ 0.65	≦1.40	≦0.035	≦0.035	0.30/ 0.50	2.00/ 3.00	—	—	Nb,V and others are added as required.				t≦16 16<t≦40 40<t≦75 75<t	≧365 ≧355 ≧335 ≧325	490/610	t≦16 16<t 40<t	≧15 ≧19 ≧21	No.1A No.1A No.4	A B C	— 0 0	— ≧27 ≧47
JFE-ACL 570 Type1 (6~100)	TMCP or QT	≦0.18	0.15/ 0.65	≦1.40	≦0.035	≦0.035	—	1.00/ 2.00	—	0.20/ 0.60	Nb,V and others are added as required.				t≦16 16<t≦40 40<t≦75 75<t	≧460 ≧450 ≧430 ≧420	570/720	t≦16 16<t 40<t	≧19 ≧26 ≧20	No.5 No.5 No.4	—	—5	≧47
JFE-ACL 570 Type2 (6~100)	TMCP or QT	≦0.18	0.15/ 0.65	≦1.40	≦0.035	≦0.035	0.30/ 0.50	2.00/ 3.00	—	—													

Steel Plates for Low Temperature Service

Designation (Thickness mm)	Heat Treatment	Chemical Composition (%)													Tensile Test					Bending Test (180°)	Impact Test (2mmV Charpy)	
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti		Yield Point or Proof Stress (N/mm ²)	Tensile Strength (N/mm ²)	Elongation			Bending Radius (Test Specimen No.1)	Test Temperature (°C)	Absorbed Energy (J)
																	Thickness (mm)	(%)	Test Specimen			
Al-killed Type JFE- LT415TM (6~50)	TMCP	≤0.14	≤0.50	0.80/ 1.60	≤0.025	≤0.010	≤0.40	≤1.00	—	—	≤0.08	≤0.02	≤0.015		≥415	550/690	t≤16 16<t 20<t	≥20 ≥28 ≥20	No.5 No.5 No.4	—	—60	≥41
1.5Ni Type JFE- LT1.5Ni-TM (6~40)	TMCP	≤0.10	≤0.40	0.80/ 1.60	≤0.025	≤0.010	≤0.30	1.10/1.60	≤0.30	≤0.20	≤0.08 Sol.Al≤0.08	≤0.02 Ca≤0.005	≤0.015		≥365	490/610	t≤16 16<t 20<t	≥20 ≥28 ≥20	No.5 No.5 No.4	1.5t	—110	≥27*
																					*6≤t<8.5 14J (1/2 Size)	*8.5≤t<11 22J (3/4 Size)

High Tensile Strength Steel Plates for Low Temperature Service

Designation (Thickness mm)	Heat Treatment	Chemical Composition (%)															Tensile Test						Bending Test (180°)		Impact Test (2mmV Charpy)	
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	B	Ceq	P _{CM}		Yield Point or Proof Stress		Tensile Strength (N/mm ²)	Elongation			Bending Radius		Test Temperature (°C)	Absorbed Energy (J)
																	Thickness (mm)	(N/mm ²)		Thickness (mm)	(%)	Test Specimen	Thickness (mm)	(Test Specimen No. 1)		
JFE-HITEN590L (6~50)	QT	≤0.16	≤0.55	≤1.50	≤0.025	≤0.010	Ni,Cr,Mo,V etc. are added as required.							≤0.44	—	—	≥450	590/710	t≤16 16<t≤20 20<t	≥20 ≥28 ≥20	No.5 No.5 No.4	—	1.5t	According to WES3003		
JFE-HITEN610L (6~50)	QT	≤0.16	≤0.55	≤1.50	≤0.025	≤0.010	Ni,Cr,Mo,V etc. are added as required.							≤0.45	—	—	≥490	610/730	t≤16 16<t≤20 20<t	≥19 ≥27 ≥19	No.5 No.5 No.4	—	1.5t	According to WES3003		
JFE-HITEN590U2L (6~75)	QT	≤0.09	0.15/ 0.55	≤1.60	≤0.025	≤0.010	≤0.30	≤0.70	≤0.30	≤0.30	≤0.06	≤0.03	—	—	≤0.20	—	≥450	590/710	t≤16 16<t≤20 20<t	≥20 ≥28 ≥20	No.5 No.5 No.4	—	1.5t	According to WES3003		
JFE-HITEN610U2L (6~75)	QT	≤0.09	0.15/ 0.55	≤1.60	≤0.025	≤0.010	≤0.30	≤0.70	≤0.30	≤0.30	≤0.06	≤0.03	—	—	≤0.20	—	≥490	610/730	t≤16 16<t≤20 20<t	≥19 ≥27 ≥19	No.5 No.5 No.4	—	1.5t	According to WES3003		
JFE-HITEN690L (6~32)	QT	≤0.15	≤0.55	≤1.20	≤0.025	≤0.010	≤0.50	≤1.00	≤0.80	≤0.50	≤0.08	—	≤0.005	≤0.51	—	—	≥570	690/800	t≤16 16<t≤20 20<t	≥18 ≥26 ≥18	No.5 No.5 No.4	—	1.5t	According to WES3003		
JFE-HITEN710L (6~40)	QT	≤0.15	≤0.55	≤1.20	≤0.025	≤0.010	≤0.50	≤1.00	≤0.80	≤0.60	≤0.08	—	≤0.005	≤0.52	—	—	≥615	710/840	t≤16 16<t≤20 20<t	≥17 ≥25 ≥17	No.5 No.5 No.4	—	1.5t	According to WES3003		
JFE-HITEN780L (6~50)	QT	≤0.15	≤0.35	≤1.20	≤0.025	≤0.010	≤0.50	≤1.50	≤0.80	≤0.60	≤0.08	—	≤0.005	≤0.53	—	—	≥685	780/930	t≤16 16<t≤20 20<t	≥16 ≥24 ≥16	No.5 No.5 No.4	—	1.5t	According to WES3003		
JFE-HITEN780FL (6~40)	QT	≤0.16	≤0.60	≤1.00	≤0.025	≤0.010	0.15/ 0.50	—	≤1.20	≤0.60	≤0.10	Zr≤0.10	≤0.005	—	—	—	≥685	780/930	t≤16 16<t≤20 20<t	≥16 ≥24 ≥16	No.5 No.5 No.4	—	1.5t	According to WES3003		
JFE-HITEN780ML (6~200)	QT	≤0.16	≤0.35	≤1.20	≤0.020	≤0.010	≤0.50	≤4.00	≤1.00	≤0.60	≤0.10	—	≤0.005	—	—	t≤50 50<t	≥685	780/930 760/910	t≤16 16<t≤20 20<t	≥16 ≥24 ≥16	No.5 No.5 No.4	t<32 32≤t	1.5t 2.0t	—60	(12<t) ≥34	

Abrasion Resistant Steel Plates

Standard Type

Designation (Thickness mm)	Chemical Composition (%)										Hardness Test	
	C	Si	Mn	P	S	Cr	Mo	V	Ti	B		Surface Brinell Hardness (3000)
JFE-EH320 (6~50)	≤0.20	≤0.55	≤1.60	≤0.030	≤0.030	≤0.40	—	—	0.005/ 0.020	≤0.004		≥321
JFE-EH360 (6~50)	≤0.20	≤0.55	≤1.60	≤0.030	≤0.030	≤0.40	—	—	0.005/ 0.020	≤0.004		≥361
JFE-EH400 (6~50)	≤0.25	≤0.55	≤1.60	≤0.030	≤0.030	≤0.40	—	—	0.005/ 0.020	≤0.004		≥401
JFE-EH450 (6~50)	≤0.35	≤0.55	≤1.60	≤0.030	≤0.030	≤0.80	—	—	0.005/ 0.020	≤0.004		≥441
JFE-EH500 (6~50)	≤0.35	≤0.55	≤1.60	≤0.030	≤0.030	≤0.80	—	—	0.005/ 0.020	≤0.004		≥477

Alloying Type

Designation (Thickness mm)	Chemical Composition (%)										Hardness Test		Impact Test (2mmV Charpy)		
	C	Si	Mn	P	S	Cr	Mo	V	Ti	B		Surface Brinell Hardness (3000)	Test Temperature		Absorbed Energy
													Thickness (mm)	(°C)	(J)
JFE-EH360A (6~100)	≤0.20	≤0.55	≤1.60	≤0.030	≤0.030	0.40/ 1.20	0.10/ 0.50	≤0.10	≤0.020	≤0.004		≥361	13<t≤50	0	≥21
JFE-EH400A (6~100)	≤0.25	≤0.55	≤1.60	≤0.030	≤0.030	0.40/ 1.20	0.10/ 0.50	≤0.10	≤0.020	≤0.004		≥401	13<t≤50	0	≥21
JFE-EH500A (6~100)	≤0.35	≤0.55	≤1.60	≤0.030	≤0.030	0.40/ 1.20	0.10/ 0.50	≤0.10	≤0.020	≤0.004		≥477	13<t≤25	0	≥21

