



STEEL PLATE

강 판



JFE Steel Corporation

JFE Steel Co.

JFE Steel은 세계 최고수준의 공장을 3개나 가지고 있으며 이들은 동일본지역(Keihin), 서일본지역 (Kurashiki와 Fukuyama)등에 위치하고 있다. 국내 및 해외 고객의 요구수준에 맞추어 세계적으로 가장 거대한 수준인 최고5,350mm 넓이, 최고360mm두께까지의 다양한 종류의 강판을 생산할 수 있다.

현대적인 열처리시설과 레이들식 정제시설과 온라인으로 구축된 냉각시스템 같은 새로운 최첨단 강판제조시설이 네개의 공정에 추가되었다. 이러한 투자는 JFE에게 강판 생산분야에서 세계의 최고의 기술적인 수준을 유지할 수 있도록 하고 있다.

일본최초로 컴퓨터생산방식을 채택하여 주문에서 선적까지 일관되게 생산시스템을 구축하였고 완벽한 공정제어능력을 통해 더욱더 두터운 고객의 신뢰를 얻을 수 있게 되었다.

일반 탄소강판생산뿐만이 아니라 제품의 다양화를 통해 최고 인장강도 980N/mm2의 고장력 강판에서 와 저온환경에서 사용을 위한 강판과 보일러용 강판과 압력용기제작용 강판, Ni합금과 같은 고 내식성 강판, 고도의 내마모력 강판, 스테인리스강판, 다양한 유형의 clad강판 등 더욱더 다양한 종류의 강판을 생산하여 시장에 공급하고 있다. JFE의 고품질 강판은 언제나 고객의 요구를 충실히 만족시켜오고 있다.



East Japan Works (Keihin)



West Japan Works (Kurashiki)



West Japan Works (Fukuyama)

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JFE'S STEEL PLATES

1 세계최대의 사이즈

최고 두께 360mm, 길이 30,000mm, Max 너비 5,350mm, 중량 70tons

2 제품의 품질과 다양성

JFE는 세계 선두기술과 폭넓은 경험을 바탕으로 일본을 포함 국제기준을 충족시키는 최고 인장강도 980N/mm²의 고장력 강판에서 와 저온환경에서 사용을 위한 강판과 보일러용 강판과 압력용기제작용 강판, 고 내식성 강판, 고도의 내마모력 강판 등 부식환경에 강한 강판과, 스테인리스강판, 다양한 유형의 clad강판 등 다양하고 독특한 강판을 생산하고 있다.

3 최첨단 압연 및 냉각 제어기술

JFE Steel은 압연능력을 제어하기 위한 강력한 압연설비와 대단히 능률적인 온라인 가속냉각시설을 갖추어 국제선두의 TMCP기술을 개발해 고강성 고강도이면서도 훌륭한 용접가공성을 가진 강판을 고객들에게 공급하고 있다. 이 제품들은 조선사업, 교량 및 빌딩건설등의 분야에 특화되었으며 여러 다른 분야에도 응용되고 있다.

4 빼어난 표면형상

압연가공 전 슬라브의 청결을 유지하며, 압연 중 스케일은 고압수에 의해 완벽히 제거된다. 이러한 작업은 강판압연 후 깨끗하고 매력적인 표면을 가진 강판코일을 제작할 수 있게 하며, 무산소 환경에서 열처리를 진행하여 스케일이 생기는 것을 방지하고 있다.

5 뛰어난 수치정확성과 균일성

컴퓨터 제어방식에 의한 공정방식은 제품의 뛰어난 규격의 정확성과 균일성을 보장하고, 세계최고의 생산기술로 크라운의 생성과 강판 두께의 불균일성을 최소화하며, 최적의 압연가공성을 달성하였다.

6 최적화된 납기의 조정

JFE는 고객의 주문에서부터 포괄적인 컴퓨터제어시스템을 적용한다.

