
ENVIROSTEEL STRUCTURAL PRODUCTS

Hot rolled plate – AS/NZS3678:2016

Welded beam – AS/NZS 3679.2:2016

Welded column – AS/NZS 3679.2:2016

Coil – AS/NZS 1594:2002

EnviroSteelTM

 **MACDONALD
STEEL**[®]

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EnviroPlate™ - AS/NZS 3678:2016



GENERAL DESCRIPTION

Macdonald Steel is accredited under the ACRS Traceability scheme. GRP products are manufactured to meet strict sustainable protocols, all products comply to the AS/NZS standards and are ACRS accredited.

Our hot rolled plates come in various grades, and sizes to meet your direct use, rolling, or fabricating requirements.

Hot Rolled plates range from mild steel to high strength steel to suit all your project requirements.

HOT ROLLED PLATE GRADES - TABLE 1.1

Available Hot Rolled Plate Grades					
Grade	LO	L15	L20	L40	SO
250	•	•	•	-	-
300	•	•	•	•	•
350	•	•	•	•	•
WR350	•	•	•	-	-
400	-	•	•	-	-

CNC-UT (ULTRASONIC) TESTING



MARKET APPLICATIONS

- Structural Steel Construction
- Infrastructure
- Storage Tanks
- Fabrication & Erection
- Marine & Civil

STANDARD PLATE SIZES - TABLE 1.2

Width (mm)	Length (mm)
1219	2438
1520	3600
2200	5800
2400	6096

The maximum width is 3000 mm and length is 12000 mm, which Macdonald Steel is capable of supplying. Other-dimensional (custom) sizes are available upon agreement.

MANUFACTURING SPECIFICATIONS

- AS/NZ 3678 : 2016
- ACRS CERTIFIED PRODUCT
- ISO 9001, ISO 14001 & ISO 18001
- Member Of WSA (World Steel Association) - Climate Action Member
- EPD (Environmental Product Declaration)
- ResponsibleSteel™ Member

PRODUCT DETAILS & SPECIFICATIONS: GR. 250, 250 L15, 250 L20



A. STANDARD SPECIFICATION - TABLE 1.3

Specification & Grades	Applicable Thickness in (mm)	Thickness Range (mm)	Tensile Test (Transversal)		
			YS (N/mm ²)	TS (N/mm ²)	EL (%) (5.65√So)
			Min	Min	Min
AS/NZS 3678:2016 Gr. 250, 250 L15, 250 L20	≥ 5 - ≤ 100	≤ 8	280	410 ^A	22 ^B
		> 8 ≤ 12	260	410	22 ^B
		> 12 ≤ 20	250	410	22 ^B
		> 20 ≤ 50	250	410	22 ^B
		> 50 ≤ 80	240	410	22 ^B
		> 80 ≤ 150	230	410	22 ^B

B. TYPICAL MECHANICAL PROPERTIES - TABLE 1.4

Mechanical Properties	≥8 - ≤16 mm	>16 - ≤40 mm	>40 - ≤60 mm	>60 - ≤100 mm
	Typical			
Yield Strength (MPa)	328	313	313	308
Tensile Strength (MPa)	465	467	466	489
Elongation (%) (5.65√So)	27	28	28	32
Impact (J) (-0 °C)	115	129	123	93
Impact (J) (-15°C)	90	112	117	86
Impact (J) (-20 °C)	88	126	102	122

IMPACT PROPERTIES - TABLE 1.5

Specification	Grades	Temp. (°C)	Minimum Absorbed Energy (J)
			Avg.
AS/NZS 3678:2016	200	-	-
	200 L15	-15	27
	200 L20	-20	27

^AMinimum tensile strength (TS) is not applicable for material with thickness < 6 mm.

^BFor cross sectional test piece area > 1000 mm², minimum elongation decreased by 2%.