High Toughness Type

Designation (Thickness mm)	Chemical Composition (%)											Hardness Test		Impact Test (2mmV Charpy)		
	C	Si	Mn	P	S	Cr	Mo	V	Ti	B	Ceq		Surface Brinell Hardness (3000)	Test Temperature		Absorbed Energy
											Thickness (mm)			Thickness (mm)	(°C)	(J)
JFE-EH360LE (6~32)	≤0.17	≤0.55	≤1.60	≤0.020	≤0.010	≤0.40	≤0.35	—	≤0.020	≤0.004	6≤t≤19 19<t	≤0.40* ≤0.43*	361/ 440	12<t	−40	≥27
JFE-EH500LE (6~32)	≤0.29	≤0.55	≤1.60	≤0.020	≤0.010	≤0.40	≤0.35	—	≤0.020	≤0.004	6≤t≤19 19<t	≤0.55* ≤0.58*	477/ 556	12<t	−40	≥21

* Ceq.=C+Mn/6+ (Cu+Ni) /15+ (Cr+Mo+V) /5

Super Abrasion Resistant Type

Designation (Thickness mm)	Chemical Composition (%)										Hardness Test	
	C	Si	Mn	P	S	Cr	Mo	V	Ti	B		Surface Brinell Hardness (3000)
JFE-EH-SP (6~65)	≤0.35	≤0.55	≤1.60	≤0.030	≤0.030	0.50/ 1.50	Other elements are added as required.					≥401

Steel Plates for Frame of Building

TMCP Steel Plates

Designation (Thickness mm)	Heat Treatment	Chemical Composition (%)														Tensile Test						Through Thickness Tensile Test	Impact Test (2mmV Charpy)	
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ceq	P _{CM}		Yield Point or Proof Stress (N/mm ²)	Tensile Strength (N/mm ²)	Elongation			Yield Ratio (%)	Reduction of area (%)	Test Temperature (°C)	Absorbed Energy (J)
																		Thickness (mm)	(%)	Test Specimen				
HBL325B (40.1~100)	TMCP	t≤50 ; ≤0.18 50<t ; ≤0.20	≤0.55	≤1.60	≤0.030	≤0.015	Other elements can be added as required.						t≤50 ; ≤0.38 50<t ; ≤0.40	t≤50 ; ≤0.24 50<t ; ≤0.26	325/ 445	490/ 610	t≤50 40<t	≥21 ≥23	No.1A No.4	≤80	—	0	≥27	
HBL325C (40.1~100)					≤0.020	≤0.008															≥25(Ave.of 3Tests) ≥15(Each Value)			
HBL355B (40.1~100)	TMCP	≤0.20	≤0.55	≤1.60	≤0.030	≤0.015	Other elements can be added as required.						t≤50 ; ≤0.40 50<t ; ≤0.42	t≤50 ; ≤0.26 50<t ; ≤0.27	355/ 475	520/ 640	t≤50 40<t	≥19 ≥21	No.1A No. 4	≤80	—	0	≥27	
HBL355C (40.1~100)					≤0.020	≤0.008															≥25(Ave.of 3Tests) ≥15(Each Value)			
HBL385B (19~100)	TMCP	≤0.20	≤0.55	≤1.60	≤0.030	≤0.015	Other elements can be added as required.						t≤50 ; ≤0.40 50<t ; ≤0.42	t≤50 ; ≤0.26 50<t ; ≤0.27	385/ 505	550/ 670	t≤50 40<t t<38	≥26 ≥20 ≥15	No.5 No.4 No.1A	≤80	—	0	≥70	
HBL385C (19~100)					≤0.020	≤0.008															≥25(Ave.of 3Tests) ≥15(Each Value)			

High Performance 590N/mm² Steel Plates for Frame of Building

Designation (Thickness mm)	Heat Treatment	Chemical Composition (%)														Tensile Test					Through Thickness Tensile Test	Impact Test (2mmV Charpy)			
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ceq	P _{CM}			Yield Point or Proof Stress (N/mm ²)	Tensile Strength (N/mm ²)	Elongation			Yield Ratio (%)	Reduction of area (%)	Test Temperature (°C)	Absorbed Energy (J)
																			Thickness (mm)	(%)	Test Specimen				
SA440B-U (19~100)	QT	≤0.12	≤0.55	≤1.60	≤0.030	≤0.008	Other elements can be added as required.						t≤40 : ≤0.44 40<t : ≤0.47	≤0.22		440/ 540	590/ 740	t≤50 40<t	≥26 ≥20	No.5 No.4	≤80	—	0	≥47	
SA440C-U (19~100)					≤0.020	≤0.008																≥25(Ave. of 3Tests) ≥15(Each Value)			

Fire Resistant Steel Plates for Frame of Building

Designation (Thickness mm)	Heat Treatment	Equivalent Standard	Proof Stress(0.2% strain) at 600℃ (N/mm ²)		
			t≤40	40<t≤75	75<t≤100
HBL325B-FR HBL325C-FR (40.1~100)	TMCP	Authorized by Minister of Land,Infrastructure and Transport	—	≥217	
HBL355B-FR HBL355C-FR (40.1~100)	TMCP	Authorized by Minister of Land,Infrastructure and Transport	—	≥237	
SN400B,C-FR SM400A,B-FR (6~100)	AR or N	JIS G3136 JIS G3106	≥157	≥143	
SN490B,C-FR SM490A,B-FR (6~100)	AR or N	JIS G3136 JIS G3106	≥217	≥197	
SM520B-FR (6~100)	AR or N	JIS G3106	≥237	≥233	≥217

Low Yield Strength Steel Plates for Frame of Building

Designation (Thickness mm)	Tensile Test					Impact Test (2mmV Charpy)		
	Lower Yield Point or Proof Stress (N/mm ²)	Tensile Strength (N/mm ²)	Yield Ratio (%)	Elongation (%)		Test Temperature (°C)		Absorbed Energy (J)
JFE-LY100 (6~60)	80/120	200/300	≤60	≥50	No.5	12<t	0	≥27
JFE-LY160 (6~60)	140/180	220/320	≤80	≥45	No.5	12<t	0	≥27
JFE-LY225 (6~60)	205/245	300/400	≤80	≥40	No.5	12<t	0	≥27

Sea Water Corrosion Resistant Steel Plates

Designation (Thickness mm)	Heat Treatment	Chemical Composition (%)												Tensile Test						Bending Test (180°)	Impact Test (2mmV Charpy)			
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V or Nb	Al		Yield Point or Proof Stress		Tensile Strength (N/mm ²)	Elongation			Bending Radius Test Specimen No. 1	Test Temperature		Absorbed Energy	
														Thickness (mm)	(N/mm ²)		Thickness (mm)	(%)	Test Specimen		Thickness (mm)	(°C)	Grade	(J)
JFE-MARIN400 (6~40)	AR or N	≤0.15	≤1.00	≤1.40	≤0.030	≤0.020	0.20/ 0.60	≤0.50	0.50/ 1.50	—	≤0.10	≤0.55	6 ≤ t ≤ 16 16 < t ≤ 40	≥ 245 ≥ 235	400/ 510	6 ≤ t ≤ 16 16 < t ≤ 40	≥ 18 ≥ 22	No.1A No.1A	1.0t	12 < t	0	A B C	— ≥ 27 ≥ 47	
JFE-MARIN490 (6~40)	AR、N or TMCP	≤0.15	≤1.00	≤1.50	≤0.030	≤0.020	0.20/ 0.60	≤0.50	0.50/ 1.50	—	≤0.10	≤0.55	6 ≤ t ≤ 16 16 < t ≤ 40	≥ 325 ≥ 315	490/ 610	6 ≤ t ≤ 16 16 < t ≤ 40	≥ 17 ≥ 21	No.1A No.1A	1.5t	12 < t	0	A B C	— ≥ 27 ≥ 47	
JFE-MARIN490Y (6~40)	AR、N or TMCP	≤0.15	≤1.00	≤1.50	≤0.030	≤0.020	0.20/ 0.60	≤0.50	0.50/ 1.50	—	≤0.10	≤0.55	6 ≤ t ≤ 16 16 < t ≤ 40	≥ 365 ≥ 355	490/ 610	6 ≤ t ≤ 16 16 < t ≤ 40	≥ 17 ≥ 21	No.1A No.1A	1.5t	12 < t	0	A B	— ≥ 27	

Corrosion Resistant Steel Plates

Melted Zinc Corrosion Resistant Steel Plates

Designation (Thickness mm)	Heat Treatment	Chemical Composition (%)				
		C	Si	Mn	P	S
JFE-ZP (6~100)	AR	≤0.13	≤0.03	≤0.50	≤0.030	≤0.030

