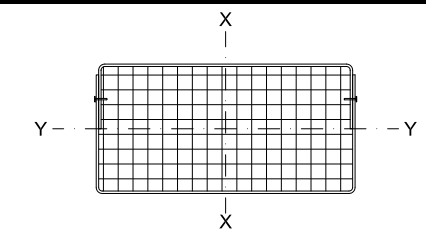
ENVIRO-KING$_{TM}$ SECTION PROPERTIES TABLE

		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
		(in)	(No.)	(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:

1. 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.
2. User should check end reaction for web crippling.
3. Bending capacities are based on the assumption that the compression flange is adequately laterally braced on both sides.
4. 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.
5. Strength increase due to cold work of forming has not been incorporated.
6. The effective Moment of Inertia for deflection has been calculated using Procedure 1 of the AISI S100-2007 Specification for serviceability determination.
7. 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.
8. If punch-outs are used in members, values may be smaller than those listed above and shall be per the AISI S100-2007 Specification.



D (Wall Thickness) W (Width of Part)

EK 6 - 3 - 43

Mil / ga.

Example Enviro-King Size Designation