CHEMICAL COMPOSITION - TABLE 1.6

Chemical Composition	Standard Specification (wt%)	Typical (wt%)
Carbon (C)	≤0,22	0.16-0.20
Silica (Si)	≤0,50	0.20-0.30
Manganese (Mn)	≤1,70	0.4-0.9
Phosphorous (P)	≤0,040	≤0.015
Sulphur (S)	≤0,030	≤0.010

THROUGH THICKNESS (Z TEST) - TABLE 1.7

Through Thickness (AS/NZS 3678:2016)				
Grade	Certified Thickness in (mm)	Z 15	Z 25	Z 35
250	5-100	(Average 3 tests)		

FABRICATING PERFORMANCE - TABLE 1.8

1 = Limited	10 = Excellent
Method	Rating
Bending	8
Welding	9

PRODUCT DETAILS & SPECIFICATIONS: GR. 300, 300 L15, 300 L20, 300 L40, 300 SO



A. STANDARD SPECIFICATION - TABLE 1.9

Specification & Grades	Applicable Thickness in (mm)	Thickness Range (mm)	Tensile Test (Transversal) (min.)		
			YS (N/mm ²)	TS (N/mm ²)	EL (%) (5.65√So)
AS/NZS 3678:2016 Gr. 300, 300 L15, 300 L20, 300 L40, 300 SO	≥ 8 - ≤ 100	> 8 ≤ 12	310	430	21
		> 20 ≤ 32	280	430	21
		> 32 ≤ 80	280	430	21
		> 80 ≤ 100	260	430	21

^A For Grade 300 L40 supplied in normalized condition up to 100 mm thickness or Thermo-Mechanical Control Process (TMCP) condition up to 40 mm

Engineers to design any buildings with safety considerations and to cover or control earthquake damages. AS/NZS 3678 Gr. 300 SO is a seismic grade designation in which the engineer must carefully balance the steels' mechanical properties to get suitable joint sections.

B. TYPICAL MECHANICAL PROPERTIES - TABLE 1.10

Mechanical Properties	≥8 - ≤16 mm	>16 - ≤40 mm	>40 - ≤60 mm	>60 - ≤100 mm
	Typical Average			
Yield Strength (MPa)	360	362	347	348
Tensile Strength (MPa)	497	515	513	508
Elongation (%) (5.65√So)	26	28	29	30
Impact (J) (-0 °C)	104	135	133	130 ^B
Impact (J) (-15°C)	79	104	105	152
Impact (J) (-20 °C)	119	148	164	137
Impact (J) (-40 °C)	119	123	115	111

^B Thickness range from >60 - ≤80 mm for 300 SO

IMPACT PROPERTIES - TABLE 1.11

Specification	Grades	Temp. (°C)	Minimum Absorbed Energy (J)
			Avg.
AS/NZS 3678:2016	300	-	-
	300 L15	-15	27
	300 L20	-20	27
	300 L40 ^A	-40	27
	300 SO	0	70

^A Supplied in normalized condition up to 100 mm thickness to guarantee impact value

CHEMICAL COMPOSITION - TABLE 1.12

Chemical Composition	Standard Specification (wt%)	Typical (wt%)
Carbon (C)	≤0,22	0.17-0.20
Silica (Si)	≤0,50	0.20-0.30
Manganese (Mn)	≤1,70	0.8-1.20
Phosphorous (P)	≤0,040	≤0.015
Sulphur (S)	≤0,030	≤0.010

THROUGH THICKNESS (Z TEST) - TABLE 1.13

Through Thickness				
Grade	Certified Thickness in (mm)	Z 15	Z 25	Z 35
		300	8-100	(Average 3 tests)

Product Performance Certified by ACRS

FABRICATING PERFORMANCE - TABLE 1.14

1 = Limited	10 = Excellent
Method	Rating
Bending	8
Welding	9

PRODUCT DETAILS & SPECIFICATIONS: GR. 350, 350 L15, 350 L20, 350 L40, 350 S0



A. STANDARD SPECIFICATION - TABLE 1.15

Specification & Grades	Applicable Thickness in (mm)	Thickness Range (mm)	Tensile Test (Transversal)		
			YS (N/mm ²)	TS (N/mm ²)	EL (%) (5.65√So)
			Min	Min	Min
AS/NZS 3678:2016 Gr. 350, 350 L15, 350 L20, 350 L40, 350 S0	≥ 8 - ≤ 100	> 8 ≤ 12	360	450	20
		> 20 ≤ 32	340	450	20
		> 32 ≤ 80	340	450	20
		> 80 ≤ 100	330	450	20