Sulfuric Acid Resistant Steel Plates

Designation (Thickness mm)	Heat Treatment	Chemical Composition (%)												Tensile Test						Bending Test (180°)
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	Sb	Sn		Yield Point or Proof Stress		Tensile Strength (N/mm²)	Elongation			Bending Radius Test Specimen No. 1
														Thickness (mm)	(N/mm²)		Thickness (mm)	(%)	Test Specimen	
JFE-ASA400D (6~50)	AR or N	≦0.14	≦0.55	0.30/ 0.70	≦0.030	≦0.020	0.25/ 0.50	≦0.50	—	—	0.05/ 0.20	≦0.10		t ≦ 16 16 < t ≦ 40 40 < t	≧ 245 ≧ 235 ≧ 215	≧ 400	t ≦ 16 16 < t	≧ 18 ≧ 21	No.1A No.1A	1.5t
JFE-ASA400H (6~50)	AR or N	≦0.14	≦0.55	0.30/ 0.70	≦0.030	≦0.020	0.25/ 0.50	≦0.50	0.50/ 1.00	≦0.10	—	—		t ≦ 16 16 < t ≦ 40 40 < t	≧ 245 ≧ 235 ≧ 215	≧ 400	t ≦ 16 16 < t	≧ 18 ≧ 21	No.1A No.1A	1.5t
JFE-ASA400W (6~50)	AR or N	≦0.14	≦0.55	0.30/ 0.70	≦0.030	≦0.020	0.25/ 0.50	≦0.50	0.50/ 1.00	≦0.10	0.05/ 0.20	≦0.10		t ≦ 16 16 < t ≦ 40 40 < t	≧ 245 ≧ 235 ≧ 215	≧ 400	t ≦ 16 16 < t	≧ 18 ≧ 21	No.1A No.1A	1.5t
JFE-ASA440D (6~25.4)	AR or N	≦0.17	≦0.55	0.30/ 0.70	≦0.030	≦0.020	0.25/ 0.50	≦0.50	—	—	0.05/ 0.20	≦0.10		—	≧ 265	≧ 440	t ≦ 16 16 < t	≧ 17 ≧ 21	No.1A No.1A	1.5t
JFE-ASA440H (6~25.4)	AR or N	≦0.17	≦0.55	0.30/ 0.70	≦0.030	≦0.020	0.25/ 0.50	≦0.50	0.50/ 1.00	≦0.10	—	—		—	≧ 265	≧ 440	t ≦ 16 16 < t	≧ 17 ≧ 21	No.1A No.1A	1.5t
JFE-ASA440W (6~25.4)	AR or N	≦0.17	≦0.55	0.30/ 0.70	≦0.030	≦0.020	0.25/ 0.50	≦0.50	0.50/ 1.00	≦0.10	0.05/ 0.20	≦0.10		—	≧ 265	≧ 440	t ≦ 16 16 < t	≧ 17 ≧ 21	No.1A No.1A	1.5t

Hydrogen Induced Crack Resistant Steel Plates

Designation (Thickness mm)	Heat Treatment	Chemical Composition (%)							Tensile Test			Bending Test (180°)
		C	Si	Mn	P	S	Cu	others	Yield Point or Proof Stress (N/mm ²)	Tensile Strength (N/mm ²)	Elongation (%)	Bending Radius Test Specimen No. 1
JFE-AH1 (6~200)	According to required Specification	According to required Specification				≤0.005	0.25/ 0.40	—	According to required Specification			According to required Specification
JFE-AH2 (6~200)	According to required Specification	According to required Specification				<0.001	—	Ca Treatment	According to required Specification			According to required Specification

Corrosion Resistant Steel Plates for Cargo Oil Tanks

Designation (Thickness mm)	Heat Treatment	Chemical Composition (%)					
		C	Si	Mn	P	S	others
JFE-NAC5	According to required Specification	According to required Specification					

Pure Iron Plates for Magnetic Shielding

Designation (Thickness mm)	Chemical Composition (%)				
	C	Si	Mn	P	S
JFE-EFE (6~260)	≤0.01	≤0.05	≤0.20	≤0.015	≤0.015

Steel Plates for Mold

Designation (Thickness mm)	Chemical Composition (%)							
	C	Si	Mn	P	S	Cr	Mo	V
JFE-MD1 (6~265)	0.52/ 0.58	0.15/ 0.35	0.60/ 0.90	≤0.030	≤0.035	—	—	—
JFE-MD3 (6~260)	0.37/ 0.44	0.15/ 0.35	0.55/ 0.90	≤0.030	≤0.035	0.85/ 1.25	0.15/ 0.35	—
JFE-MD5 (6~260)	0.28/ 0.33	0.15/ 0.35	0.40/ 0.90	≤0.030	≤0.035	0.80/ 1.50	0.15/ 0.40	0.05/ 0.07

Steel Plates for Hot-dip Zinc-coated Tower Structure

Designation (Thickness mm)	Chemical Composition (%)											Tensile Test					Impact Test (2mmV Charpy)		
	C	Si	Mn	P	S	Cu, Ni, Cr, Mo, V, Nb, Ti	Zr	B	Ceq	CEZ*		Yield Point or Proof Stress (N/mm²)	Tensile Strength (N/mm²)	Elongation			Test Temperature		Absorbed Energy
														Thickness (mm)	(%)	Test Specimen	Thickness (mm)	(°C)	
JFE-HITEN 590AZ (6~25)	≤0.12	≤0.40	≤2.00	≤0.030	≤0.015	Added as required on condition that Nb+V+Ti≤0.15	≤0.040	≤0.0002	≤0.40	≤0.44		≥440	590/740	t≤16 16<t	≥19 ≥26	No. 5 No. 5	12<t	−5	≥47

*CEZ(Carbon Equivalent Zinc)=C+Si/17+Mn/7.5+Cu/13+Ni/17+Cr/4.5+Mo/3+V/1.5+Nb/2+Ti/4.5+420B

Steel Plates for Rocket

Designation (Thickness mm)	Chemical Composition (%)															Thickness (mm)	Tensile Test			Bending Test (180°)	Hardness Test
	C	Si	Mn	P	S	Ni	Cr	Co	Mo	Ti	Al	Zn	B	V			0.2%Proof Stress (Kgf/mm²)	Tensile Strength (Kgf/mm²)	Elongation (%)	Bending Radius Test Specimen No. 1	HRC
JFE-HT140NP (2~30)	0.14/ 0.18	≦0.35	0.60/ 0.90	≦0.010	≦0.010	3.90/ 4.30	1.60/ 2.00	—	0.45/ 0.65	—	—	—	—	0.07/ 0.13	2.0≦t≦2.5 t=4.0 6.5≦t≦15.0 t=30.0	— ≦90 ≦90 —	≦125 ≦105 ≦105 ≦120	≧8 ≧13 ≧13 ≧9	7.5t 2.0t 3.0t 3.0t	≦39 ≦34 ≦34 ≦37	
JFE-HT210P (by agreement)	≦0.005	≦0.05	≦0.07	≦0.005	≦0.005	17.50/ 18.50	≦0.50	8.30/ 9.30	4.70/ 5.50	0.40/ 0.60	0.05/ 0.10	0.01/ 0.04	0.001/ 0.005	—	—	185/ 205	190/ 215	≧7	—	—	



Stainless Steel Plates

TMCP Type Austenitic Stainless Steel Plates

Designation (Thickness mm)	Chemical Composition (%)									Tensile Test				Hardness Test
	C	Si	Mn	P	S	Ni	Cr	Mo		0.2%Proof Stress (N/mm ²)	Tensile Strength (N/mm ²)	Elongation (%)	Test Specimen	HB
JSL304OL (20~60)	≤0.05	≤1.00	≤2.00	≤0.040	≤0.030	8.00/ 10.50	18.00/ 20.00	—		≥275	≥550	≥35	No. 5	≤217
JSL304OL1 (20~60)	≤0.05	≤1.00	≤2.00	≤0.040	≤0.030	8.00/ 10.50	18.00/ 20.00	—		≥310	≥600	≥40	No .5	≤248
JSL304OH (20~60)	≤0.05	≤1.00	≤2.00	≤0.040	≤0.030	8.00/ 10.50	18.00/ 20.00	—		≥205	≥520	≥40	No. 5	≤187
JSL304LOL (20~60)	≤0.030	≤1.00	≤2.00	≤0.040	≤0.030	9.00/ 12.00	18.00/ 20.00	—		≥275	≥550	≥35	No. 5	≤217
JSL304LOH (20~60)	≤0.030	≤1.00	≤2.00	≤0.040	≤0.030	9.00/ 12.00	18.00/ 20.00	—		≥175	≥480	≥40	No. 5	≤187
JSL316OL (20~60)	≤0.05	≤1.00	≤2.00	≤0.040	≤0.030	10.00/ 14.00	16.00/ 18.00	2.00/ 3.00		≥275	≥550	≥35	No. 5	≤217
JSL316OH (20~60)	≤0.05	≤1.00	≤2.00	≤0.040	≤0.030	10.00/ 14.00	16.00/ 18.00	2.00/ 3.00		≥205	≥520	≥40	No. 5	≤187
JSL316LOL (20~60)	≤0.030	≤1.00	≤2.00	≤0.040	≤0.030	12.00/ 14.00	16.00/ 18.00	2.00/ 3.00		≥275	≥550	≥35	No. 5	≤217
JSL316LOH (20~60)	≤0.030	≤1.00	≤2.00	≤0.040	≤0.030	12.00/ 14.00	16.00/ 18.00	2.00/ 3.00		≥175	≥480	≥40	No .5	≤187