주문정보가 입력되었을 때 모든 개개의 공정에 정확하게 적용되어 최단의 납기와 최적의 시간에 고객에게 제품을 납품할 수 있게 한다.

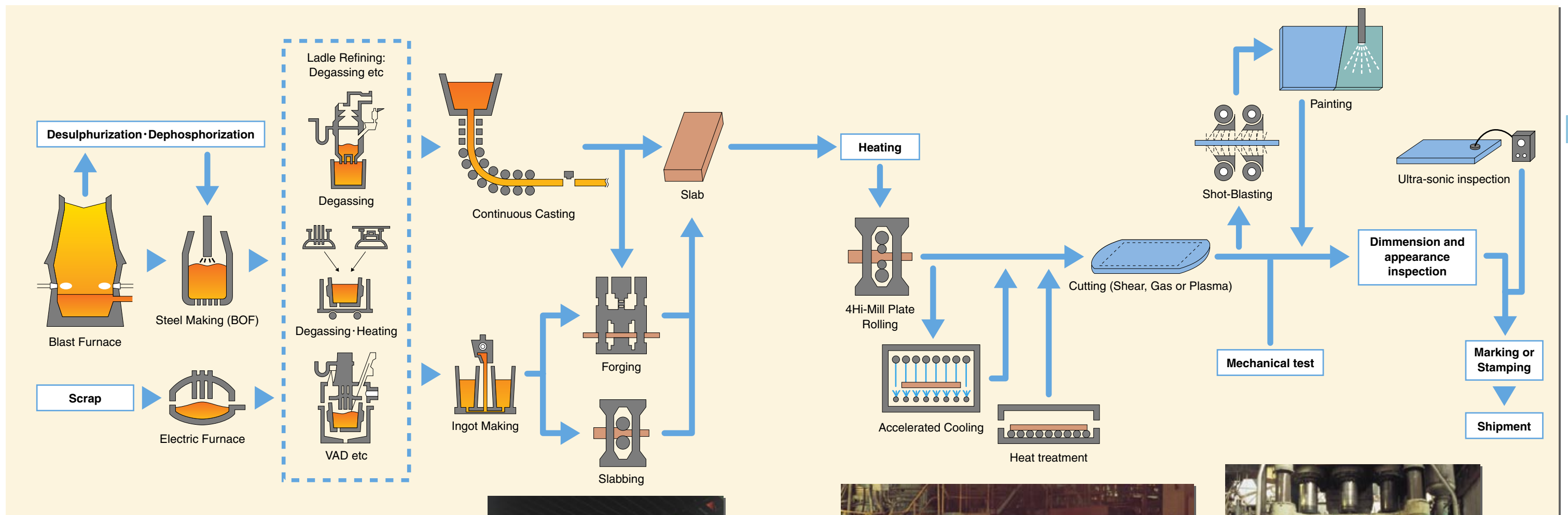
MANUFACTURING SHOPS AND MAJOR EQUIPMENT

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						
		G3131	SPHC SPHD SPHE	A529 A573 Gr. 58		EN10113 S275				
		G3136	SN400							
	High Tensile Strength Steels	490N/mm² Class	G3106	SM490 SM490Y	A572 A573 A633 A709 Gr. 50 A841	API 2H-50 2W-50	EN10025 S355 E295 EN10225 S355 EN10113 S355		A32,36,40 D32,36,40 E32,36,40	HBL325
			G3136	SN490						
		540N/mm² 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/mm² Class	G3106	SM570*	A678 Gr. C Gr. D A841		EN10025 E335 EN10113 S460 EN10137 S460	HW 450 HW450CF	A47 D47 E47 F47
							EN10137 S500	HW 490 HW 490CF	A51 D51 E51 F51	JFE-HITEN610 JFE-HITEN610U1 JFE-HITEN610U2 JFE-HITEN610E SA440U
		690N/mm² 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/mm² 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/mm² 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			KL2N30	
					Gr. B					
3.5%Ni Steel			G3127	SL3N255	A203 Gr. D		EN10028 12Ni14	KL3N32		
				SL3N275 SL3N440	Gr. E					
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 고장력 강판	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 780N/mm ² Over 980N/mm ² Over 980N/mm ²	1952년 이래로 JFE는 용접가공성과 980N/mm ² 수준의 고장력 강판인 JFE-HITEN강판제작에 연구개발을 거듭해왔다. 이 제품은 저장탱크나, 구형 개스저장고, 교량, 수압관, 자동차, 선박, 건물, 기계류, 철탑, 토목공학설비, 저온용기, 광산 및 농업 기계류까지 다양하게 응용되고 있다. 가장 두드러지게, JFE는 U1, U2시리즈와 용접시 예열이 필요없는 EX-HITEN, 고열용접용 E-HITEN시리즈, 냉대성 기후환경에서 사용하는 토목건설기계용 LE-HITEN시리즈를 개발했다. TMCP방법에 의해 JIS규격 SM570도 개발했으며, 이 제품들은 많은 공학분야에서 높은 인기를 구가하고 있다.
Atmospheric Corrosion Resistant Steel Plates 내식 강판	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	일반적인 대기부식에 저항력이 높은 강판을 포함, 염분노출에 의한 부식 때문에 표면도장없이 사용하는 일반강판을 쓸 수 없는 지역용 고 내식성 강판을 개발했다. 이러한 제품들은 1.5%Ni-Mo함유하는 기본형(Type1)과 2.5%Ni를 포함하는 고저항형 (Type2)등이 있다. 대기에 노출시 수분에 의한 부식을 방지할 목적으로 개발한 부식안정화용 페인트인 CUPTEN COAT M과 e-RUS등을 출시하기도 했다.

Type	Brand	Feature	Outline of Products																									