B. TYPICAL MECHANICAL PROPERTIES - TABLE 1.16

Mechanical Properties	≥8 - ≤16 mm	>16 - ≤40 mm	>40 - ≤60 mm	>60 - ≤100 mm
	Typical			
Yield Strength (Mpa)	380	370	370	380
Tensile Strength (Mpa)	551	547	547	547
Elongation (%) (5.65√So)	26	26	26	26
Impact (J) (-0 °C)	111	146	172	152 ^B
Impact (J) (-15°C)	120	128	130	124
Impact (J) (-20 °C)	117	119	126	120
Impact (J) (-40 °C)	141	119	120	93

^BThickness range from >60 - ≤80 mm for 350 S0

IMPACT PROPERTIES - TABLE 1.17

Specification	Grades	Temp. (°C)	Minimum Absorbed Energy (J)
			Avg.
AS/NZS 3678:2016	350	-	-
	350 L15	-15	27
	350 L20	-20	27
	350 L40 ^A	-40	27
	350 S0	0	70

^AFor grade 350 L40 supplied in normalized condition up to 100 mm thickness or Thermo Mechanical Control Process (TMCP) condition up to 40 mm thickness to guarantee impact value.

CHEMICAL COMPOSITION - TABLE 1.18

Chemical Composition	Standard Specification (wt%)	Typical (wt%)
Carbon (C)	≤0,22	0.17-0.20
Silica (Si)	≤0,50	0.20-0.30
Manganese (Mn)	≤1,70	1.20-1.40
Phosphorous (P)	≤0,040	≤0.015
Sulphur (S)	≤0,030	≤0.010

THROUGH THICKNESS (Z TEST) - TABLE 1.19

Through Thickness (AS/NZS 3678:2016)				
Grade	Certified Thickness in (mm)	Z 15	Z 25	Z 35
350	8-100	(Average 3 tests)		

FABRICATING PERFORMANCE - TABLE 1.20

1 = Limited		10 = Excellent	
Method		Rating	
Bending		8	
Welding		9	

PRODUCT DETAILS & SPECIFICATIONS: GR. WR350, WR350 L0, WR350 L15, WR350 L20



A. STANDARD SPECIFICATION - TABLE 1.21

Specification	Grades	Applicable Thickness in (mm)	Thickness Range (mm)	Tensile Test (Transversal)			Impact Test (Longitudinal) (Minimum)		
				YS (N/mm ²)	TS (N/mm ²)	EL (%) (5.65√So)	0 °C	-15 °C	-20 °C
				Min	Min	Min	AVG	AVG	AVG
AS/NZS 3678:2016	WR350	≥8 - ≤60	≥ 8 ≤ 12	340	450	20	27	AVG	AVG
	WR350 L0		> 12 ≤ 20	340	450	20			
	WR350 L15		>20 ≤ 32	340	450	20			
	WR350 L20		>32 ≤ 60	340	450	20			

B. TYPICAL INNOVATIVE STEEL MECHANICAL PROPERTIES - TABLE 1.22

Mechanical Properties	≥ 8 ≤ 12 mm	> 12 ≤ 20 mm	>20 ≤ 32 mm	>32 ≤ 60 mm
	Typical			
Yield Strength (Mpa)	424	409	399	392
Tensile Strength (Mpa)	541	541	540	546
Elongation (%) (5.65√So)	21	22	22	26
Impact (J) (0°C)	207	210	211	220
Impact (J) (-15 °C)	166	164	164	152
Impact (J) (-20 °C)	152	149	150	147



CHEMICAL COMPOSITION - TABLE 1.23

Chemical Composition	Standard Specification (wt%)	Typical (wt%)	
	≤ 60 mm	≤ 20 mm	> 20 ≤ 60 mm
Carbon (C)	≤0,14	0.12 - 0.14	0.12 - 0.14
Silica (Si)	0,15 - 0,75	0.25 - 0.35	0.25 - 0.35
Manganese (Mn)	≤1,70	1.15 - 1.25	1.30 - 1.40
Phosphorous (P)	≤0,160	≤ 0.025	≤ 0.025
Chrome (Cr)	0.35 - 1.05	0.40 - 0.50	0.40 - 0.50
Copper (Cu)	0.15 - 0.50	0.25 - 0.35	0.30 - 0.40
Nickel (Ni)	≤0.55	0.10 - 0.20	0.20 - 0.25

THROUGH THICKNESS (Z TEST) - TABLE 1.24

Through Thickness (AS/NZS 3678:2016)				
Grade	Certified Thickness in (mm)	Z 15	Z 25	Z 35
WR350	8-60	(Average 3 tests)		