Super Austenitic Stainless Steel Plates

Designation (Thickness mm)	Chemical Composition (%)											Tensile Test				Hardness Test
	C	Si	Mn	P	S	Ni	Cr	Mo	Cu	N		0.2%Proof Stress (N/mm ²)	Tensile Strength (N/mm ²)	Elongation (%)	Test Specimen	HV
JSL310MoCu (by agreement)	≤0.030	≤1.50	≤2.00	≤0.040	≤0.030	22.00/ 24.00	24.00/ 26.00	4.00/ 5.00	1.00/ 2.00	0.18/ 0.22		≥300	≥650	≥35	No. 5	≤260

Stainless Steel Plates

High Strength Stainless Steel Plates for Fully Submerged Hydrofoil*

Designation (Thickness mm)	Chemical Composition (%)										Tensile Test					Bending Test (180°)	Hardness Test	Impact Test (2mmV Charpy)	
	C	Si	Mn	P	S	Ni	Cr	Mo	Nb		0.2%Proof Stress		Tensile Strength (N/mm ²)	Elongation (%)	Reduction of Area(%)	Bending Radius	HB	Absorbed Energy (J)	
											Test Specimen	(N/mm ²)						Test Temperature (°C)	Each Value
JSL Ni5Mo (5~205)	≤0.06	0.25/ 1.00	0.50/ 1.00	≤0.030	≤0.015	4.80/ 5.80	12.0/ 14.0	0.80/ 1.50	≤0.10		No.13B (5≤t≤20) No.10 (20<t≤205)	≥900	≥970	≥12	≥45	—	—	0	≥28**
JSL Ni5 (20~by agreement)	≤0.06	0.25/ 0.50	0.50/ 1.00	≤0.030	≤0.015	4.80/ 5.80	12.0/ 14.0	0.20/ 0.50	—		No.4	≥540	≥740	≥20	≥40	1.0 t	220/ 280	−10	≥59 (T direction)***

* Ex. JET FOIL of KAWASAKI SHIPBUILDING CO.

** 5 ≤ t ≤ 6 7 (10×2.5 Size)
6 < t ≤ 8 14 (10×5.0 Size)
8 < t ≤ 11 20 (10×7.5 Size)

*** Transverse to rolling direction

Clad Steel Plates

Cladding Materials

Type	Standard		Grade
Stainless Steel	JIS	G4304 Ferritic Martensitic Austenitic Duplex	SUS405, 410L, 430, 444 SUS410S SUS304, 304L, 316, 316L, 316LN, 316Ti, 317, 317L, 317LN, 321, 347 SUS329J1
Cu and Cu Alloy	JIS	H3100	C1020P, C1021P, C1220P, C7060P, C7150P, C6161P
Ni and Ni-Cu Alloy	JIS	H4551	NW2200, NW2201, NW4400
Ti	JIS	H4600	TP270H, TP340H, TP270PdH, TP340PdH
Fe-Ni-Cr-Mo Alloy	ASTM	B424 B463 B625	N08825 N08020 N08904

Materials except above are available.Please contact us.

Base Metals

Standard
JIS G3101 [Rolled steel for general structure] (SS400, SS490) G3106 [Rolled steel for welded structure] (SM400, 490, 490Y, 520) G3103 [Carbon steel and molybdenum alloy steel plates for boilers and other pressure vessels] (SB410, 450, 480, 450M, 480M) G3115 [Steel plates for pressure vessels for intermediate temperature service] (SPV235, 315, 355) G3118 [Carbon steel plates for pressure vessels for intermediate and moderate temperature services] (SGV410, 450, 480) G4109 [Chromium-molybdenum alloy steel plates for pressure vessels] (SCMV2, 3, 4) G3126 [Carbon steel plates for pressure vessels for low temperature service] (SLA235, 325)
ASTM(ASME) Pressure vessel use carbon steel plate (S)A285, (S)A516, etc Pressure vessel use low alloy steel plate (S)A204, (S)A387, etc

Other standards to which JFE currently produces steel plates, such as DIN, BS, various ship classification society standards and JFE specifications, are also applicable.



APPROVED OR AUTHORIZED PRODUCTS

SHIP'S CLASS STANDARD

Hull Structural Steel Plates

Society	Grade
ABS	A, B, D, E AH32, DH32, EH32, FH32 AH36, DH36, EH36, FH36 AH40, DH40, EH40, FH40 AQ43, DQ43, EQ43
BV	A, B, D, E AH32, DH32, EH32, FH32 AH36, DH36, EH36, FH36 AH40, DH40, EH40, FH40
CCS	A, B, D, E A32, D32, E32, F32 A36, D36, E36, F36 A40, D40, E40, F40
CR	A, B, D, E AH32, DH32, EH32, FH32 AH36, DH36, EH36, FH36 AH40, DH40, EH40, FH40
DNV	NV A, NV B, NV D, NV E NV A27S, NV D27S, NV E27S NV A32, NV D32, NV E32, NV F32 NV A36, NV D36, NV E36, NV F36 NV A40, NV D40, NV E40, NV F40 NV D420, NV E420, NV F420
GL	A, B, D, E A32, D32, E32, F32 A36, D36, E36, F36 A40, D40, E40, F40
KR	RA, RB, RD, RE RA32, RD32, RE32 RA36, RD36, RE36 RA40, RD40, RE40 RA43, RD43, RE43, RF43 RA47, RD47, RE47
LR	A, B, D, E AH27S, DH27S, EH27S AH32, DH32, EH32, FH32 AH36, DH36, EH36, FH36 AH40, DH40, EH40, FH40 DH42, EH42 DH46, EH46 DH50, EH50 DH55, EH55 DH62, EH62 DH69, EH69

Society	Grade
NK	KA, KB, KD, KE KA32, KD32, KE32, KF32 KA36, KD36, KE36, KF36 KA40, KD40, KE40, KF40 KA43, KD43, KE43, KF43 KA47, KD47, KE47, KF47 KA51, KD51, KE51, KF51 KA56, KD56, KE56 KA63, KD63, KE63 KA63N, KD63N KA70, KD70, KE70, KF70 KA70N, KD70N, KE70N, KF70N
RINA	A, B, D, E A32, D32, E32, F32 A36, D36, E36, F36 A40, D40, E40, F40
ZC	A, B, D, E A32, D32, E32 A36, D36, E36

Steel Plates for Low Temperature Services

Society	Grade
ABS	V-OXX VH-OXX
DNV	NV2-2 NV2-3 NV2-4 NV2-4L NV4-2 NV4-3 NV4-4 NV4-4L NV 9Ni
LR	LT-AH27S, DH27S, EH27S, FH27S LT-AH32, DH32, EH32, FH32 LT-AH36, DH36, EH36, FH36 LT-AH40, DH40, EH40, FH40 3.5Ni 9Ni
NK	KL24A, KL24B KL33 KL37 K5T-50Q KL2N30 KL3N32 KL9N60

Steel Plates for Boiler & Pressure Vessels

Society	Grade
ABS	MA, MB, MC, MD, ME, MF, MG H, I, J
BV	360, 410, 460, 510 0.3Mo 1Mn0.5Mo
CR	1-410, 1-450, 1-480 2-450, 2-480 0-235, 0-315, 0-355
DNV	NV360-0A, -0N, -1FN NV410-0A, -0N, -1FN NV490-0N, -1FN NV510-1FN NV 0.3Mo NV 1Cr0.5Mo NV 2.25Cr1Mo
GL	H1,H2 17Mn4,19Mn6 13CrMo4-5 10CrMo9-10
KR	RSP42, 46, 49 RSP46A, 49A RPV24, 32, 36, 46, 50
LR	360AR, 410AR, 460AR 360, 410, 460, 490 360FG, 410FG, 460FG, 490FG
NK	KP42, KP46, KP49 KPA46, KPA49 KPV24, KPV32, KPV36, KPV46 KPV50

Stainless Steel Plates

Society	Grade
BV	316L 317LN
CR	304, 304Mod 304L, 304LMod 316, 316Mod 316L, 316LMod 321 347
DNV	304L, 304LMod 316L, 316LMod, 316LN 317L, 317LMod 321 347
LR	304L, 304LMod, 304LN 316L, 316LMod, 316LN 317L, 317LN
NK	304, 304Mod, 304Mod1 304L, 304LMod 309S, 310S 316, 316Mod 316L, 316LMod, 316LN 317 317L, 317LMod, 317LN 321 347 Ni5Mo, Ni5

