

SidePlate Prequalified Connection Limits

10/3/2018

Connection		SidePlate SMF Field-Bolted IAPMO 525 ^a	SidePlate SMF Field-Welded AISC-358 OSHPD	Notes
Criteria				
Beam Limitations	Beam Types	Rolled Wide flange, HSS & Built-up	Rolled Wide flange	
	Max. Beam depth	W48x HSS14x	W40x	SidePlate is the only Moment Frame Connection that allows W40x and W48x beams
	Max. Beam weight	529 lb/ft	302 lb/ft	SidePlate can be used with larger beams than any other Moment Frame Connection
	Span-to-depth Ratio ¹	$L_r/d > 3.5$ or $L/d > \sim 6.2$	$L_r/d > 5.0$ or $L/d > \sim 7.4$	SidePlate can be used in smaller spans when compared to any other Moment Frame Connection
	Protected zone	$0.67d_b$ From the end of the side plates	$0.83d_b$ From the end of the side plates	
	Lateral bracing	50ry From the end of the side plates	50ry From the center of the columns	SidePlate Field-Bolted requires less lateral bracing because the side plates provide lateral bracing to the beam. Hinge lateral bracing is eliminated with SidePlate.
	Flange Thickness	No limits	2.5 in. $b/t \geq 3$	SidePlate can be used with almost any beam section available.
Column Limitations	Column Types	Rolled Wide Flange, HSS, Built-up, Cruciform, BOX	Rolled Wide Flange, Built-up BOX	Box sections with SidePlate are permitted to use PJP welds without continuity plates. HSS or BOX sections with SidePlate Field-Bolted connections may be permitted to have width-to-thickness ratio up to 21.
	Max. Column depth	W44x Built-up Box width < 36"	W44x Built-up Box width < 24"	
	Max. Column weight	No Limits	No Limits	
Connection Limitations	Extension of the side plates	$0.65d_b$ to $1.7d_b$	$0.77d_b$ to $1.0d_b$	SidePlate provides an increased stiffness between the face of the columns and the end of the side plates of approximately 3 times the beam moment of Inertia.
	Beam flange width	$b_{bf} + 1.0 \text{ in.} < b_{cf}$	$b_{bf} + 1.1 * t_{bd} + 1/2 \text{ in} < b_{cf}$	
	Panel Zone	100% Rigid	100% Rigid	SidePlate is the only available Moment Connection that provides a 100% rigid panel zone.

(1) L_r refers to Span between plastic hinges and L refers to the span between columns flanges

(a) Based on IAPMO 525 with State of California (CBC) and City of Los Angeles (LABC) Supplements