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Reviewed for Code Compliance
Inspections Division
Approved with Conditions

CITY OF PORTLAND, MAINE · RESURGAM

DIETRICH

ural Properties–4" C Studs

MEMBER							GROSS SECTION PROPERTIES							EFFECTIVE SECTION PROPERTIES						TORSIONAL PROPERTIES				
														33 KSI			50 KSI							
				Design Thickness (in.)	Minimum Delivered Thickness (in.)	Weight (lb./ft.)	Area (in.²)	I_x (in.⁴)	S_x (in.³)	R_x (in.)	I_y (in.⁴)	S_y (in.³)	R_y (in.)	I_x (in.⁴)	S_x (in.³)	M_x (in.-lb.)	I_x (in.⁴)	S_x (in.³)	M_x (in.-lb.)	X_o (in.)	J x 1000 (in.⁴)	C_w (in.⁶)	R_o (in.)	β BETA
				0.0346	0.0329	0.821	0.251	0.609	0.305	1.559	0.062	0.063	0.498	0.609	0.293	5782				-0.983	0.100	0.201	1.909	0.735
				0.0451	0.0428	1.056	0.323	0.777	0.388	1.551	0.078	0.079	0.491	0.777	0.388	8564				-0.975	0.218	0.253	1.897	0.736
				0.0566	0.0538	1.312	0.401	0.954	0.477	1.542	0.094	0.095	0.484	0.954	0.477	10784	0.954	0.464	15628	-0.967	0.429	0.305	1.884	0.737
				0.0713	0.0677	1.625	0.497	1.165	0.582	1.531	0.112	0.113	0.475	1.165	0.582	13572	1.165	0.582	20130	-0.956	0.841	0.365	1.867	0.738
CSJ	20	1-5/8	1/2	0.0346	0.0329	0.906	0.277	0.699	0.349	1.589	0.104	0.093	0.613	0.699	0.336	6634				-1.283	0.111	0.359	2.132	0.638
CSJ	18	1-5/8	1/2	0.0451	0.0428	1.167	0.357	0.892	0.446	1.582	0.131	0.118	0.606	0.892	0.446	9685				-1.276	0.241	0.453	2.121	0.638
CSJ	16	1-5/8	1/2	0.0566	0.0538	1.451	0.443	1.098	0.549	1.574	0.159	0.143	0.600	1.098	0.549	12188	1.098	0.534	17681	-1.268	0.474	0.550	2.108	0.638
CSJ	14	1-5/8	1/2	0.0713	0.0677	1.800	0.550	1.346	0.673	1.564	0.192	0.172	0.591	1.346	0.673	15332	1.346	0.673	22803	-1.258	0.931	0.662	2.092	0.639
CSJ	12	1-5/8	1/2	0.1017	0.0966	2.509	0.767	1.832	0.916	1.546	0.253	0.227	0.575	1.832	0.916	21873	1.832	0.916	32365	-1.231	2.643	0.864	2.058	0.642

4" Track

TSB	20	1-1/4" LEG	0.0346	0.0329	0.730	0.223	0.529	0.260	1.540	0.031	0.031	0.372	0.459	0.195	3843				-0.641	0.089	0.090	1.709	0.859
TSB	18	1-1/4" LEG	0.0451	0.0428	0.947	0.289	0.687	0.336	1.540	0.040	0.040	0.370	0.632	0.274	5415				-0.639	0.196	0.117	1.708	0.860
TSB	16	1-1/4" LEG	0.0566	0.0538	1.186	0.363	0.861	0.419	1.541	0.049	0.050	0.368	0.834	0.370	7311				-0.637	0.388	0.146	1.708	0.861
TSB	14	1-1/4" LEG	0.0713	0.0677	1.487	0.454	1.081	0.522	1.542	0.061	0.062	0.365	1.081	0.498	9846				-0.634	0.769	0.182	1.707	0.862
TSB	12	1-1/4" LEG	0.1017	0.0966	2.112	0.646	1.544	0.735	1.547	0.084	0.086	0.360	1.544	0.735	16525				-0.625	0.225	0.255	1.707	0.866