JFE Brand	WES3001	
	Grade	Thickness (mm)
JFE-HITEN540S	HW355RA	≤ 30
JFE-HITEN590SB	HW450NA	≤ 26
JFE-HITEN590	HW450QB	≤ 100
JFE-HITEN590U1	HW450QB	≤ 100
JFE-HITEN590L	HW450QB	≤ 50
JFE-HITEN590U2	HW450QB	≤ 75
JFE-HITEN590E	HW450QB	≤ 75
JFE-HITEN590U2L	HW450QB	≤ 75
JFE-HITEN610	HW450QB	≤ 100
JFE-HITEN610U1	HW490QB	≤ 100
JFE-HITEN610U2	HW490QB	≤ 75
JFE-HITEN610E	HW490QB	≤ 75
JFE-HITEN610U2L	HW490QB	≤ 75
JFE-HITEN610L	HW450QB	≤ 50
JFE-HITEN690	HW550QB	≤ 50
JFE-HITEN690L	HW550QB	≤ 40
JFE-HITEN710	HW620QB	≤ 50
JFE-HITEN780F	HW685QB	≤ 50
JFE-HITEN780M	HW685QB	≤ 100
JFE-HITEN980	HW885QB	≤ 100

JFE Brand	WES3003
JFE-HITEN590L	LT450-VI-65G-25A
JFE-HITEN590U2L	LT450-75-50G
JFE-HITEN610L	LT490-Ⅲ-80G-50A LT490-Ⅳ-70G-40A LT490-V-60G-20A LT490-VI-60G-20A
JFE-HITEN610U2L	LT490-75-50G
JFE-HITEN690L	LT550-I-120G-90A LT550-II-120G-80A LT550-Ⅳ-80G-40A
JFE-HITEN710L	LT63-I-90G-60A LT63-Ⅲ-80G-50A LT63-V-70G-40A
JFE-HITEN780L	LT70-II-60G-40A LT70-Ⅳ-50G-30A LT70-VI-50G-30A
JFE-HITEN780FL	LT685-V-90G-40A
JFE-LTC1.5Ni-TM	LT370-V-140G-120A

JFE Brand	WES3009	
	Grade	Thickness (mm)
JFE-HITEN590U1	HW450QCF	≤ 100
JFE-HITEN610U1	HW490QCF	≤ 100
JFE-HITEN590U2	HW450QCF	≤ 75
JFE-HITEN610U2	HW490QCF	≤ 75
JFE-HITEN590E	HW450QCF	≤ 75
JFE-HITEN610E	HW490QCF	≤ 75
JFE-HITEN590U2L	HW450QCF	≤ 75
JFE-HITEN610U2L	HW490QCF	≤ 75

AVAILABLE SIZES

Without Heat Treatment

		Product Length: m																					
Width (mm) Thickness (mm)	1000 ~ 1400	1401 ~ 1600	1601 ~ 1800	1801 ~ 2000	2001 ~ 2200	2201 ~ 2400	2401 ~ 2600	2601 ~ 2800	2801 ~ 3000	3001 ~ 3200	3201 ~ 3400	3401 ~ 3600	3601 ~ 3800	3801 ~ 4000	4001 ~ 4200	4201 ~ 4400	4401 ~ 4600	4601 ~ 4800	4801 ~ 5000	5001 ~ 5200	5201 ~ 5300	5301 ~ 5350	
6.0~6.9																	22	22	19	16	13.5	13.5	
7.0~9.0	25																		22	20	16	13.5	13.5
9.1~11.9																				20	20	20	16
12.0~13.9																				25		22	16
14.0~25.0																				25			16
25.1~28.0	27																25					16	
28.1~32.0															25			24	23	20	16		
32.1~38.0												25			24	23	22	21	20	19	18	16	
38.1~45.0													24	23	23	20	19	19	18	17	16	16	16
45.1~50.0	25									23	22	21	20	20	18	17	16	16	15	14	14	14	
50.1~55.0								24	24	21	21	20	19	18	18	16	16	15	14	14	13	13	13
55.1~60.0							24	22	21	19	19	17	16	16	15	14	13	13	12	12	12	12	11
60.1~65.0						24	23	21	20	18	18	17	16	15	15	14	13	12	12	11	11	10	9.5
65.1~70.0					24	24	22	21	19	18	17	16	15	14	14	13	12	12	11	11	10	10	9.5
70.1~75.0	24	23	24	23	21	20	18	17	15	15	15	14	13	13	12	11	11	10	10	9.2	9	8.5	
75.1~80.0	23	23	22	21	21	19	18	17	15	14	14	13	12	12	11	11	10	10	9.6	9.2	9	8.5	
80.1~90.0	20	20	20	19	19	17	16	15	14	13	12	11	11	10	10	9.7	9.2	8.8	8.5	8.2	8	7.5	
90.1~100.0	18	18	18	17	17	15	14	13	12	11	11	10	10	9.6	9.1	8.7	8.3	8	7.6	7.3			
100.1~110.0	16	16	16	16	15	14	13	12	11	10	10	9.7	9.1	9	8.3	8	7.6	7.2	7	6.7 5.8			
110.1~120.0	15	15	15	14	14	13	12	11	10	10	9.4	8.8	8.4	8	7.6	7.2	6.9 6.0	6.6 5.8	6	6			
120.1~130.0	14	14	14	13	13	12	11	10	9.8	9.2	8.6	8.2	7.7	7.3	7.0	6.7 5.8	6	6	5.1	5.3			
130.1~140.0	13	13	13	12	12	11	10	9.7	9	8.5	8	7.5	7.1	7	6	6	5.1	5.1	5.1	5.3			
140.1~150.0	12	12	12	11	11	10	9.7	9.1	8.4	7.9	7.4	7 6.7 5.8	6.6 6.0 5.7	6	6	5	5	5					
150.1~160.0	11	11	11	10	10	9.9	9.1	8.5	7.9	7.4	7.0 6.7 6.0	6.6 6.0 5.7	6	6	5	5							
160.1~170.0	10	10	10	10	10	9.3	8.6	8	7.4	6.7 6.0	6.6 6.0 5.7	6	5.1	5	5	4.4							
170.1~180.0	10	10	10	9	9.4	8.8	8.1	7.6	7.1	6.6 5.8	6.2	5.1	5	5	4.4	Not available							
180.1~190.0	9	9	9	9	8.9	8.3	7.7	7.1	6.7 5.8	5.4	5.1	4.8	4.5	4.3									
190.1~200.0	9	8.2	8.2	8	8.5	7.9	7.3	6.8 5.9	6.7 5.8	5.5	5.1	4.8	4.6	4.3	4.1								

1. In case of the diagonal-lined column $\begin{matrix} A \\ B \end{matrix}$, "A" shows the maximum product length.

And the product length between "B" and 6.1m can not be provided.

2. The minimum product size is as follows: 1m wide and 3m long.

3. Please consult with JFE prior to ordering the product width between 5,201 and 5,350mm.

4. 30m length for limited thickness and width is available. Please consult with us.

5. For carbon steel plates for machine structural use, and for chromium-molybdenum steel plates, the minimum width is 1,500mm.

