Bisalloy
SD Steel



BISALLOY SHANGANG

(Shandong) Steel Plate Co., Ltd



ENTERPRISE CULTURE

Adhering to marketing concept of "Product + Technology + Service" and quality policy of “One Steel Plate, One Firm Promise”.We are striving to build up the manufacturing base with international quality level on the field of high strength wear resistant steel plate and high strength structural steel plate. To create value for customers is our pursuit for a long time.

ENTERPRISE PROFILE

Bisalloy Shangang (Shandong) Steel Plate Co., Ltd is a joint venture built by Bisalloy Steel Group Ltd,Australia and Shandong Iron and Steel Co.,Ltd,China in July of 2011.

Bisalloy Shangang is the only enterprise authorized by Bisalloy Steel Group Ltd. to use the whole technology to produce and sell BISPLATE® high strength, quenched and tempered steel plate outside Australia.

We manufacture steel plates including High strength Wear resistant steel plate and High strength Structural steel plate.

BISPLATE® series of High strength abrasion resistant plates and High strength structural plates are taking a lead in the industry now,designated by many international companies as the dedicating brand for manufacturing of Mine and Underground Equipment, Engineering Machinery, Transportation and Lift Equipment, Construction and Seaport Machinery.

Bisalloy Shangang adopts embedded control production mode to provide customers with high quality products and good system solutions,which based on the advanced technical equipment and control of Shandong Steel . Shandong Steel has one National Technology Center,two Provincial Technology Centers,One Provincial Engineering Technology Research Center,One National Quality inspection Center,One Postdoctoral Research Station,and One Provincial Academician Workstation.It is committed to produce high-end,high-quality,green and efficient products.The main steel products include medium and heavy plate,hot-rolled coil,cold-rolled coil,H-beam,excellent special steel,hot-rolled ribbed bar,etc.It is a famous medium and heavy plate production and H-beam base in China.





PRODUCT INTRODUCTION



WEAR | STRUCTURAL

BISPLATE® 400～600 high strength, abrasion resistant plate
BISPLATE® 80～100 high strength structural plate



QUALITY MANAGEMENT SYSTEM CERTIFICATE

Audit and Confirm by Beijing Grand Honour Certification Co., Ltd

Bisalloy Shangang (Shandong) Steel Plate Co., Ltd

Unified social credit code: 91370100575790177

Has established and implement a quality system in conformity with

GB/T 19001-2016/ISO 9001:2015 standard.

The scope covered by this management system:

Products and activities:

R & D and trade of BISPLATE series High-strength Wear-resistant Steel Plate and High-strength Structural Steel Plate; Steel trade.

Physical locations:

No. 21, Industrial North Road, Licheng District, Jinan City, Shandong Province. Building 4, Shuntai Square, No.2000, Shunhua Road, High-tech zone, Jinan City, Shandong province.

Note: The products covered in this scope shall be conformed to the requirement of associated licensed document or qualified certificate

Certificate registration: 02218Q10458R0S Issuing date: Dec 11, 2018 Effective date: From Dec 11, 2018 to Dec 10, 2021

The certified organization should accept the annual surveillance audit on schedule. This certificate shall be used in conjunction with annually surveillance audit stamp issued by GHC.

Supervision of qualified | Annual surveillance Valid to 01.10.2021 | (Authorized Representative)

IAF | CNAS 中国认可 国际互认 管理体系 MANAGEMENT SYSTEM CNAS C022-M

GHC Add: Fuhai Center, Building No. 3, Room 30C, Dalianhu Road, Haidian District, Beijing, China.

The validity of this certificate can be verified from the following website: www.cnca.gov.cn & www.cnicqr.com



OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM CERTIFICATE

Audit and Confirm by Beijing Grand Honour Certification Co., Ltd

Bisalloy Shangang (Shandong) Steel Plate Co., Ltd

Unified social credit code: 91370100575790177

Has established and implement an occupational health and safety management system in conformity with

GB/T 28001-2011/OHSAS 18001:2007 standard.

The scope covered by this management system:

Products and activities:

R & D and trade of BISPLATE series High-strength Wear-resistant Steel Plate and High-strength Structural Steel Plate; Steel trade.

Physical locations:

No. 21, Industrial North Road, Licheng District, Jinan City, Shandong Province. Building 4, Shuntai Square, No.2000, Shunhua Road, High-tech zone, Jinan City, Shandong province.

Certificate registration: 02218H10458R0S Issuing date: Dec 11, 2018 Effective date: From Dec 11, 2018 to Dec 10, 2021

Note: GB/T 28001-2011/OHSAS 18001:2007 certification will be valid until Mar 11, 2021.

The certified organization should accept the annual surveillance audit on schedule. This certificate shall be used in conjunction with annually surveillance audit stamp issued by GHC.