Physical Structural Properties–5-1/2" C Studs

MEMBER							GROSS SECTION PROPERTIES							EFFECTIVE SECTION PROPERTIES						TORSIONAL PROPERTIES				
														33 KSI			50 KSI							
CODE	GAGE	Flange (in.)	Lip (in.)	Design Thickness (in.)	Minimum Delivered Thickness (in.)	Weight (lb./ft.)	Area (in.²)	I_x (in.⁴)	S_x (in.³)	R_x (in.)	I_y (in.⁴)	S_y (in.³)	R_y (in.)	I_x (in.⁴)	S_x (in.³)	M_x (in.-lb.)	I_x (in.⁴)	S_x (in.³)	M_x (in.-lb.)	X_o (in.)	J x 1000 (in.⁴)	C_w (in.⁶)	R_o (in.)	β BETA
CWN	20	1-3/8	3/8	0.0346	0.0329	0.991	0.303	1.269	0.471	2.069	0.068	0.065	0.474	1.296	0.454	8968				-0.855	0.121	0.408	2.288	0.860
CWN	18	1-3/8	3/8	0.0451	0.0428	1.277	0.390	1.656	0.602	2.060	0.085	0.081	0.467	1.656	0.602	13279				-0.847	0.264	0.513	2.275	0.861
CWN	16	1-3/8	3/8	0.0566	0.0538	1.590	0.486	2.040	0.742	2.049	0.103	0.098	0.460	2.040	0.742	16779	2.040	0.723	24357	-0.838	0.519	0.622	2.262	0.863
CWN	14	1-3/8	3/8	0.0713	0.0677	1.975	0.604	2.503	0.910	2.036	0.123	0.116	0.451	2.503	0.910	21210	2.503	0.910	31460	-0.828	1.022	0.747	2.244	0.864
CSJ	20	1-5/8	1/2	0.0346	0.0329	1.076	0.329	1.471	0.535	2.115	0.115	0.096	0.591	1.471	0.517	10208				-1.130	0.131	0.707	2.470	0.791
CSJ	18	1-5/8	1/2	0.0451	0.0428	1.388	0.424	1.884	0.685	2.107	0.145	0.122	0.584	1.884	0.685	14871				-1.122	0.287	0.894	2.458	0.792
CSJ	16	1-5/8	1/2	0.0566	0.0538	1.728	0.528	2.326	0.846	2.098	0.176	0.148	0.577	2.326	0.845	18770	2.326	0.823	27248	-1.114	0.565	1.088	2.445	0.792
CSJ	14	1-5/8	1/2	0.0713	0.0677	2.150	0.657	2.860	1.040	2.087	0.212	0.178	0.569	2.860	1.040	23704	2.860	1.040	35255	-1.103	1.112	1.315	2.428	0.794
CSJ	12	1-5/8	1/2	0.1017	0.0966	3.008	0.919	3.923	1.427	2.066	0.280	0.235	0.552	3.923	1.426	34062	3.923	1.426	50401	-1.077	3.168	1.730	2.394	0.798

5-1/2" Track

TSB	20	1-1/4" LEG	0.0346	0.0329	0.900	0.275	1.128	0.405	2.025	0.033	0.032	0.347	0.997	0.303	5979				-0.549	0.110	0.189	2.127	0.933
TSB	18	1-1/4" LEG	0.0451	0.0428	1.168	0.357	1.464	0.524	2.025	0.043	0.041	0.346	1.363	0.441	8719				-0.547	0.241	0.244	2.126	0.934
TSB	16	1-1/4" LEG	0.0566	0.0538	1.464	0.448	1.835	0.654	2.025	0.053	0.051	0.344	1.784	0.589	11629				-0.545	0.478	0.304	2.125	0.934
TSB	14	1-1/4" LEG	0.0713	0.0677	1.837	0.561	2.302	0.816	2.025	0.065	0.064	0.341	2.302	0.784	15493				-0.542	0.950	0.378	2.124	0.935
TSB	12	1-1/4" LEG	0.1017	0.0966	2.611	0.798	3.280	1.150	2.027	0.090	0.089	0.336	3.280	1.150	25870				-0.533	2.751	0.527	2.123	0.937

NOTE: Reference typical notes on page 4.