FABRICATING PERFORMANCE - TABLE 1.25

	1 = Limited	10 = Excellent
Method	Rating	
Bending	8	
Welding	8	

PRODUCT DETAILS & SPECIFICATIONS: GR. 400, 400 L15, 400 L20



A. STANDARD SPECIFICATION - TABLE 1.26

Specification & Grades	Applicable Thickness in (mm)	Thickness Range (mm)	Tensile Test (Transversal)		
			YS (N/mm ²)	TS (N/mm ²)	EL (%) (5.65 $\sqrt{S_0}$)
			Min	Min	Min
AS/NZS 3678:2016 Gr. 400, 400 L15, 400 L20	≥ 8 - ≤ 32	≤ 8	400	480	18 ^A
		> 8 ≤ 12	400	480	18 ^A
		> 12 ≤ 20	380	480	18 ^A
		> 20 ≤ 50	360	480	18 ^A
		> 50 ≤ 80	360	480	18 ^A
		> 80 ≤ 150	360	480	18 ^A

B. TYPICAL MECHANICAL PROPERTIES - TABLE 1.27

Mechanical Properties	≥8 - ≤16 mm	>16 - ≤32 mm
	Typical properties	
Yield Strength (Mpa)	469	471
Tensile Strength (Mpa)	590	592
Elongation (%) (5.65 $\sqrt{S_0}$)	22	22
Impact (J) (-0 °C)	171	175
Impact (J) (-15°C)	110	111
Impact (J) (-20 °C)	120	136

IMPACT PROPERTIES - TABLE 1.28

Specification	Grades	Temp. (°C)	Minimum Absorbed Energy (J)
			Avg.
AS/NZS 3678:2016	400	-	-
	400 L15	-15	27
	400 L20	-20	27

^A For cross sectional test piece area > 1000 mm², minimum elongation decreased by 2%.

CHEMICAL COMPOSITION - TABLE 1.29

Chemical Composition	Standard Specification (wt%)	Typical (wt%)
Carbon (C)	≤0.22	0.12-0.20
Silica (Si)	≤0.50	0.20-0.30
Manganese (Mn)	≤1.70	1.25-1.35
Phosphorous (P)	≤0.040	≤0.015
Sulphur (S)	≤0.030	≤0.010

THROUGH THICKNESS (Z TEST) - TABLE 1.30

Through Thickness (AS/NZS 3678:2016)		
Grade	Certified Thickness in (mm)	Z 15
400	8-32	(Average 3 tests)

FABRICATING PERFORMANCE - TABLE 1.31

Method	1 = Limited	10 = Excellent
	Rating	
Bending	8	
Welding	9	

PRODUCT TYPE: EnviroBeam™ - AS/NZS 3679.2:2016



GENERAL DESCRIPTION

Macdonald Steel is accredited under the ACRS Traceability scheme. GRP products are manufactured to meet strict sustainable protocols, all products comply to the AS/NZS standards and are ACRS accredited.

Our welded beams come in various grades, and sizes to meet your market applications requirements. Welded beams range from mild steel to high strength steel to suit all your project requirements.

WELDED BEAM GRADES & SIZES - TABLE 2.1

Designation	Lengths (m)						
	9.0	10.5	12	13.5	15	16.5	18
1200 WB	•	•	•	•	•	•	•
1000 WB	•	•	•	•	•	•	•
900 WB	•	•	•	•	•	•	•
800 WB	•	•	•	•	•	•	•
700 WB	•	•	•	•	•	•	•

CUSTOM WELDED SECTIONS - TABLE 2.2

Icon	Designation
	Asymmetric CWB'S
	Tapered Welded Beams
	CWB Welded Beams
	Welded Box Sections
	Gooseneck CWB'S Sections
	Curved Welded Beams
	Pre-camber Welded Beams

When considering Project requirements, the process generally leads fabricators to tender to specified specifications with a slight deviation. At Macdonald Steel, we offer custom welded beams (CWB) built to suit your project and design needs, which include tighter manufacturing tolerances that exceed the AS/NZ 3679.2:2016 standards.

