

WELDED UNREINFORCED FLANGE (WUF-W) VS. SIDEPLATE®

6-story Federal Court House in low seismic

LATERAL (LOAD RESISTING) SYSTEM: STRUCTURAL STEEL MOMENT FRAMES
AREA: 334,000 S.F.

FABRICATION	WUF-W (A)	SIDEPLATE® (B)	DELTA (B-A)
Gravity System Beams & Columns	11.0 psf	11.0 psf	
Lateral System Beams	3.02 psf	2.41 psf	
Lateral System Columns	3.79 psf	2.25 psf	
Moment Connection Plates	0.12 psf	1.03 psf	
Misc. gravity connections, base plates, etc.	0.7 psf	0.7 psf	
Total Steel Unit Weight (psf)	18.6 psf (3111 tons)	17.4 psf (2904 tons)	-1.2 psf (-207 tons)
Lateral System: (Lineal inches of CJP/Fillet Welds for WUF-B and Fillet Welds only for SidePlate)	535,524 in.	1,265,513 in.	
Shop Man Hours (Gravity & Lateral System)	40850 hrs (13.1Mh/ton)	42400 hrs (14.6 Mh/ton)	1,550 hrs
Fabrication Price (FOB) Includes material, labor, trucking within 300 miles, detailing and profit for 05120 items only	\$7,650,366 (\$2,459/ton)	\$7,688,357 (\$2,647/ton)	\$37,991
ERECTION			
No. of pieces to be erected	4,674	4,674	
Qty of field welding for Lateral System	1G Col 1,346 lb 1G Bm 2,808 lb 3G bm 1,277 lb	915 lb 1,250 lb 698 lb	
	TOTAL 5,431 lb	2,863 lb	-2,568 lbs
Construction Schedule	130 days	110 days	- 4 weeks
Erection Price	\$2,279,895 (\$733/ton)	11.2 psf (\$677/ton)	\$(314,468)
FABRICATION & ERECTION			
Steel Fabrication & Erection Price Includes 10% margin from Fabricator	\$10,183,583 (\$3,273/ton)	\$9,872,165 (\$3,399/ton)	\$(311,418)
INSPECTION			
Special Inspection of field welding & Non-Destructive Testing (NDT) Inspection of Field & Shop CJP welds, as applicable	Shop \$48,000 Field \$156,000	N/A \$132,000	
Total Steel Frame Inspection Costs	\$204,000	\$132,000	\$(72,000)
Total Price of Steel Frame Construction Excludes steel decking & installation, stairs, paint, primer, galvanizing	\$10,387,583	\$10,004,165	\$(383,418)