Steel Plate Availability in New Zealand

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Introduction

Bridge construction is a demanding application typically requiring plate welded sections. Material optimisation for welded plate sections involves a careful matching of strength requirements with available plate sizes to minimise waste and welding requirements and to reduce transportation costs. This optimisation process is an iterative one. Typically a preliminary design is undertaken to determine the required plate thicknesses, dimensions and splice locations. Once material availability has been confirmed with a steel distributor, the designer continues to refine the design to suit actual plate availability and supply lead-times. To minimise the number of iterations in this process, it is helpful to have a feel for the range of plate sizes produced by steel mills. Typically local steel distributors will stock only a limited range of commonly used standard sheet sizes, however most are willing to explore stock options for special projects. 10mm loss of plate width should be allowed for in the cutting process.

Non standard plate and large hot rolled beam availability is discussed in Steel Advisor article MAT1004. This article presents the standard plate sizes available from New Zealand Steel Ltd and imported plate.

New Zealand Steel Ltd Plate Availability

Table 1 shows New Zealand Steel plate availability and lead time schedule. Thinner plate is manufactured to AS /NZS 1594, while thicker plate is manufactured to AS/NZS 3678. Non standard thicknesses can be ordered, but they are unlikely to be carried by distributors, and a price extra may apply. Lead times are those from the mill. Distributors may carry stock of some sizes and this will be available on shorter lead times. There are minimum order quantities from the mill and this is given in the notes to the table. There is no New Zealand made weathering steel.

Imported Steel Plate Availability

Australian steel mills hold a limited amount of ex-stock plate. Standard thickness plate are available in 6 / 9 / 12 / 15 / 18 metre lengths at widths of 1.8 / 2.4 / 3.0 metres. Grades of plate available are G250, G300 and G350. Typical lead times are 4 - 6 weeks.

A wide range of steel plate sizes is available where indenting from overseas mills. Any plate with custom 100mm increments up to 3 m width and 18 m length are available for indents of 10 tonnes per size. Plate is available in thicknesses from 5mm to 150mm and greater. Weathering steel availability does vary and the minimum indent size may be greater than 10 tonnes per size. Typically lead times for indenting plate from overseas mills are 14 - 18 weeks.

Plate availability and lead times may change. For the most up to date information please contact a SCNZ member listed on the web site: www.scnz.org

Table 1: New Zealand Steel Plate Availability

□ AS/NZS 1594 Coil plate ✓ AS/NZS 3678 Plate NZS Non Standard Thickness

Grade	LengthxWidth (mm)	Thickness															
		5	6	8	10	12	14	16	18	20	22	25	28	32	40	45	50
G300mod*	6000x1230	□	□	□	□	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	6000x1530	□	□	□	□	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	9000x1230	□	□	□	□	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	9000x1530	□	□	□	□	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	12000x1230	NA	NA	NA	NA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	12000x1530	NA	NA	NA	NA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mill Lead Time 6 weeks, all thicknesses																	
G350	6000x1230	□	□	□	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA
	6000x1530	□	□	□	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA
	9000x1230	□	□	□	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA
	9000x1530	□	□	□	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA
	12000x1230	NA	NA	NA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA
	12000x1530	NA	NA	NA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA
Mill Lead Time 6 weeks, all thicknesses																	
G300ModL0	6000x1230	□	□	□	□	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	6000x1530	□	□	□	□	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	9000x1230	□	□	□	□	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	9000x1530	□	□	□	□	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	12000x1230	NA	NA	NA	NA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	12000x1530	NA	NA	NA	NA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mill Lead Time 6 weeks, all thicknesses																	
G350L0	6000x1230	□	□	□	□	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA
	6000x1530	□	□	□	□	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA
	9000x1230	□	□	□	□	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA
	9000x1530	□	□	□	□	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA
	12000x1230	NA	NA	NA	NA	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA
	12000x1530	NA	NA	NA	NA	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA
Mill Lead Time 6 weeks, all thicknesses																	
G300ModL15	6000x1230	□	□	□	□	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	6000x1530	□	□	□	□	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	9000x1230	□	□	□	□	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	9000x1530	□	□	□	□	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	12000x1230	NA	NA	NA	NA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	12000x1530	NA	NA	NA	NA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mill Lead Time 6 weeks, all thicknesses																	
G350L15	6000x1230	□	□	□	□	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA
	6000x1530	□	□	□	□	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA
	9000x1230	□	□	□	□	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA
	9000x1530	□	□	□	□	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA
	12000x1230	NA	NA	NA	NA	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA
	12000x1530	NA	NA	NA	NA	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA
Mill Lead Time 6 weeks, all thicknesses																	

NOTES: Mill minimun order item quantity for AS/NZS 1594 Coil Plate is the outturn of a slab (approx 14t, 1230 wide and 18t, 1530 wide)
Mill minimun order item quantity for AS/NZS 3678 Plate is approximately 6 tonne.
≤10mm L0 and L15 tested on subsize Charpy test piece
*When the new AS/NZS 3678 standard is published the mod requirement due to vanadium content will not be required

References

Fussell, A., Non-Standard Plate and Large Hot rolled Beam Availability, MAT1004, Steel Advisor, Steel Construction New Zealand inc., Manukau City, 2007