MARKET APPLICATIONS

- Structural Steel Construction
- Infrastructure
- Heavy Equipment
- Fabrication & Erection
- Marine & Civil

MANUFACTURING SPECIFICATIONS

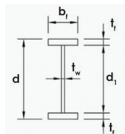
- AS/NZ 3679.2: 2016 - Welded Beams
- ACRS CERTIFIED
- AS/NZ 3678: 2016 - Hot Rolled Plate
- ACRS CERTIFIED
- AS/NZ 1554.1 - Semi-Auto SAW Welding
- ISO 9001, ISO 14001 & ISO 18001
- WPS & PQR To Suit Australian Standards
- Member Of WSA (World Steel Association)
- Climate Action Member
- EPD (Environmental Product Declaration)
- No Wastage - Welded Beams
- Cut To Size
- ResponsibleSteel™ Member

PRODUCT DETAILS & SPECIFICATIONS: GR. 700WB, 800WB, 900WB, 1000WB, 1200WB



A. STANDARD DIMENSIONS - TABLE 2.3

Designation	Weight	Depth Of Section	Flange		Web Thickness	Depth B/W Flanges	d1	(bf-tw)	Area of Cross Section
			Width	Thickness					
	kg/m	d	b _f	t _f	t _w	d _f	t _w	² tf	A _g
700 WB	173	716	275	28	10	660	66.0	4.73	22000
	150	710	250	25	10	660	66.0	4.80	19100
	130	700	250	20	10	660	66.0	6.00	16600
	115	692	250	16	10	660	66.0	7.50	14600
800 WB	192	816	300	28	10	760	76.0	5.18	24400
	168	810	275	25	10	760	76.0	5.30	21400
	146	800	275	20	10	760	76.0	6.63	18600
	122	792	250	16	10	760	76.0	7.50	15600
900 WB	282	924	400	32	12	860	71.7	6.06	35900
	257	916	400	28	12	860	71.7	6.93	32700
	218	910	350	25	12	860	71.7	6.76	27800
	175	900	300	20	12	860	71.7	7.20	22300
1000 WB	322	1024	400	32	16	960	60.0	6.00	41000
	296	1016	400	28	16	960	60.0	6.86	37800
	258	1010	350	25	16	960	60.0	6.68	32900
	215	1000	300	20	16	960	60.0	7.10	27400
1200 WB	455	1200	500	40	16	1120	70.0	6.05	57900
	423	1192	500	36	16	1120	70.0	6.72	53900
	392	1184	500	32	16	1120	70.0	7.56	49900
	342	1184	400	32	16	1120	70.0	6.00	43500
	317	1176	400	28	16	1120	70.0	6.85	40300
	278	1170	350	25	16	1120	70.0	6.68	35400
	249	1170	275	25	16	1120	70.0	5.18	31700

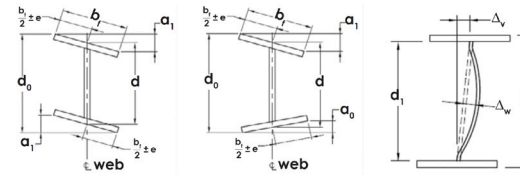


Note:

- All welds are done to AS/NZS 1554.1 Category SP (deep penetration welds)
- Welds sizes are determined by the minimum yield strength requirements specified in AS/NZS 3679.2:2016 standards

B. *PERMISSIBLE TOLERANCES FOR WELDED BEAMS - TABLE 2.4

Designation	Permissible variation of depth	Permissible variation of flange width	Permissible out-of-square on each flange	Permissible total out-of-square	Permissible web off-centre
Depth kg/m	(d) mm	(b _f) mm	(a ₁ or a ₀) mm	(a ₁ + a ₀) mm	(e) mm
1200	±4.0	+6.0 to -5.0	±5.0	±8.0	±5.0
1000	±3.3				
900	±3.0				
800					
700					



PRODUCT TYPE: WELDED COLUMN - AS/NZS 3679.2:2016



GENERAL DESCRIPTION

Macdonald Steel is accredited under the ACRS Traceability scheme. GRP products are manufactured to meet strict sustainable protocols, all products comply to the AS/NZS standards and are ACRS accredited.

Our welded columns come in various grades, and sizes to meet your market applications requirements. Welded columns range from mild steel to high strength steel to suit all your project requirements.

