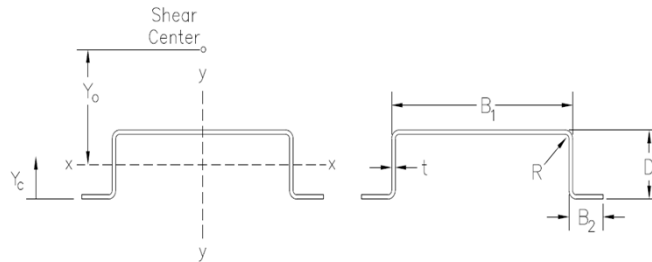




Effective Section Properties: Hat Channels

Hat Channel



Member	Ga.	Effective Section Properties																Web Crippling						
		Compression		Tension	Shear		Positive Moment (X Axis)				Negative Moment (X Axis)				Positive Moment (Y Axis)				Negative Moment (Y Axis)				End	Interior
		$A_e$	$P_a$	$T_a$	$V_{ay}$	$V_{ax}$	$M_{ax}$	$I_x$	$S_{eTOP}$	$S_{eBOT}$	$M_{ax}$	$I_x$	$S_{eTOP}$	$S_{eBOT}$	$M_{ay}$	$I_y$	$S_{eLEFT}$	$S_{eRIGHT}$	$M_{ay}$	$I_y$	$S_{eLEFT}$	$S_{eRIGHT}$	$P_a$	$P_a$
		(in <sup>2</sup> )	(kip)	(kip)	(kip)	(kip)	(kip-in)	(in <sup>4</sup> )	(in <sup>3</sup> )	(in <sup>3</sup> )	(kip-in)	(in <sup>4</sup> )	(in <sup>3</sup> )	(in <sup>3</sup> )	(kip-in)	(in <sup>4</sup> )	(in <sup>3</sup> )	(in <sup>3</sup> )	(kip-in)	(in <sup>4</sup> )	(in <sup>3</sup> )	(in <sup>3</sup> )	(kip)	(kip)
Hat Channel 3"	14	0.387	11.81	14.38	1.76	3.71	3.76	0.065	0.170	0.105	3.93	0.065	0.170	0.105	10.78	0.714	0.327	0.327	10.78	0.714	0.327	0.327	2.19	5.35
Hat Channel 4"	14	0.401	12.26	16.76	1.76	5.13	3.53	0.070	0.198	0.107	4.04	0.073	0.217	0.108	16.11	1.312	0.489	0.489	16.11	1.312	0.489	0.489	2.19	5.35
Hat Channel 6"	14	0.415	12.69	21.30	1.76	5.19	3.58	0.074	0.226	0.109	4.16	0.083	0.308	0.112	29.19	3.262	0.886	0.886	29.19	3.262	0.886	0.886	2.19	5.35
Hat Channel 9"	14	0.424	12.95	28.11	1.76	3.38	3.61	0.076	0.246	0.110	4.25	0.091	0.435	0.114	49.35	8.143	1.653	1.498	49.35	8.143	1.498	1.653	2.19	5.35

- Section properties are calculated in accordance with the 2012. AISI North American Specification for the Design of Cold-Formed Steel Structural Members.
- Material: A1011 HSLAS Grade 55 Class 1 Steel or A653 SS Grade 55 Steel
- Strength Increase due to Cold Working has been applied where applicable

- Web Crippling values are based on a 1 inch bearing length, one flange fastened to support
- Appropriate factors of safety have been applied for Allowable Stress Design (ASD)
- Strength calculations based on a fully braced condition
- Consult with an engineering professional before using the above design aids

Revised: Oct-16