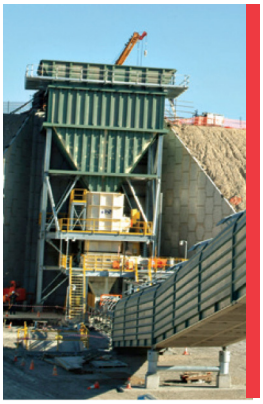
BISPLATE® 600



BISPLATE® 600

BISPLATE ® 600 – is a through hardened, abrasion resistant steel plate, offering long life expectancy in the more demanding sliding and gouging applications, especially in mining, earthworks and quarry works etc.

Applications

BISPLATE ® 600 is the hardest steel produced by Bisalloy Steels and offers exceptionally long life in applications with maximum sliding and minimal impact such as:

- Wear Liners
- Hopper Liners
- Chute Liners
- Shredders

Available Sizes

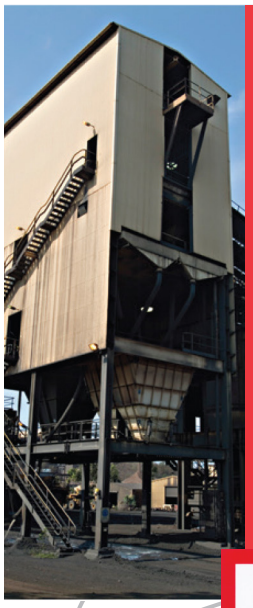
Thickness (mm)	**Size** (Width mm x Lenth mm)
12 – 25 (.47″ – .98″)	2485 x 8000 (97.83″ x 314.96″)
32 (1.26″)	2485 x 8400 (97.93″ x 330.71″)
40 (1.57″)	2485 x 8000 (97.83″ x 314.96″)
50(1.97″)	2485 x 6000 (97.83″ x 236.22″)

(Other widths/lengths available on enquiry)

Chemical Composition, Weight % (Max)

Thickness (mm)	C	P	Mm	Si	S	Ni	Cr	Mo	B	CE(IIW)*	CET*
12 – 50 Maximum	0.45	0.020	0.40	0.35	0.008	1.00	1.20	0.30	0.002	0.75	0.52

**Typical Average*



Charpy Impact Properties

	Charpy Impact (longitudinal), -40°C **Plate Thickness** (mm)	**Test Piece Size** (mm x mm)	**Energy** (J)
Typical	16 mm (.63″)	10 x 10	12

Hardness	Specification 570 – 640 BHN Typical 600BHN
Testing	All testing is NATA approved
Manufacturing	In accordance with AS/NZS 1365
Tolerances	Tighter tolerances may be available on negotiation
Surface Finish	Shotblasted
Plate Colour Code	Red

DISTRIBUTED BY

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Bisalloy Steels

LINCOLN ELECTRIC
THE WELDING EXPERTS®

Welding Procedure Recommendation

WPR No: **BIS002**
Rev.: 2
Date: 15/07/2013

Welding Code: AS/NZS 1554.4 2012 ed
Client: tba
Made at: Lincoln Electric
Project No.

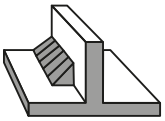
Welding Process

Base material	**Bisplate 600**® to AS3678 Gd 350
Joint type	Fillet weld
Plate thickness	32-40mm
Plate dimensions	tba

Weld Position

2F

2F RB



Welders and operators

Welding equipment		
tba		
Interpass temp	175	°C max
Preheat	150	°C min
PWHT	n/a	°C

Welding Consumables

		Joining Electrode			Shielding Gas	Hardfacing Electrode	
Process	Manufacturer	mm	Trade name	AWS Class	Type - Mix	Trade name	AS/NZS 2576 Class
FCAW	Lincoln Electric	1.6mm	***Outershield® MC715-H***	EBOC-Ni1M H4	75/25 Ar/C02	***Lincore 60-O x 1.6mm***	2355-B5/B7
Stick	Lincoln Electric	4.0mm	***Conarc 49C***	E7018-1 H4R	n/a	***Wearshield 60 x 4.0mm***	2360-A4
SAW	Lincoln Electric	3.2mm	***Lincolnweld LS-3 / 860***	*F7A2-EH12K*	*n/a*	***Lincore 42-S / 802***	1440-81

	Welding parameters for Joining				Parameters for Hardness layer (optional)			
Process	**FCAW**	***Stick***	***SAW***		***FCAW***	***Stick***	***SAW***	
Product	MC715-H	Conarc 49C	LS-3		Lincore 60-0	Wearshield 60	Lincore 42-S	
Position	2F	2F	2F		2F	2F	2F	
Electrode current / polarity	DCEP	DCEP	DCEP		DCEP	DCEP	DCEP	
CTWD	20	n/a	35		20	n/a	20	
Wire Feed Speed inch/mm	250	n/a	75		300	n/a	100	
Current [Amps]	325	170	550		31	20	28	
Voltage (Volts)	28-30	20	30-32		21	20	28	
Gas flow rate [L/min}	15-20	n/a	n/a		n/a	n/a	n/a	
Travel Speed mm/min	As reqd	As reqd	As reqd		As reqd	As reqd	As reqd	

Fabrication

BISPLATE ® 600 is a medium carbon, very high hardness, abrasion resistant steel. With appropriate attention to heat input.
BISPLATE ® 600 can be successfully cut by conventional techniques with recommended preheating and cutting speed.
Recommendations for thermal cutting of **BISPLATE ® 600**
Oxy Cutting (speed mm/min, Pre-heating °C

Thickness (mm)	**12 mm (.47")**	**≤16 mm (.63")**	**≤20 mm (.79")**	**≤25 mm (.98")**	**≤32 mm (1.26")**	**≤40 mm (1.57")**	**≤50 mm (1.97")**
Cutting Speed	300	200	180	160	140	120	100
Preheating	120	120	120	150	150	150	150

Plasma Cutting (speed mm/min, Pre-heating °C

Thickness (mm)	**12 mm**	**≤16 mm**	**≤20 mm**	**≤25 mm**	**≤32 mm**	**≤40 mm**	**≤50 mm**
Cutting Speed	As per machine settings						
Preheating	120	120	120	150	150	150	150

Note: 1. Stack the cut pieces together to allow the cut pieces to cool slowly. A slow cool will reduce the risk of cracking after cutting.
2. Post-heating can also be employed to reduce delayed cracking after cutting. Post-heating temperature should be the same as the preheating temperature.
3. Oxy cutting can introduce heat to the cutting component. The smaller the component the hotter the component will be. Above 250°C a certain degree of softening can occur.