WELDED COLUMN GRADES & SIZES - TABLE 3.1

Designation	Lengths (m)						
	9.0	10.5	12	13.5	15	16.5	18
500 WC	•	•	•	•	•	•	•
400 WC	•	•	•	•	•	•	•
350 WC	•	•	•	•	•	•	•

Option for enquiries for custom lengths available

CUSTOM WELDED SECTIONS - TABLE 3.2

Icon	Designation
	Welded Columns
	Tapered Welded Beams
	King Cross Columns
	Welded Box Columns
	Circular Welded Columns: - Longitudinal submerged arc welded (LSAW) - Spiral submerged arc welded (SSAW)

When considering Project requirements, the process generally leads fabricators to tender to specified specifications with a slight deviation. At Macdonald Steel, we offer custom welded columns (CWC) built to suit your project and design needs, which include tighter manufacturing tolerances that exceed the AS/NZ 3679.2:2016 standards.

MARKET APPLICATIONS

- Structural Steel Construction
- Infrastructure
- Heavy Equipment
- Fabrication & Erection
- Marine & Civil

MANUFACTURING SPECIFICATIONS

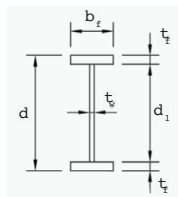
- AS/NZ 3679.2: 2016 - Welded Beams
- ACRS CERTIFIED
- AS/NZ 3678: 2016 - Hot Rolled Plate
- ACRS CERTIFIED
- AS/NZ 1554.1 - Semi-Auto SAW Welding
- ISO 9001, ISO 14001 & ISO 18001
- WPS & PQR To Suit Australian Standards
- Member Of WSA (World Steel Association)
- Climate Action Member
- EPD (Environmental Product Declaration)
- No Wastage - Welded Beams
- Cut To Size
- ResponsibleSteel™ Member

PRODUCT DETAILS & SPECIFICATIONS: GR. 350WC, 400WC, 500WC



A. STANDARD DIMENSIONS - TABLE 3.3

Designation	Weight kg/m	Depth Of Section d	Flange		Web Thickness t_w	Depth B/W Flanges d_1	d1	(bf-tw) 2tf	Area of Cross Section A_g
			Width b_f	Thickness t_f					
350 WC	280	355	350	40	28	275	9.82	4.03	35700
	258	347	350	36	28	275	9.82	4.47	32900
	230	339	350	32	25	275	11.00	5.08	29300
	197	331	350	28	20	275	13.80	5.89	25100
400 WC	361	430	400	40	40	350	8.75	4.50	46000
	328	430	400	40	28	350	12.50	4.65	41800
	303	422	400	36	28	350	12.50	5.17	38600
	270	414	400	32	25	350	14.00	5.86	34400
	212	400	400	25	20	350	17.50	7.60	27000
	181	390	400	20	20	350	17.50	9.50	23000
	144	382	400	16	16	350	21.90	12.00	18400
500 WC	440	480	500	40	40	400	10.00	5.75	56000
	414	480	500	40	32	400	12.50	5.85	52800
	383	472	500	36	32	400	12.50	6.50	48800
	340	514	500	32	25	400	18.00	7.42	43200
	290	506	500	28	20	400	22.50	8.57	37000
	267	500	500	25	20	400	22.50	9.60	34000
	228	490	500	20	20	400	22.50	12.00	29000

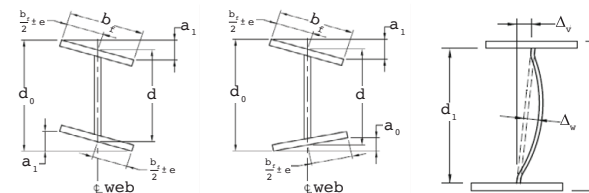


Note:

- All welds are done to AS/NZS 1554.1 Category SP (deep penetration welds)
- Welds sizes are determined by the minimum yield strength requirements specified in AS/NZS 3679.2:2016 standards

B. *PERMISSIBLE TOLERANCES FOR WELDED BEAMS - TABLE 3.4

Designation	Weight kg/m	Permissible variation of depth d	Permissible variation of flange width b_f	Permissible out-of-square on each flange a_1 or a_0	Permissible total out-of-square $a_1 + a_0$	Permissible web off-centre e
	258					
	230					
	197					
400 WC	361					
	328					
	303					
	270					
	212					
	181					
	144					
500 WC	440					
	414					
	383					
	340					
	290					
	267					
	228					



PRODUCT TYPE: EnviroCoil™ - AS/NZS 1594:2002



GENERAL DESCRIPTION

Macdonald Steel is accredited under the ACRS Traceability scheme. GRP products are manufactured to meet strict sustainable protocols, all products comply to the AS/NZS standards and are ACRS accredited.