Supervision of qualified | Annual surveillance Valid to 01.10.2021 | (Authorized Representative)

CNAS 中国认可 国际互认 管理体系 MANAGEMENT SYSTEM CNAS C022-M

GHC Add: Fuhai Center, Building No. 3, Room 30C, Dalianhu Road, Haidian District, Beijing, China.

The validity of this certificate can be verified from the following website: www.cnca.gov.cn & www.cnicqr.com



Lloyd's Register

Certificate of Approval

This is to certify that the Management System of

Bisalloy Steels Pty Ltd

18 Resolution Drive, Ulladulla, 2539, Australia

has been approved by LRQA to the following standards:

ISO 9001:2015

Bekim Obaid - Area Operations Manager

Issued By: Lloyd's Register Quality Assurance Limited

Current Issue Date: 22 February 2018
Expiry Date: 28 February 2018
Certificate Identity Number: TJ008715

Original Approvals:
ISO 9001 – 26 March 1994

Approval Number(s): ISO 9001 - 00491910

The scope of this approval is applicable to:
Manufacture of quenched and tempered steel plates

JAS-ANZ



ENVIRONMENT MANAGEMENT SYSTEM CERTIFICATE

Audit and Confirm by Beijing Grand Honour Certification Co., Ltd

Bisalloy Shangang (Shandong) Steel Plate Co., Ltd

Unified social credit code: 91370100575790177

Has established and implement an environment system in conformity with

GB/T 24001-2016/ISO 14001:2015 standard.

The scope covered by this management system:

Products and activities:

R & D and trade of BISPLATE series High-strength Wear-resistant Steel Plate and High-strength Structural Steel Plate; Steel trade.

Physical locations:

No. 21, Industrial North Road, Licheng District, Jinan City, Shandong Province. Building 4, Shuntai Square, No.2000, Shunhua Road, High-tech zone, Jinan City, Shandong province.

Certificate registration: 02218E10458R0S Issuing date: Dec 11, 2018 Effective date: From Dec 11, 2018 to Dec 10, 2021

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GHC Add: Fuhai Center, Building No. 3, Room 30C, Dalianhu Road, Haidian District, Beijing, China.

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HIGH STRENGH ABRASION RESISTANT PLATE

Typical C.E.	Thickness	C.E Typical	Typical HBW	20mm Typical Mechanical Properties					
				Tensile			Charpy V-notch Impact		
				0.2% Proof Strength(Mpa)	Tensile Strength(Mpa)	Elongation (50mm G.L.)	Energy Value(J)	Temperature (℃)	Direction
BISPLATE® 360	> 6-60	0.42	330-400	1020	1130	18%	50	-20	Longitudinal
	> 60-100	0.48					42	-40	
BISPLATE® 400	5- < 16	0.40	370-430	1070	1320	16%	55	-20	Longitudinal
	> 16-60	0.50							
	> 60-100	0.54					45	-40	
BISPLATE® 450	6-20	0.46	425-475	1150	1400	14%	50	-20	Longitudinal
	> 20-60	0.55					40	-40	
BISPLATE® 500	6-100	0.61	477-534	1400	1640	12%	35	-20	Longitudinal
							25	-40	
BISPLATE® 550	6-100	0.66	525-575	1550	1780	/	15	-40	Longitudinal
BISPLATE® 600	12-50	0.75	570-640	/	/	/	12	-40	Longitudinal

HIGH STRENGH CONSTRUCTION PLATE

Typical C.E.	Thickness	C.E Typical	Typical HBW	Mechanical Properties					
				Tensile			Charpy V-notch Impact		
				0.2% Proof Strength(Mpa)	Tensile Strength(Mpa)	Elongation (50mm G.L.)	Energy Value(J)	Temperature (℃)	Direction
BISPLATE® 80 (AS 3697 Grade 700)	6 < 16	0.38	255	690（Min）	790-930	18%（Min）	40（Min）	-20	Longitudinal
	> 16-60	0.49		750（Typical）	830（Typical）	26%（Typical）	100（Typical）	-40	Longitudinal
	> 60-100	0.53							
BISPLATE® 100	6-80	0.55	320	890（Min）	940-1100	13%（Min）	40（Min）	-20	Longitudinal

AVAILABLE SIZE

Thickness (mm)	Regular size (width mm x engtth mm)
6-8	(1600–2000) x(6000-10000)
＞8－20	(1600–3100) x(6000-12000)
＞20－50	(2000–3100) x (6000-12000)
＞50－80	(1600–3100) x(6000-8000)
＞80－100	(1600-2485)x(6000-8000)

(Please contact for more detail If the width and length are irregular)

BISPLATE ® High Strengh Wear Resistant Steel Plate

BISPLATE® 400

BISPLATE® 400 – a through hardened, abrasion resistant steel plate, offering long life expectancy in high impact abrasion applications.