AVAILABLE SIZES

Heat Treated

		Product Length: m																					
Width (mm) Thickness (mm)	1000 ~ 1600	1601 ~ 1800	1801 ~ 2000	2001 ~ 2200	2201 ~ 2400	2401 ~ 2600	2601 ~ 2800	2801 ~ 3000	3001 ~ 3200	3201 ~ 3400	3401 ~ 3600	3601 ~ 3800	3801 ~ 4000	4001 ~ 4200	4201 ~ 4400	4401 ~ 4600	4601 ~ 4800	4801 ~ 5000	5001 ~ 5200	5201 ~ 5300	5301 ~ 5350		
6.0~6.9										22	20	15	13	Not available									
7.0~7.9											24	22	20	15	Not available								
8.0~8.9													22	18	16	13	11	Not available					
9.0~9.9															22	20	16	12	Not available				
10.0~11.9																			22	20	18	Negotiable range	
12.0~13.9																				22			
14.0~26.0																				25			
26.1~28.0																							
28.1~30.0																							
30.1~35.0															24	24	23	22	21	21	20		
35.1~40.0													24	23	22	21	20	19	18	18	17		
40.1~45.0											23	22	20	19	19	18	17	16	16	15			
45.1~50.0									23	22	20	19	18	17	17	16	15	15	14	14			
50.1~60.0					24	24	22	20	19	18	17	16	15	14	14	13	13	12	11	11			
60.1~70.0		23	20	24	22	20	19	17	16	15	14	14	13	12	12	11	11	10	10	10			
70.1~80.0	22	20	18	21	19	18	16	15	14	13	13	12	11	11	10	10	9.7	9.3	8.9	8.7			
80.1~90.0	20	18	16	19	17	16	14	13	13	12	11	10	10	9.8	9.4	8.9	8.5	8.3	7.9	Not available			
90.1~100.0	18	16	14	17	15	14	13	12	11	10	10	9.8	9.3	8.8	8.4	8.0	7.7	7.3	7.0				
100.1~110.0	16	14	13	15	14	13	12	11	10	9.9	9.4	8.8	8.4	8.0	7.6	7.3	6.9 6.0	6.6 6.0	6.4 5.7		6.4 5.5		
110.1~120.0	15	13	12	14	13	11	11	10	9.7	9.1	8.5	8.1	7.7	7.3	6.9 6.0	6.6 5.7	6.3 5.8	5.2					
120.1~130.0	13	12	11	13	11	11	10	9.5	8.9	8.3	7.9	7.3	7.0	6.7	6.4 5.5	5.2	5.0						
130.1~140.0	11	10	9.7	11	10	9.7	9.4	8.7	8.2	7.7	7.2	6.8	6.5 5.6	5.3	4.8								
140.1~150.0	10	10	9.6	10	9.7	9.4	8.7	8.1	7.6	7.1	6.7	6.4 5.5	5.2	4.9									
150.1~160.0	9.7	9.7	9.0	9.7	9.6	8.8	8.2	7.6	7.1	6.7 5.7	6.3 5.3	5.1	4.8										
160.1~170.0	9.4	9.4	8.4	9.7	9.0	8.3	7.7	7.1	6.7 5.7	6.3 5.4	5.1			Not available									
170.1~180.0	8.9	8.9	7.9	9.1	8.5	7.8	7.3	6.8	6.3 5.5	5.9													
180.1~190.0	8.4	8.4	7.5	8.6	8.0	7.4	6.8	6.3 5.5	5.1														
190.1~200.0	7.9	7.9	7.1	8.2	7.6	7.0	6.5 5.6	5.2	4.8														

- In case of the diagonal-lined column , "A" shows the maximum product length. And the product length between "B" and 6.1m can not be provided.
- The minimum product size is as follows: 1m wide and 3m long.
- Please consult with JFE prior to ordering the product width between 5,201 and 5,350mm.
- 30m length for limited thickness and width is available. Please consult with us.
- For carbon steel plates for machine structural use, and for chromium-molybdenum steel plates, the minimum width is 1,500mm.

Abrasion Resistant Steel Plates

Product Length: m

Width (mm) Thickness (mm)	1500 ~ 1800	1801 ~ 2000	2001 ~ 2200	2201 ~ 2400	2401 ~ 2600	2601 ~ 2800	2801 ~ 3000	3001 ~ 3200	3201 ~ 3400	3401 ~ 3600	3601 ~ 3800	3801 ~ 4000	4001 ~ 4200	4201 ~ 4400	4401 ~ 4600	4601 ~ 4800	4801 ~ 5000	5001 ~ 5200	5201 ~ 5300			
6.0~6.9	18	16	14	12	12	10	Not available															
7.0~7.9	18	16	14	12	12	10																
8.0~8.9	18	16	14	12	12	10																
9.0~9.9	18	16	14	12	12	10																
10.0~11.9	22	20	18	16	14	14	12	Not available														
12.0~12.9	22	20	18	16	14	14	12															
13.0~13.9	22	20	18	16	14	14	12															
14.0~22.0	22	20	18	16	14	14	12															
22.1~24.0	24	22	22	20	18	16	14	12	Not available													
24.1~26.0		24	22	22	20	18	16	14												12		
26.1~28.0			24	24	22	22	20	18												16	14	12
28.1~30.0						24	22	20												20	18	18
30.1~35.0							24	22	22	22	20	20	20	18	18	18	Not available					
35.1~40.0				25				24	22	22	22	20	20	20	19	18						
40.1~45.0									24	23	22	20	19	19	18	17	16	16				
45.1~50.0								23	22	20	20	18	17	17	16	15	15	14				
50.1~60.0		23	23	21	24	22	20	19	18	17	16	15	14	14	13	13	12	11				
60.1~70.0	22	19	20	18	20	19	17	16	15	14	14	13	12	12	11	11	10	10				
70.1~80.0	19	17	17	16	18	16	15	14	13	13	12	11	11	10	10	9.7	9.3	8.9				
80.1~90.0	17	15	15	14	16	14	13	13	12	11	11	10	10	9.8	8.9	8.6	8.2	7.9				
90.1~100.0	15	13	14	12	14	13	12	11	10	10	10	9.3	8.8	8.4	8.0	7.7	7.4	7.1				

AVAILABLE SIZES

Extra-Heavy Steel Plates

Without Heat Treatment

Product Length: m

Width (mm) Thickness (mm)	1000~2500	2501~3000	3001~3500	3501~4000	4001~4500	4501~5000	5001~5300
~100							
101~125						14.3	13.5
126~150		15.0		14.9	13.2	11.9	11.2
151~175			14.6	12.7	11.3	10.2	9.6
176~200		14.9	12.7	11.1	9.9	8.9	8.4
201~225		13.2	11.3	9.9	8.8	7.9	7.5
226~250	14.3	11.9	10.2	8.9	7.9	7.1	6.7
251~275	13.0	10.8	9.3	8.1	7.2	6.5	6.1
276~300	11.9	9.9	8.5	7.4	6.6	5.9	5.6
301~325	11.0	9.1	7.8	6.8	6.1	5.5	Not available
326~360	10.2	8.5	7.3	6.4	5.7	5.1	

1. Maximum weight of product is 70t.

Heat Treated

Product Length: m

Width (mm) Thickness (mm)	1000~2500	2501~3000	3001~3500	3501~4000	4001~4500	4501~5000	5001~5300
~100							
101~125							
126~150		13.5			13.2	11.9	11.2
151~175				12.7	11.3	10.2	9.6
176~200			12.7	11.1	9.9	8.9	8.4
201~225		13.2	11.3	9.9	8.8	7.9	7.5
226~250		11.9	10.2	8.9	7.9	7.1	6.7
251~275	13.0	10.8	9.3	8.1	7.2	6.5	6.1
276~300	11.9	9.9	8.5	7.4	6.6	5.9	5.6
301~325	11.0	9.1	7.8	6.8	6.1	5.5	Not available
326~360	10.2	8.5	7.3	6.4	5.7	5.1	

1. Please consult with JFE prior to ordering the product, whose width is over 5,000mm.

Please consult with JFE about applicable specification or designation.

Stainless Steel Plates

Austenitic Stainless Steel Plates- I (SUS304, 304L, 321, 347)

Product Length: m

Width (mm) Thickness (mm)	1000 ~1199	1200 ~1600	1601 ~1800	1801 ~2000	2001 ~2200	2201 ~2400	2401 ~2600	2601 ~2800	2801 ~3000	3001 ~3200	3201 ~3400	3401 ~3600	3601 ~3800	3801 ~4000
6.0~6.9										Not available				
7.0~7.9														
8.0~8.9														
9.0~34.9	14.0									13.0 12.4 11.7				
35.0~39.9										12.8	12.1	11.4	10.8	10.3
40.0~49.9							12.6	11.7	11.0	10.3	9.7	9.1	8.6	8.2
50.0~59.9					12.4	11.4	10.5	9.8	9.1	8.6	8.0	7.6	7.2	6.8
60.0~69.9			13.0	11.7	10.7	9.8	9.0	8.4	7.8	7.3	6.9	6.5	6.2	5.9
70.0~79.9			12.8	11.4	10.3	9.3	8.5	7.9	7.3	6.8	6.4	6.0	5.7	5.4
80.0~89.9			11.4	10.1	9.1	8.3	7.6	7.0	6.5	6.1	5.7	5.4	5.1	4.8
90.0~99.9			10.3	9.1	8.2	7.5	6.8	6.3	5.9	5.5	5.1	4.8	4.6	4.3
100.0~130.0	10.5	7.9	7.0	6.3	5.7	5.3	4.9	4.5	4.2	3.9	3.7	3.5	3.3	
130.1~140.0	9.8	7.3	6.5	5.9	5.3	4.9	4.5	4.2	3.9	3.7	3.4	3.3		
140.1~150.0	9.1	6.8	6.1	5.5	5.0	4.6	4.2	3.9	3.6	3.4	3.2			
150.1~160.0	Not available	6.4	5.7	5.1	Not available									
160.1~170.0		6.0	5.4	4.8										
170.1~180.0		5.7	5.1	4.6										
180.1~190.0		5.4	4.8	4.3										
190.1~200.0		5.1	4.6	4.1										

Notes: 1. Maximum unit mass is 13tons.

