

ภาคผนวก ข  
การแบ่งประเภทของสะพานคอมโพสิตสำหรับการพิจารณาความล้า ตามมาตรฐาน  
AASHTO

ตารางที่ ข.1 การแบ่งประเภทของสะพานคอมโพสิตสำหรับการพิจารณาความล้า ตามมาตรฐาน  
AASHTO (AASHTO, 2003)

ข้อกำหนดทั่วไป	สถานะของสะพาน	Detail Category	ประเภทรูปจากภาพที่ 2.28
Plain members	Base metal : <ul style="list-style-type: none"> <li>• With rolled or cleaned surfaces. Flame-cut edges with ANSI/AASHTO/AWS D5.1 (Section 3.2.2) smoothness of 0.025 mm. or less</li> <li>• Of unpainted weathering steel , all grades , designed &amp; detailed in accordance with FHWA (1990)</li> <li>• At net section of eye bar heads &amp; pin plates</li> </ul>	A  B  E	1 , 2
Built-up members	Base metal & weld metal in components, without attachments, connected by <ul style="list-style-type: none"> <li>• Continuous full-penetration groove weld with backing bars removed, or</li> <li>• Continuous fillet welds parallel to the direction of applied stress</li> <li>• Continuous full-penetration groove weld with backing bars in place, or</li> <li>• Continuous partial-penetration groove welds parallel to the direction of applied stress</li> </ul> Base metals at ends of partial-length cover plates; <ul style="list-style-type: none"> <li>• With bolted slip-critical end connections</li> <li>• Narrower than the flange, with or without end welds, or</li> <li>• Wider than the flange with end welds               <ul style="list-style-type: none"> <li>Flange thickness <math>\leq</math> 20 min</li> <li>Flange thickness <math>&gt;</math> 20 min</li> </ul> </li> <li>• Wider than the flange without end welds</li> </ul>	B  B  B'  B'  B  E E' E'	3, 4, 5, 7       21 7

ตารางที่ ข.1 การแบ่งประเภทของสะพานคอมโพสิตสำหรับการพิจารณาความล้า ตามมาตรฐาน  
AASHTO (AASHTO, 2003) (ต่อ)

ข้อกำหนดทั่วไป	สถานะของสะพาน	Detail Category	ประเภทรูปจากภาพที่ 2.28
Groove-weld splice connections with weld soundness established by NDT and all required grinding in the direction of the applied stresses	Base metal and weld metal at full-penetration groove-welded splices: <ul style="list-style-type: none"> <li>• Of plates of similar cross sections with welds ground flush</li> <li>• With 600-mm radius transitions in width with welds ground flush</li> <li>• With transitions in width or thickness with welds ground to provide slopes no steeper than 1.0-2.5               <ul style="list-style-type: none"> <li>Grades 690/690W base metal</li> <li>Other base metal grades</li> </ul> </li> <li>• With or without transitions having slopes no greater than 1.0-2.5, when weld reinforcement is not removed</li> </ul>	B	8, 10
		B	13
		B'	11, 12
		B C	8, 10, 11, 12
Longitudinally loaded groove-welded attachments	Base metal at details attached by full- or partial-penetration groove welds: <ul style="list-style-type: none"> <li>• When the detail length in the direction of applied stress is               <ul style="list-style-type: none"> <li>Less than 50 mm</li> <li>Between 50 mm and 12 times the detail thickness, but less than 100 mm</li> <li>Greater than either 12 times the detail thickness or 100 mm                   <ul style="list-style-type: none"> <li>Detail thickness &lt; 25 mm</li> <li>Detail thickness <math>\geq</math> 25 mm</li> </ul> </li> </ul> </li> <li>• With a transition radius with end welds ground smooth, regardless of detail length:               <ul style="list-style-type: none"> <li>Transition radius <math>\geq</math> 60 mm</li> <li>600 mm &gt; transition radius <math>\geq</math> 150 mm</li> <li>150 mm &gt; transition radius <math>\geq</math> 50 mm</li> <li>Transition radius &lt; 50 mm</li> </ul> </li> <li>• With a transition radius with end welds not ground smooth</li> </ul>	C	6, 15
		D	15
		E	15
		E'	15
			16
		B	
		C	
		D	
		E	
		E	16