Applications

BISPLATE® 400 offers excellent wear resistance and impact toughness in applications that include:

- Dump truck wear liners
- Cyclones
- Screw conveyors
- Deflector plates
- Chutes
- Ground engaging tools
- Storage bins
- Cutting edges
- Earthmoving buckets

Brinell Hardness Specification 370-430HBW ; Typical: 400HBW

Fabrication

BISPLATE® 400 is a high hardness, abrasion resistant steel plate offering very good impact toughness. BISPLATE® 400 provides an optimum combination of abrasion resistance, toughness and weldability. Due to its low alloy content, BISPLATE® 400 can be readily welded using conventional welding process and low hydrogen electrodes. Cold forming of BISPLATE® 400 is achievable on all thicknesses. although an allowance for the higher strength should be taken into account. Bending machine capabilities should also be taken into consideration prior to any forming operation. Heating above 250˚C should be avoided, otherwise mechanical properties may be affected.





Mechanical Properties

Typical Property	
0.2% Proof Strength	1070 MPa
Tensile Strength	1320 Mpa
Elongation in 50mm G.L.	16%
Charpy Impact(Longitudinal) -20℃	55J
Charpy Impact(Longitudinal) -40℃	45J
Brinell Hardness	400HBW

Chemical Composition

Thickness		C	P	Mn	Si	S	Cr	Mo	Ni	Bt	CEV(Avg)
>6 -16	Maximum	0.19	0.018	1.30	0.30	0.008	0.20	0.30	0.30	0.0025	0.40
>16 - 60	Maximum	0.22	0.018	1.60	0.30	0.008	0.45	0.30	0.50	0.0025	0.50
>60-100	Maximum	0.20	0.018	1.30	0.80	0.008	1.20	0.50	1.00	0.0025	0.54



BISPLATE® 450

BISPLATE® 450 – a through hardened, abrasion resistant steel plate, offering long life expectancy in high impact abrasion application.

Applications

BISPLATE® 450 offers excellent wear and abrasion resistance and impact toughness in applications that include:

- Drag Line Buckets
- Dump Truck Wear Lines
- Liner Plates
- Chutes
- Storage Bins
- Earthmoving Buckets
- Deflector Plates
- Ground Engaging Tools
- Cutting Edges

Brinell Hardness Specification 425-475HBW ; Typical: 450HBW

Mechanical Properties

Typical Property	
0.2% Proof Strength	1150MPa
Tensile Strength	1400 Mpa
Elongation (A50)	14%
-40℃ longitudinal Charpy Impact	35J
Brinell Hardness	450HB



Chemical Composition

Thickness		C	P	Mn	Si	S	Cr	Mo	Ni	B	CEV(Avg)
>6 -20	Maximum	0.23	0.018	0.80	0.65	0.005	0.80	0.25	0.50	0.0025	0.46
>20 - 60	Maximum	0.25	0.018	1.20	0.65	0.005	0.80	0.35	1.00	0.0025	0.55



BISPLATE® 500

BISPLATE® 500 – a through hardened, abrasion resistant steel plate, offering long life expectancy in sliding and gouging application.

Applications

BISPLATE® 500 is offering special long life in sliding and abrasion applications such as:

- Dump truck wear liners
- Ground Engaging Tools
- Earth Moving Buckets
- Wear Liners
- Chutes
- Cutting Edges
- Bucket Lips and Edges

Brinell Hardness Specification 477-534HBW ; Typical 500HBW

Fabrication

BISPLATE® 500 is a high hardness, medium carbon abrasion resistant steel offering very good impact toughness properties. BISPLATE® 500 can be smoothly welded with itself and some high strength steel plate in the condition of proper energy input, preheat temperature and electrodes. Due to its higher hardness, it is more difficult for cold forming of BISPLATE® 500. Higher bending force is required during the cold forming and the elastic recovery should be taken into account adequately. Heating above 200℃ should be avoided; otherwise mechanical properties may be affected.

MECHANICAL PROPERTIES

MECHANICAL PROPERTIES	TYPICAL
0.2% Proof Strength	1400MPa
Tensile Strength	1640 Mpa
Elongation (A50)	12%
-20℃ longitudinal Charpy Impact	35J
-40℃ longitudinal Charpy Impact	25J
Brinell Hardness	500HB

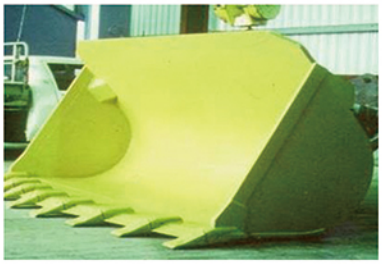


Chemical Composition

Thickness		C	P	Mn	Si	S	Cr	Mo	Ni	B	CEV(Avg)
6 - 100	Maximum	0.32	0.018	0.60	0.50	0.005	1.50	0.50	1.00	0.0025	0.61









BISPLATE® 600

BISPLATE® 600 – a through hardened,abrasion resistant steel plate,offering long life expectancy in harsh sliding application.