Steel Plates for Low Temperature Use 저온용강판	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	저온용기, 해양구조물, Jack-up rigs처럼 저온환경에서 사용되는 제품을 위해 저온강판을 공급하고 있다. 저온 선박의 경우 액화석유가스저장용 강판은 공식적인 기준이나 고객들의 기준에 따라서 사양이 선정된다. 일본용접학회에 의해 구성된 “저온용 압연강판의 사용범위”는 JIS규격의 기본법칙을 채택했다. 이 분야는 ASTM, ASME, BS, DIN과 NK같은 선박 규격에도 언급이 되어 있다.JFE는 관련의 국제기관의 공식승인을 취득하여 위와 같은 기준들에 의거한 제품을 개발생산하고 있다. <table border="1"> <thead> <tr> <th colspan="2">Liquefied</th> <th colspan="2">Applicable Steel Grades</th> </tr> </thead> <tbody> <tr> <td rowspan="2">-50°F</td> <td>Ammonia -33.4°C Propane -45°C</td> <td>JFE-HITEN-L SLA235 SLA325 JFE-LT1.5Ni-TM</td> <td>-46°C</td> </tr> <tr> <td>Propylene -47.7°C Hydrogen sulfide -59.5°C</td> <td>SL2N SL3N</td> <td>-60°C</td> </tr> <tr> <td rowspan="2">-75°F</td> <td>CO₂ gas -78.5°C Acetylene -84°C Ethane -88.3°C Ethylene -104°C</td> <td rowspan="2">SL9N</td> <td>-101°C</td> </tr> <tr> <td>Methane -163°C Oxygen -183°C Argon -186°C Fluorine -187°C</td> <td>-196°C</td> </tr> <tr> <td>-150°F</td> <td></td> <td></td> <td></td> </tr> <tr> <td>-320°F</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Liquefied		Applicable Steel Grades		-50°F	Ammonia -33.4°C Propane -45°C	JFE-HITEN-L SLA235 SLA325 JFE-LT1.5Ni-TM	-46°C	Propylene -47.7°C Hydrogen sulfide -59.5°C	SL2N SL3N	-60°C	-75°F	CO ₂ gas -78.5°C Acetylene -84°C Ethane -88.3°C Ethylene -104°C	SL9N	-101°C	Methane -163°C Oxygen -183°C Argon -186°C Fluorine -187°C	-196°C	-150°F				-320°F			
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-50°F	Ammonia -33.4°C Propane -45°C	JFE-HITEN-L SLA235 SLA325 JFE-LT1.5Ni-TM	-46°C																									
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Abrasion Resistant Steel Plates 내마모강판	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	토목공학이나, 공작기계, 운송산업분야의 많은 기계들이 내마모성을 요구한다. 오늘날까지 이러한 기계들은 고탄소강이나 고장력강판처럼 특별한 강으로 제작이 되어왔다. 이러한 제품들을 위해 JFE는 특별히 높은 마모 저항능력을 가진 JFE-EH(EVERHARD)같은 제품을 개발하여 시장에서 높은 인기를 얻고 있다. JFE-EH는 탄소처리 나 열처리 같은 특별한 방법에 의해 높은 강도를 가질 수 있게 되었다. 일반강판과 합금강판 외에도 500grade가 넘는 강도를 가진 SP와 특별한 저온강성을 가진 LE제품을 성공적으로 개발하였다. 이 제품들은 획기적인 기계수명의 확장시키고 수리시간을 줄여 비용을 절감할 수 있게 했다.																									

