

## S eel Pla e A ailabili , for High a Bridge

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# An overview of plate sizes commonly produced by domestic mills.

**THE LENGTH AVAILABILITY** for the various plate widths and thicknesses is a very common question engineers have when designing highway structures. Understanding availability of plate material while performing design iterations will ensure that the material used can be sourced from all steel mills and result in better economy for the overall bridge superstructure.

The information listed below is not intended to be an allencompassing summary of available plates that a mill may be able to produce. It is instead intended to provide a look at plate availability across the steel mills within the United States by width, thickness and length, as shown in Figure 1. Other widths, thicknesses and lengths may be available from one or more of these producers. In cases where a dimension is not shown, one should consult the steel mill or a local steel bridge fabricator. For speci c contact information, please contact your local

> NSBA Regional Director (see sidebar). Alternatively, the AISC Steel Solutions Center can assist you by phone at 866.ASK.AISC and online at www.aisc. org/askaisc.

> The tables that follow outline availability of A709-50 and A709-50W for non-fracture critical applications only. All units are in inches unless otherwise speci ed.

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Steel plate producers in the United States are Arcelor-Mittal, Evraz, Nucor and SSAB. Geographically, most steel plate mills are located within the eastern third of the United States as shown in Figure 2. Despite their location, many plate providers will choose to equalize on freight or meet a competitive price depending on their target markets.

#### U able Area

The source plate from which each component of a steel plate girder is cut and fabricated is referred to as the "mother" plate. Given the variability of plate squareness and the thickness of each cut, the net usable area of a mother plate is reduced. For example, consider the haunched girder section shown in Figure 3. The depth of the haunched web is controlled by the width availability of steel plate and also the material loss due to the cutting and squaring process (Figure 4). With respect to the anges, a

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Similarly, widths from all of the surveyed steel mills were tabularized to compare availability. A range from 48 in. through 138 in. is shown in Table 3. While wider plate is available, the number of steel mills that can produce it decreases to a single provider. Available widths are indicated by an " $\times$ " in a cell in Table 3 below.

	ArcelorMi al	E ra	N4 cor	SSAB	
48	X	Х			
54	X	Х			
60	Х	Х			
66	Х	Х			
72	Х	Х	Х	Х	
75	X		X	Х	
78	Х	Х	Х	Х	
81	X		X	Х	
84	Х	Х	Х	Х	
87	X			Х	
90	X	Х	Х	Х	
93	X		Х	Х	
94	X		Х	Х	
95	X		X	Х	
96	X	Х	X	Х	
99	X		X	Х	
102	X	Х	Х	Х	
108	Х	Х	Х	Х	
111	X		X	Х	
114	X	Х	X	Х	
117	X		Х	Х	
120	Х	Х	Х	Х	
123	Х		Х		
126	Х	Х			
132	X	Х			
138	Х	Х			