ตารางที่ ข.1 การแบ่งประเภทของสะพานคอมโพสิตสำหรับการพิจารณาความล้า ตามมาตรฐาน  
AASHTO (AASHTO, 2003) (ต่อ)

ข้อกำหนดทั่วไป	สถานะของสะพาน	Detail Category	ประเภทรูปจากภาพที่ 2.28
Transversely loaded groove-welded attachments with weld soundness established by NDT and all required grinding transverse to the direction of stress	Base metal at detail attached by full-penetration groove welds with a transition radius: <ul style="list-style-type: none"> <li>• With equal plate thickness and weld reinforcement removed:               <ul style="list-style-type: none"> <li>Transition radius <math>\geq 60</math> mm</li> <li>600 mm &gt; transition radius <math>\geq 150</math> mm</li> <li>150 mm &gt; transition radius <math>\geq 50</math> mm</li> <li>Transition radius &lt; 50 mm</li> </ul> </li> <li>• With equal plate thickness and weld reinforcement not removed :               <ul style="list-style-type: none"> <li>Transition radius <math>\geq 150</math> mm</li> <li>150 mm &gt; transition radius <math>\geq 50</math> mm</li> <li>Transition radius &lt; 50 mm</li> </ul> </li> <li>• With unequal plate thickness and weld reinforcement removed:               <ul style="list-style-type: none"> <li>Transition radius <math>\geq 50</math> mm</li> <li>Transition radius &lt; 50 mm</li> </ul> </li> <li>• For any transition radius with unequal plate thickness and weld reinforcement not removed</li> </ul>	B C D E  C D E  D E E	16
Fillet-welded connections with weld normal	Base metal: <ul style="list-style-type: none"> <li>• At details other than transverse stiffener-to-flange or transverse stiffener-to-web connections</li> <li>• At the toe of transverse stiffener-to-flange and transfer stiffener-to-web welds</li> </ul>	C  C'	14  6
Fillet-welded connections with welds normal and/or parallel to the direction	Shear stress on the weld throat	E	9

ตารางที่ ข.1 การแบ่งประเภทของสะพานคอมโพสิตสำหรับการพิจารณาความล้า ตามมาตรฐาน AASHTO (AASHTO, 2003) (ต่อ)

ข้อกำหนดทั่วไป	สถานะของสะพาน	Detail Category	ประเภทรูปจากภาพที่ 2.28
Longitudinally loaded fillet-welded attachments	Base metal of details attached by fillet welds: <ul style="list-style-type: none"> <li>When the detail length in the direction of applied stress is               <ul style="list-style-type: none"> <li>- Less than 50 mm or stud-type shear connectors</li> <li>- Between 50 mm and 12 times the detail thickness, but less than 100 mm</li> <li>- Greater than either 12 times the detail thickness or 100 mm                   <ul style="list-style-type: none"> <li>Detail thickness &lt; 25 mm</li> <li>Detail thickness <math>\geq</math> 25 mm</li> </ul> </li> </ul> </li> <li>With a transition radius with the end welds ground smooth, regardless of detail length:               <ul style="list-style-type: none"> <li>Transition radius <math>\geq</math> 50 mm</li> <li>Transition radius &lt; 50 mm</li> </ul> </li> <li>With a transition radius with end welds not ground smooth</li> </ul>	C	15, 17, 18, 20
		D	15, 17
		E	7, 9, 15, 17
		E'	16
Transversely loaded fillet-welded attachments	Base metal at details attached by fillet welds: <ul style="list-style-type: none"> <li>With a transition radius with end welds ground smooth:               <ul style="list-style-type: none"> <li>Transition radius <math>\geq</math> 50 mm</li> <li>Transition radius &lt; 50 mm</li> </ul> </li> <li>With any transition radius with end welds not ground smooth</li> </ul>	D	16
		E	
		E	
Mechanically fastened connections	Base metal: <ul style="list-style-type: none"> <li>At gross section of high-strength bolted slip-critical connections, expect axially loaded joints in which out-of-plane bending is induced in connected materials</li> <li>At net section of high-strength bolted nonslip-critical connections</li> <li>At net section of riveted connections</li> </ul>	B	21
		B	
		D	
		D	