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, 355는 40에서 100mm까지 JIS규격제품보다 높은 항복 강도를 가지며, 토지개발, 사회기반시설, 운송산업에 사용가능하며, 낮은 항복비율에 의해 성형성을 갖고 있기도 하다. 추가로 더높은 강도를 가진 HBL385도 개발이 되었다.
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”는 590N/mm ² 강도를 가졌고, 용접시 예열이 필요없는, 전형적인 SA440에 비교될만한 건축구조물 전용 강판이다.
Fire Resistant Steel Plates for Building Structure	HBL325FR HBL355FR	Elevated temperature strength guaranteed	JIS G3106과 3136에 의한 대기온도에 의거하여, 600oC의 고온일때의 항복강도의 2/3이상을 보장하는 제품이다.
Low Yield Strength Steel Plates for Building Structure	JFE-LY100 JFE-LY160 JFE-LY225	Excellent deforming ability enables the absorption of earthquake energy.	높은에너지 흡수율을 갖춘 지진 진동흡수장치 같은 용도를 위해 지극히 낮은 항복강도를 가졌으며, 세 종류의 길이를 선택가능하다. LY160은 특별한 급의 제품이다.
Seawater Resistant Steel Plates	JFE-MARIN400 JFE-MARIN490 JFE-MARIN490Y	For welded structure use	JFE는 해수부식에 특별히 강한 제품을 생산하여 JFE-MARIN이라 명명하 였으며 Water Front구조물이나 해상교량, 선박 등에 용도를 가지고 있다.
Corrosion Resistant Steel Plates	JFE-ZP	For galvanizing pots	JFE의 내식강판은 다양한 부식환경에 저항력이 강하며 화공산업, 도금과 선박산업에 사용되고 있다.
	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	고순도 철을 포함하여 방자성능이 매우 뛰어나다.
Steel Plates for Mold Use	JFE-MD1 JFE-MD2 JFE-MD3	Good machinability and workability with stability of fatigue and heat impact properties	적절한 화학성분을 포함한데다 열처리까지 가하여 3grdae의 강도를 가지고 있다. 높은 피로Stress와 기계가공성을 가지며 단조성형과 같은 고온 의한 열충격에 대해서도 안정적인 성능을 유지한다.