2. Minimum size is 1m wide and 2m long.

3. Available thickness for TMCP type (OH, OL) is 20 to 60mm.

4. The maximum product thickness for shipbuilding use are listed on the right table.

5. In the case that the product thickness is above 150mm, plates are delivered without edge cutting.

◆Max.thickness for shipbuilding use (mm)

NK	LR	NV	BV
55	55	50	40

Austenitic Stainless Steel Plates- II (SUS316, 316L)

Product Length: m

Width (mm) Thickness (mm)	1000 ~1199	1200 ~1600	1601 ~1800	1801 ~2000	2001 ~2200	2201 ~2400	2401 ~2600	2601 ~2800	2801 ~3000	3001 ~3200	3201 ~3400	3401 ~3600	3601 ~3800	3801 ~4000
6.0~6.9										Not available				
7.0~7.9														
8.0~8.9														
9.0~34.9	14.0									12.9 12.3 11.6				
35.0~39.9										12.7	12.0	11.3	10.7	10.2
40.0~49.9							12.5	11.6	10.9	10.2	9.6	9.0	8.6	8.1
50.0~59.9					12.3	11.3	10.4	9.7	9.0	8.5	8.0	7.5	7.1	6.8
60.0~69.9			12.9	11.6	10.6	9.7	8.9	8.3	7.7	7.3	6.8	6.5	6.1	5.8
70.0~79.9			12.7	11.3	10.2	9.2	8.5	7.8	7.3	6.8	6.4	6.0	5.6	5.1
80.0~89.9			11.3	10.0	9.0	8.2	7.5	7.0	6.5	6.0	5.6	5.3	5.0	4.5
90.0~99.9			10.2	9.0	8.1	7.4	6.8	6.3	5.8	5.4	5.1	4.8	4.5	4.1
100.0~130.0	10.4	7.8	6.9	6.3	5.7	5.2	4.8	4.5	4.2	3.9	3.7	3.5	3.3	3.1
130.1~140.0	9.7	7.3	6.4	5.8	5.3	4.8	4.5	4.1	3.9	3.7	3.4	3.2		
140.1~150.0	9.0	6.8	6.0	5.4	4.9	4.5	4.2	3.9	3.6	3.4	3.2			
150.1~160.0	Not available	6.3	5.6	5.1	Not available									
160.1~170.0		6.0	5.3	4.8										
170.1~180.0		5.6	5.0	4.5										
180.1~190.0		5.3	4.8	4.3										
190.1~200.0		5.1	4.5	4.1										

Notes: 1. Maximum unit mass is 13tons.

2. Minimum size is 1m wide and 2m long.

3. Available thickness for TMCP type (OH, OL) is 20 to 60mm.

4. The maximum product thickness for shipbuilding use are listed on the right table.

5. In the case that the product thickness is above 150mm, plates are delivered without edge cutting.

◆Max.thickness for shipbuilding use (mm)

NK	LR	NV	BV
55	55	50	40

AVAILABLE SIZES

Austenitic Stainless Steel Plates-Ⅲ (SUS317, 317L)

Product Length: m

Width (mm) Thickness (mm)	1000 ~1199	1200 ~1600	1601 ~1800	1801 ~2000	2001 ~2200	2201 ~2400	2401 ~2600	2601 ~2800	2801 ~3000	3001 ~3200	3201 ~3400	3401 ~3600	3601 ~3800	3801 ~4000		
6.0~6.9																
7.0~7.9																
8.0~8.9																
9.0~10.0	14.0															
10.1~39.9											12.8	12.1	11.4	10.8	10.3	
40.0~49.9								12.6	11.7	11.0	10.3	9.7	9.1	8.6	8.2	
50.0~59.9								12.4	11.4	10.5	9.8	9.1	8.6	8.0	7.6	6.8
60.0~69.9																
70.0~79.9																
80.0~89.9																
90.0~99.9																
100.0~130.0	10.5	7.9	7.0	6.3	5.7	5.3	4.9	4.5	4.2	3.9	3.7	3.5	3.3	3.2		
130.1~140.0	9.8	7.3	6.5	5.9	5.3	4.9	4.5	4.2	3.9	3.7	3.4	3.3				
140.1~150.0	9.1	6.8	6.1	5.5	5.0	4.6	4.2	3.9	3.6	3.4	3.2					
150.1~160.0	Not available	6.4	5.7	5.1												
160.1~170.0		6.0	5.4	4.8												
170.1~180.0		5.7	5.1	4.6	Not available											
180.1~190.0		5.4	4.8	4.3												
190.1~200.0		5.1	4.6	4.1												

Notes: 1. Maximum unit mass is 13tons.

2. Minimum size is 1m wide and 2m long.

3. The maximum plate thickness for shipbuilding use are listed in the right table.

4. In the case that the plate thickness is above 150mm, plates are delivered without edge cutting.

◆Max.thickness for shipbuilding use (mm)

NK	LR	NV	BV
55	55	50	40

Austenitic Stainless Steel Plates-Ⅳ (SUS309S, 310S)

Product Length: m

Width (mm) Thickness (mm)	1000 ~1600	1601 ~1800	1801 ~2000	2001 ~2200	2201 ~2400	2401 ~2600	2601 ~2800	2801 ~3000	3001 ~3200	3201 ~3400	3401 ~3600	3601 ~3800	3801 ~4000
6.0~6.9													
7.0~7.9													
8.0~8.9													
9.0~9.9	14.0												
10.0~19.9													
20.0~29.9													
30.0~34.9													
40.0~49.9													

Notes: 1. Maximum unit mass is 13tons.

2. Minimum size is 1m wide and 2m long.

3. The maximum plate thickness for shipbuilding use are listed in the right table.

4. For dimensions other than above length, please consult with JFE.

◆Max.thickness for shipbuilding use (mm)

NK	LR	NV	BV
55	55	50	40

Ferritic and Martensitic Stainless Steel Plates (SUS405、410L、430)

Product Length: m

Width (mm) Thickness (mm)	1000 ~1199	1200 ~1600	1601 ~1800	1801 ~2000	2001 ~2200	2201 ~2400	2401 ~2600	2601 ~2800	2801 ~3000	3001 ~3200	3201 ~3400	3401 ~3600	3601 ~3800	3801 ~4000										
6.0~6.9											Not available													
7.0~7.9																								
8.0~8.9																								
9.0~34.9	14.0											13.4	12.7	12.1										
35.0~39.9											13.2	12.4	11.8	11.1	10.6									
40.0~49.9							13.0	12.1	11.3	10.6	10.0	9.4	8.9	8.5										
50.0~59.9					12.8	11.7	10.8	10.1	9.4	8.8	8.3	7.8	7.4	7.0										
60.0~69.9			13.4	12.1	11.0	10.1	9.3	8.6	8.1	7.5	7.1	6.7	6.4	6.0										
70.0~79.9		13.2	11.7	10.6	9.6	8.8	8.1	7.5	7.0	6.6	6.2	5.9	5.6	5.3										
80.0~89.9		11.7	10.4	9.4	8.5	7.8	7.2	6.7	6.3	5.9	5.5	5.2	4.9	4.7										
90.0~99.9		10.6	9.4	8.5	7.7	7.0	6.5	6.0	5.6	5.3	5.0	4.7	4.4	4.2										
100.0~130.0	10.8	8.1	7.2	6.5	5.9	5.4	5.0	4.6	4.3	4.1	3.8	3.6	3.4	3.2										
130.1~140.0	10.1	7.5	6.7	6.0	5.5	5.0	4.6	4.3	4.0	3.8	3.5	3.3												
140.1~150.0	9.4	7.0	6.3	5.6	5.1	4.7	4.3	4.0	3.8	3.5	3.3													
150.1~160.0	Not available	6.6	5.9	5.3	Not available																			
160.1~170.0		6.2	5.5	5.0																				
170.1~180.0		5.9	5.2	4.7																				
180.1~190.0		5.6	4.9	4.4																				
190.1~200.0		5.3	4.7	4.2																				

- Notes: 1. Maximum unit mass is 13tons.
2. Minimum size is 1m wide and 2m long.
3. For dimensions other than above length, please consult with JFE.

Ferritic Stainless Steel Plates (SUS444)

Product Length: m

Width (mm) Thickness (mm)	1000 ~1199	1200 ~1600	1601 ~1800	1801 ~2000	2001 ~2200	2201 ~2400	2401 ~2600	2601 ~2800	2801 ~3000	3001 ~3200	3201 ~3400	3401 ~3600	3601 ~3800	3801 ~4000
6.0~6.9														
7.0~8.0	14.0						Not available							

- Notes: 1. Maximum unit mass is 13tons.
2. Minimum size is 1m wide and 2m long.
3. For dimensions other than above length, please consult with JFE.