Applications

- Wear Liners for Chutes
- Ground Engaging Tools
- Cutters and Cutting Edges
- Shredders
- Hammers

Brinell Hardness Specification 570-640HBW ; Typical 600HBW

Fabrication

BISPLATE® 600 is a medium carbon,ultra-high hardness wear abrasion resistant steel plate.It can be cut by normal cutting method and the preheating temperature,cutting speed should be strict to avoid cutting damage.Due to the high hardness ,cold forming is not recommended, Welding,drilling and tapping is very difficult.The properties of the delivered condition cannot be retained after exposure to temperatures in excess of 250 ℃,and BISPLATE® 600 is not intended for further heat treatment.
For advice on fabrication please refer to relevant technical brochures or contact us.

Mechanical Properites

Properties	Typical
Charpy Impact (Longitudinal) -40℃ (10mm×10mm)	12J

Chemical Composition

Thickness		C	P	Mn	Si	S	Cr	Mo	Ni	B	CEV(Avg)
12 - 50	Maximum	0.45	0.020	0.40	0.35	0.008	1.20	0.30	1.50	0.002	0.75



BISPLATE ® High Strength Structural Steel Plate

BISPLATE® 80

BISPLATE® 80 – a low alloy, high strength steel plate with a yield strength approximately three times that of carbon steel and featuring low carbon, excellent notch toughness and good at weldability and deforming.

Applications

The high strength properties of BISPLATE® 80 allows reduction in section thickness without loss of structural integrity. The following lists some applications where the strength advantage has been realized:

- Transport Equipment such as Low Loaders
- Structural Components for Mining Dump Trucks and other Mobile Equipment
- Mining Equipment Roll Over Protection Systems[ROPS]
- Underground Longwall Mining Supports
- Storage Tanks for Water,Oil and Gas
- Columns for Low and High Rise Buildings
- Transfer Beams for Low and High Rise Buildings
- Road and Rail Bridge Beams and columns
- Excavator Buckets
- Mobile Lifting Equipment
- Overhead Cranes
- Container Handling Equipment
- High Stress and High Fatigue Applications including Induced Draft Fans

Mechanical Properties

PROPERTIES	SPECIFICATION	TYPICAL
0.2% Proof Strength	≥ 690 MPa	750 MPa
Tensile Strength	790-930 MPa	830 Mpa
Elongation (A50)	18%	26%
-20℃ longitudinal Charpy Impact	≥40J	160J
-40℃ longitudinal Charpy Impact	/	100J
Brinell Hardness	/	255HBW

Chemical Composition

Thickness		C	P	Mn	Si	S	Cr	Mo	Ni	Bt	CEV(Avg)
6 - 16	Maximum	0.18	0.018	1.25	0.30	0.008	—	0.25	0.30	0.0025	0.38
16 - 60	Maximum	0.21	0.018	1.55	0.30	0.008	0.30	0.30	0.60	0.0025	0.49
60-100	Maximum	0.19	0.018	1.25	0.70	0.008	0.90	0.40	1.20	0.0025	0.53



BISPLATE® 100

BISPLATE® 100 – a low alloy, high strength steel plate with very high yield strength (over three times that of carbon steel) and featuring low carbon, excellent notch toughness and good weldability and deforming.

Applications

The high strength properties of BISPLATE® 100 allows reduction in section thickness without loss of structural integrity. Here are some applications where the strength advantages have been realized:

- Transport Equipment such as Low Loaders
- Columns for Low and High Rise Buildings
- Transfer Beams for Low and High Rise Buildings
- Road and Rail Bridge Beams and Columns
- Mobile Lifting Equipment
- Overhead Cranes
- Container Handling Equipment

Mechanical Properties

Properties	Specification	Typical
Proof Strength(RP0.2)	≥890MPa(Min)	950MPa
Tensile Strength	940-1100MPa	1030MPa
Elongation (A50)	13% (Min)	22%
longitudinal Charp Impact (-20℃)	40J(Min)	160J
Brinell Hardness		320HB

Chemical Composition

Thickness mm		C	P	Mn	Si	S	Cr	Mo	Ni	Bt	CEV Average
6-80	Maximum	0.18	0.018	1.60	0.50	0.008	0.90	0.60	1.20	0.003	0.55



BISALLOY SHANGANG
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Add: the 4th Building of Shuntai Plaza, High-tech Development District, Jinan, Shandong, PRC.
Website:http://www.bisjigang.com
Tel:0531-67607652
E-mail: lily@bisjigang.com