Type	Brand	Feature	Outline of Products
High Strength Steel Plates for Hot-dip Zinc-coated Tower	JFE-HITEN590AZ	Tensile strength : over 590N/mm ²	고압송전탑등을 아연도금크랙을 방지하기위해 개발된 고장력강판
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” 는 발전된 압연기술에 의해 제작되어 조선사업과 교량건설에서 비용절감에 공헌하고 있다. 8가지 형태의 강판이 있으므로 정확히 필요한 크기를 상담하여 선택할 수 있다. 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” 는 4Ni-1.8Cr-0.5Mo-V 그리고 210P는 18Ni-9Co-5Mo-0.5Ti-Al-Zn-B를 포함한다. 두제품 다 특별히 고강도와 내온성을 가진다.
Stainless Steel Plates	JSL304 OL, OL1, OH JSL304LOL, LOH JSL316OL, OH JSL316LOL, LOH JSL310MoCu JSL Ni5Mo, Ni5	High corrosion resistance Weldability	이 시리즈의 강판은 새로운 공정과 열처리를 거쳐서 뛰어난 내식성과 용접가공성을 가진다. OL, OH 시리는 TMCP법에 의해 생산되며, OL이 OH보다 상대적으로 높은 강도를 가진다. JSL310MoCu는 Chloride나 황산성분이 높은 환경에 견디는 뛰어난 내식성을 가졌기 때문에 해양구조물, 수문, 매연배기탑 등에 사용된다. JSL, Ni5Mo, Ni5등은 “Techno Super Liner”같은 쾌속정을 위해 개발되었다.
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 de-salting equipments.	JFE는 Clad강판의 세계선두주자이며 최신의 슬라브 결합장치와 뛰어난 접합기술을 갖추어 고객의 신뢰를 받고 있다. 다양한 종류의 Clad강판을 생산하며, 더 길고 넓은 크기의 제품생산이 가능하여 엄청난 인기를 얻고 있다.

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)	(°C)	
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								—	≤0.45	—									12<t	—10	≥47		
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	No.5 No.5 No.4	—	1.5t	6 ≤t ≤36 36<t	—40 —20	≥27** ≥27	
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/mm ²)	Elongation			Test Temperature		Absorbed Energy (J)
															Thickness (mm)	(N/mm ²)		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/mm ²)	Tensile Strength (Kgf/mm ²)	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	Not available			
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	5	5	5						
150.1~160.0	11	11	11	10	10	9.9	9.1	8.5	7.9	7.4	7.0 6.0	6.6 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 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									
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	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																			24	24	22			
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	6.0 5.2	5.7 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	6.0 5.2	5.7 5.0	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	6.3 5.3	5.8 5.1	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	6.3 5.2	5.7 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	5.7 5.1	5.2 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	5.7 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	5.7 5.9														
180.1~190.0	8.4	8.4	7.5	8.6	8.0	7.4	6.8	6.3 5.5	5.7 5.1															
190.1~200.0	7.9	7.9	7.1	8.2	7.6	7.0	6.5 5.6	5.7 5.2	5.2 4.8															

1. 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.
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.

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								Not available									
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	7.2	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					Not available									
7.0~8.0	14.0													

- 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	Not available												
7.0~7.9													
8.0~8.9													
9.0~9.9													
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													17	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	14
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														
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												
80.1~90.0			12	11	10	9.5	9	8	7	6.5	6														
90.1~100.0	12		11	10	9	8.5	8	7.5	7	6.5	6	5.5	5												
100.1~120.0	11	10.5	9.5	8.5	8	7	6.5	6		5.5	5		4.5	Not available											
120.1~150.0	Negotiable range																								

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				13		
20.1~22.0	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																			
12.1~16.0									9	8									
16.1~20.0	10						7	6											
20.1~24.0						9	8	6	5										
24.1~28.0				9		7.5													
28.1~30.0				8		6	5.5												
30.1~32.0																			
32.1~34.0																			
34.1~36.0																			
36.1~38.0						5.5													
38.1~40.0																			
40.1~42.0	7			7.5		5													
42.1~44.0				6															
44.1~46.0				Not available															
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	5																		
58.1~60.0																			
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)

Titanium Clad Steel Plates (Application: Shell plate)							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			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	8		6	Not available
34.1~36.0			9			5.5	
36.1~38.0			7.5		5.5		
38.1~40.0					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			9		
8.1~10.0	11				
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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