Duplex-Stainless Steel Plates (SUS329J3L、S31803)

Product Length: m

Width (mm) Thickness (mm)	1000 ~1600	1601 ~1800	1801 ~2000	2001 ~2200	2201 ~2400	2401 ~2600	2601 ~2800	2801 ~3000	3001 ~3200	3201 ~3400	3401 ~3600	3601 ~3800	3801 ~4000
6.0~6.9													
7.0~7.9													
8.0~8.9													
9.0~9.9	14.0											Not available	
10.0~19.9													

- Notes: 1. Maximum unit mass is 13tons.
2. Minimum size is 1m wide and 2m long.
3. For dimensions other than above length, please consult with JFE.

AVAILABLE SIZES

Clad Steel Plates

Stainless Clad Steel Plates : One side cladding (Austenitic and ferritic stainless steel)

Product Length: m

Width (mm) Thickness (mm)	1000 ~1500	1501 ~1800	1801 ~2000	2001 ~2200	2201 ~2400	2401 ~2600	2601 ~2800	2801 ~3000	3001 ~3200	3201 ~3400	3401 ~3600	3601 ~3800	3801 ~4000	4001 ~4200	4201 ~ (5000)																																																																																																									
6.0~ 8.0	13													Not available																																																																																																										
8.1~10.0	15																																																																																																																							
10.1~16.0													16	15	Negotiable range																																																																																																									
16.1~18.0											16	15																																																																																																												
18.1~20.0								16	15																																																																																																															
20.1~22.0							16	15																																																																																																																
22.1~24.0																																																																																																																								
24.1~26.0																																																																																																																								
26.1~28.0																																																																																																																								
28.1~30.0			16																																																																																																																					
30.1~32.0	16	15																																																																																																																						
32.1~34.0																																																																																																																								
34.1~36.0																																																																																																																								
36.1~38.0																																																																																																																								
38.1~40.0																																																																																																																								
40.1~50.0											13	12	11																																																																																																											
50.1~60.0						13	12	11	10	9.5	9	8.5	8	7.5																																																																																																										
60.1~70.0					13	12	11	10	9.5	9	8.5	8	7.5																																																																																																											
70.1~80.0				13	12	11	10	9.5	8	7	6.5	6	5.5	5																																																																																																										
80.1~90.0			12	11	10	9.5	9	8	7.5	7	6.5	6	5.5	5																																																																																																										
90.1~100.0	12	11	10	9	8.5	8	7.5	7	6.5	6	5.5	5	4.5	Not available																																																																																																										
100.1~120.0	11	10.5	9.5	8.5	8	7	6.5	6	5.5	5	4.5																																																																																																													
120.1~150.0	Negotiable range													Not available																																																																																																										

Notes: 1. Thickness is a total of base metal and clad metal.

2. Minimum clad plate thickness is 1.5mm. For less than 2mm in thickness, please consult with JFE.

3. Minimum size is 1m wide and 3m long.

4. Above size is restricted in case of a heat treated product.

5. For dimensions other than above, please consult with JFE.

Stainless Clad Steel Plates : Both side cladding

Product Length: m

Width (mm) Thickness (mm)	1000~1500	1501~2000	2001~2500	2501~3000	3001~3500	3501~4000	4001~4500				
10.0~12.0	Negotiable range										
12.1~16.0											
16.1~18.0											
18.1~20.0								13			
20.1~22.0								14	12		
22.1~24.0								13	11		
24.1~26.0								12	11		
26.1~28.0								13	11	10	
28.1~30.0								12	10	9	
30.1~35.0								13	11	9	8
35.1~40.0								12	10	8	7
40.1~60.0											

Notes: 1. Thickness is a total of base metal and clad metal.

2. Minimum size is 1m wide and 3m long.

3. Clad metals include exclusively austenitic stainless steel, SUS 405, SUS 430 and SUS 410S.

Copper and Copper Alloy Clad Steel Plates

		Product Length: m								
Width (mm) Thickness (mm)	1000 ~2000	2001 ~2200	2201 ~2400	2401 ~2600	2601 ~2800	2801 ~3000	3001 ~3200	3201 ~3400	3401 ~3500	
6.0~ 8.0	13						Not available			
8.1~10.0										
10.1~16.0										
16.1~18.0										
18.1~20.0										
20.1~22.0										
22.1~24.0	14									
24.1~26.0										
26.1~28.0										
28.1~30.0										
30.1~32.0										
32.1~34.0										13
34.1~44.0					13		12	11		
44.1~50.0	13			Not available						

- Notes: 1. Thickness is a total of base metal and clad metal.
2. Minimum size is 1m wide and 3m long.
3. Above size is restricted according to the thickness of a clad metal.

Nickel and Nickel Copper Alloy Clad Steel Plates

Product Length: m						
Width (mm) Thickness (mm)	1000~2000	2001~2500	2501~3000	3001~3500	3501~4000	4001~4200
6.0~ 8.0	14			Not available		
8.1~10.0						
10.1~16.0						
16.1~18.0						
18.1~20.0						
20.1~22.0	13			12		
22.1~24.0				11		
24.1~26.0						
26.1~28.0	13		11	10		
28.1~30.0	12		10	9		
30.1~35.0	13		11	9	8	
35.1~40.0	12		10	8	7	
40.1~50.0	11	9	7	6	5	
50.1~60.0	10	8	6	5	4	Not available
60.1~70.0	9	7	5	4		

- Notes: 1. Thickness is a total of base metal and clad metal.
2. Minimum size is 1m wide and 3m long.
3. Above size is restricted according to the thickness of a clad metal.

AVAILABLE SIZES

Titanium Clad Steel Plates (Application : Tube plate)

Product Length: m

Width (mm) Thickness (mm)	1000 ~2000	2001 ~2500	2501 ~3000	3001 ~3200	3201 ~3400	3401 ~3600	3601 ~3800	3801 ~3900		
6.0~ 8.0	10			Not available						
8.1~10.0	11			9		Not available				
10.1~12.0				9						
12.1~16.0				9					8	
16.1~20.0				9					7	
20.1~24.0	10					9	7	6		
24.1~28.0						9		8	6	5
28.1~30.0						8		7.5		
30.1~32.0								6	5.5	
32.1~34.0										
34.1~36.0	9	7.5		5						
36.1~38.0										
38.1~40.0	7			7.5		5				
40.1~42.0				6						
42.1~44.0				Not available						
44.1~46.0										
46.1~48.0	6									
48.1~50.0										
50.1~52.0										
52.1~54.0										
54.1~56.0										
56.1~58.0										
58.1~60.0									5	
60.1~62.0										
62.1~64.0										
64.1~66.0										
66.1~68.0										
68.1~70.0										
70.1~72.0	4	3								

Notes: 1. Thickness is a total of base metal and clad metal.

2. Minimum size is 1m wide and 3m long.

Titanium Clad Steel Plates (Application : Shell plate)

Minimum Cold Steel Plates (Approximate Values)							Product Length: m	
Width (mm) Thickness (mm)	1000 ~2000	2001 ~2500	2501 ~3000	3001 ~3200	3201 ~3400	3401 ~3600	3601 ~3800	
6.0~ 8.0	10			Not available				
8.1~10.0	11			9	Not available			
10.1~12.0				9				
12.1~16.0								
16.1~20.0								
20.1~24.0	10			9		7		
24.1~28.0				9	8	6		
28.1~30.0				8			7.5	
30.1~32.0						6	5.5	
32.1~34.0	10		9	6		Not available		
34.1~36.0				9			5.5	
36.1~38.0							5.5	
38.1~40.0				7.5			5.5	

Notes: 1. Thickness is a total of base metal and clad metal.
2. Minimum size is 1m wide and 3m long.

Titanium Clad Steel Plates (Application : Liner plate with sea water corrosion resistance)

					Product Length: m
Width (mm) Thickness (mm)	1000 ~2000	2001 ~2500	2501 ~3000	3001 ~3200	3201 ~3400
5.0~ 5.9	10		Not available		
6.0~ 8.0					
8.1~10.0	11		9		
10.1~12.0			10		

Notes: 1. Thickness is a total of base metal and clad metal.
2. Minimum size is 1m wide and 3m long.

GUIDE FOR ORDER PLACING◆

**When placing an order for steel plate with JFE,
please specify the following items ;**

- | | |
|----------|--|
| 1 | Standard and Grade or Brand name |
| 2 | Dimensions |
| 3 | Quantity |
| 4 | Specific requirements ;
Chemical composition, Mechanical property, Ultra-
sonic inspection, Heat treatment, Marking,
Packaging, etc |
| 5 | Forming and Welding ;
Cold, and/or hot working, Heat treatment, Welding
method, etc |
| 6 | Witness inspection, if required ;
Mill certificate, Third party's certificate, Necessity
of witness and its contents |
| 7 | Delivery requirements ;
First and final delivery date, Starting date of work,
Date of receiving inspection, Final planning date of
work, Destination, etc |
| 8 | Other information that may be significant for
manufacturing the ordered product |

If you have any question upon placing an order, please contact
JFE's head office or other JFE offices.



JFE Steel Corporation
<http://www.jfe-steel.co.jp/en/>

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