Our hot rolled plates from coil come in various standards, grades, and sizes to meet your direct use, rolling, or fabricating requirements. Hot Rolled plates range from mild steel to high strength steel to suit all your project requirements.

MARKET APPLICATIONS

- Structural Steel Construction
- Infrastructure
- Heavy Equipment
- Fabrication & Erection
- Marine & Civil

MANUFACTURING SPECIFICATIONS

- AS/NZ 1594:2002
- ACRS Certified Product
- ISO 9001, ISO 14001 & ISO 18001
- Member Of WSA (World Steel Association)
- Climate Action Member
- EPD (Environmental Product Declaration)
- ResponsibleSteel™ Member

GENERAL DESCRIPTION

Specification and Grade	Maximum Length (mm)			
	Thickness Range (mm)	Width Range (mm)		
		900 - 1070	1070 -1219	1219 - 1524
AS/NZ 1594:2002 Gr. HA/HU 250 & Gr. HA/HU 300	2 - 3	4000	4000	-
	3 - 4.5	6000	6000	-
	4.5 - 6	12000	12000	12000
	6 - 8	12000	12000	12000
	8 - 9	12000	12000	12000
	9 - 16	12000	12000	12000
AS/NZS 1594:2002 Gr. HA 350	6 - 8	12000	12000	12000
	8 - 9	12000	12000	12000
	9 - 12	12000	12000	12000
*Minimum Length 2000 mm.				

PRODUCT DETAILS & SPECIFICATIONS: GR. 250, 300, 350



A. STANDARD SPECIFICATION & MECHANICAL PROPERTIES - TABLE 4.2

ACRS Certified Specification & Grades	Applicable Thickness (mm)	Thickness Range (mm)	Tensile Test (Longitudinal)					Bending Test		
			YS (N/mm ²)	TS (N/mm ²)	EL (%) GL=200	EL (%) GL=80	EL (%) GL=50	Diameter (mm)		
			Min	Min	Min	Min	Min	1 T	2 T	3 T
AS/NZS 1594:2002 Gr. HA/HU 250 AS/NZS 1594:2002 Gr. HA/HU 300 AS/NZS 1594:2002 Gr. HA 350	≥2 - ≤16 ≥2 - ≤16 ≥6 - ≤12	≤ 3	250	350	16	20	22	√	-	-
		>3 ≤ 5	250	350	17	24	26	√	-	-
		>5	250	350	17	24	26	-	√	-
		≤ 3	300	400	15	18	20	√	-	-
		>3 ≤ 5	300	400	16	22	24	-	√	-
		>5	300	400	16	22	24	-	√	-
		≤ 3	350	430	14	16	18	-	√	-
		>3 ≤ 5	350	430	15	20	22	-	√	-
>5	350	430	15	20	22	-	-	√		

B. CONTENT DECLARATION & CHEMICAL PROPERTIES - TABLE 4.3

ACRS Certified Grades	Chemical Composition	Standard Specification (wt%)
AS/NZS 1594:2002 Gr. HA/HU 250	Carbon (C)	≤0,20
	Silica (Si)	≤0,35
	Manganese (Mn)	≤1,20
	Phosphorous (P)	≤0,040
	Sulphur (S)	≤0,030
AS/NZS 1594:2002 Gr. HA/HU 300	Carbon (C)	≤0,20
	Silica (Si)	≤0,35
	Manganese (Mn)	≤1,60
	Phosphorous (P)	≤0,040
	Sulphur (S)	≤0,030
AS/NZS 1594:2002 Gr. HA 350	Carbon (C)	≤0,20
	Silica (Si)	≤0,35
	Manganese (Mn)	≤1,60
	Phosphorous (P)	≤0,040
	Sulphur (S)	≤0,030

Hot rolled steel plate AS/NZS 1594:2002 manufactured by mills is to made of low alloy steels with pig iron and approximately 100% scrap-based material.

We follow the chemical range of AS/NZS 1594:2002 as per specifications. Therefore, we work with typical chemical composition can be seen above: