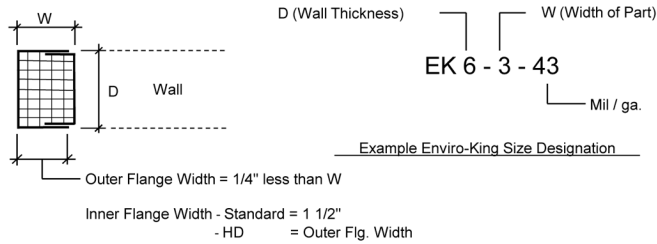


ENVIRO-KING™ NOMENCLATURE



CSI SPEC #054233

The designer should specify the wall thickness (D), the width (W), and the metal thickness (Mil) for Enviro-King. Standard width is 3". Custom widths are available.
 For Heavy Duty sections, add "HD" at the end of the designation.
 Structural section properties are per the Enviro-King Section Properties Table.
 The designer is responsible for determining the adequacy of the sections for their intended use.

ENVIRO-KING™ SECTION PROPERTIES TABLE

	Design Thickness	Gauge	Gross Properties								Effective Properties				
			F _y	Area	Weight	I _x	S _x	R _x	I _y	R _y	I _{xe}	S _{xe}	M _a	V _a	
			(ksi)	(in ²)	(lb/ft)	(in ⁴)	(in ³)	(in)	(in ⁴)	(in)	(in ⁴)	(in ³)	(k-in)	(lb)	
4" WALL	EK4-3-33	0.0346	20	33	0.558	1.899	1.461	0.735	1.618	0.776	1.179	1.155	0.469	9.266	1970
	EK4-3-33 HD	0.0346	20	33	0.645	2.194	1.790	0.903	1.666	0.826	1.132	1.307	0.499	9.863	1970
	EK4-3-43	0.0451	18	33	0.725	2.466	1.881	0.949	1.611	1.001	1.175	1.606	0.707	13.979	3478
	EK4-3-43 HD	0.0451	18	33	0.837	2.849	2.302	1.164	1.658	1.065	1.128	1.986	0.831	16.428	3478
	EK4-3-54	0.0566	16	50	0.904	3.075	2.321	1.173	1.603	1.236	1.170	1.881	0.787	23.562	6743
	EK4-3-54 HD	0.0566	16	50	1.045	3.557	2.840	1.440	1.648	1.317	1.122	2.168	0.851	25.487	6743
	EK4-3-68	0.0713	14	50	1.129	3.840	2.859	1.448	1.592	1.525	1.162	2.426	1.062	31.786	9551
	EK4-3-68 HD	0.0713	14	50	1.307	4.446	3.498	1.780	1.636	1.626	1.115	2.869	1.168	34.974	9551
	EK4-3-97	0.1017	12	50	1.581	5.378	3.891	1.982	1.569	2.080	1.147	3.526	1.599	47.879	12928
EK4-3-97 HD	0.1017	12	50	1.835	6.243	4.759	2.439	1.611	2.222	1.101	4.297	1.859	55.644	12928	
6" WALL	EK6-3-33	0.0346	20	33	0.697	2.370	3.728	1.248	2.313	1.082	1.246	3.034	0.762	15.064	1284
	EK6-3-33 HD	0.0346	20	33	0.783	2.665	4.480	1.502	2.392	1.130	1.201	3.396	0.767	15.147	1284
	EK6-3-43	0.0451	18	33	0.905	3.080	4.815	1.614	2.307	1.396	1.242	4.209	1.256	24.813	2854
	EK6-3-43 HD	0.0451	18	33	1.018	3.463	5.784	1.942	2.384	1.459	1.197	5.085	1.450	28.652	2854
	EK6-3-54	0.0566	16	50	1.130	3.845	5.965	2.003	2.298	1.728	1.237	5.000	1.421	42.533	5703
	EK6-3-54 HD	0.0566	16	50	1.272	4.327	7.168	2.412	2.374	1.807	1.192	5.677	1.531	45.842	5703
	EK6-3-68	0.0713	14	50	1.414	4.811	7.387	2.485	2.286	2.138	1.230	6.431	1.920	57.486	10701
	EK6-3-68 HD	0.0713	14	50	1.592	5.417	8.879	2.994	2.362	2.237	1.186	7.473	2.097	62.791	10701
	EK6-3-97	0.1017	12	50	1.987	6.762	10.167	3.433	2.262	2.937	1.216	9.347	2.871	85.944	20556
EK6-3-97 HD	0.1017	12	50	2.242	7.627	12.229	4.144	2.336	3.077	1.172	11.177	3.286	98.377	20556	
8" WALL	EK8-3-33	0.0346	20	33	0.835	2.841	7.388	1.853	2.975	1.387	1.289	5.599	0.943	18.642	952
	EK8-3-33 HD	0.0346	20	33	0.922	3.136	8.736	2.193	3.079	1.435	1.248	6.244	0.977	19.314	952
	EK8-3-43	0.0451	18	33	1.086	3.694	9.559	2.401	2.968	1.790	1.284	8.358	1.658	32.766	2115
	EK8-3-43 HD	0.0451	18	33	1.198	4.077	11.302	2.841	3.071	1.853	1.244	10.074	2.005	39.613	2115
	EK8-3-54	0.0566	16	50	1.357	4.616	11.870	2.984	2.958	2.219	1.279	10.024	1.883	56.387	4214
	EK8-3-54 HD	0.0566	16	50	1.498	5.097	14.039	3.534	3.061	2.298	1.239	11.422	2.076	62.154	4214
	EK8-3-68	0.0713	14	50	1.699	5.781	14.743	3.712	2.946	2.751	1.272	13.042	2.875	86.088	8522
	EK8-3-68 HD	0.0713	14	50	1.877	6.387	17.444	4.400	3.048	2.849	1.232	14.962	3.227	96.620	8522
	EK8-3-97	0.1017	12	50	2.394	8.147	20.417	5.156	2.920	3.793	1.259	18.965	4.420	132.336	21771
EK8-3-97 HD	0.1017	12	50	2.648	9.012	24.181	6.121	3.022	3.932	1.219	22.309	4.995	149.552	21771	

Notes:

- Section properties are based on direct testing in accordance with AISI 911-08 and the AISI S100-2007 Specification. k values used are representative of the direct testing.
 For 33 mils, k (inside flange) = 1.2 and k (outside flange) = 0.8. For 43 mils, k (inside flange) = 4 and k (outside flange) = 0.8.
 For 54 & 68 mils, k (inside flange) = 1.2 and k (outside flange) = 0.43. For 97 mils, k (inside flange) = 1.0 and k (outside flange) = 0.43.
- User should check end reaction for web crippling.
- Bending capacities are based on the assumption that the compression flange is adequately laterally braced on both sides.
- Allowable Moment and Shear Values are calculated assuming a negligible axial load. Load bearing jamb studs are to be designed for combined axial and bending loads by a qualified professional.
- Strength increase due to cold work of forming has not been incorporated.
- The effective Moment of Inertia for deflection has been calculated using Procedure 1 of the AISI S100-2007 Specification for serviceability determination.
- The distortional buckling limit state is not considered in this table. Consideration of distortional buckling may result in lower strengths when restraint against distortional buckling is not provided.
- If punch-outs are used in members, values may be smaller than those listed above and shall be per the AISI S100-2007 Specification.

ENVIRO-BEAM™

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