

# Permissible Variations

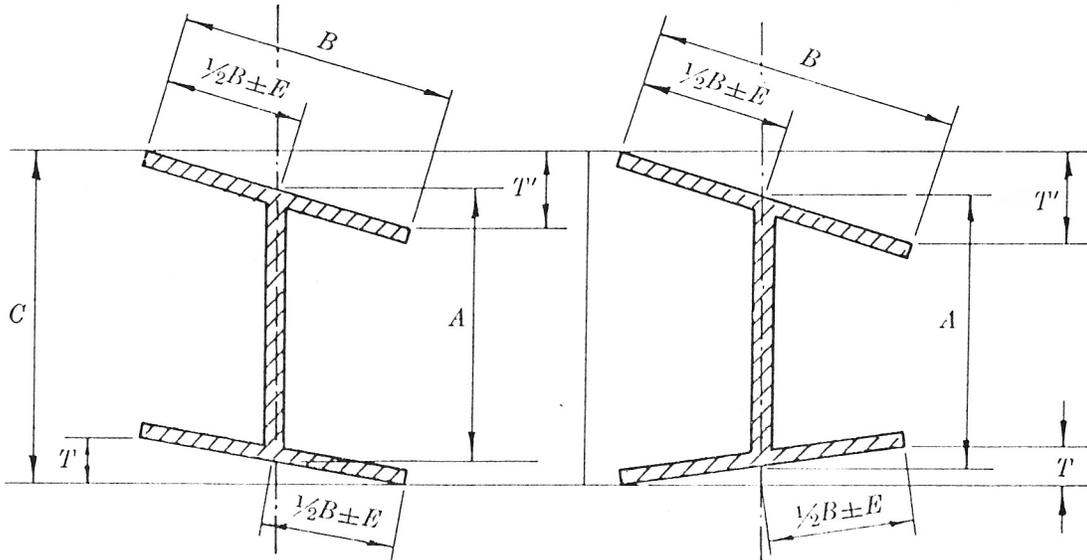
## W

### Wide Flange Shapes

#### Dimensions

Shape Nominal Depth, Inches	A Depth, Inches		B Flange Width, Inches		T + T' Flanges Out of Square, Max., Inches	E Web off Center, Max., Inches	C Maximum Depth at any Cross-Section over Theoretical Depth, Inches
	Over Theo- retical	Under Theo- retical	Over Theo- retical	Under Theo- retical			
Up to 12, incl.	1/8	1/8	1/4	3/16	1/4	3/16	1/4
Over 12	1/8	1/8	1/4	3/16	5/16	3/16*	1/4

A is measured at center line of web.  
 B is measured parallel to flange.  
 C is measured parallel to web.  
 \*through 426 pounds/foot; over 426 pounds/foot, 5/16 inch.



#### Length

Wide Flange Shapes*	Variations from Specified Length for Length Given, Inches			
	30 feet and under		Over 30 feet	
	Over	Under	Over	Under
Shapes 24 inch and under in nominal depth .....	3/8	3/8	3/8 plus 1/16 for each additional 5 feet or fraction thereof .....	3/8
Shapes over 24 inch in nominal depth and all columns .....	1/2	1/2	1/2 plus 1/16 for each additional 5 feet or fraction thereof .....	1/2

\*When wide flange shapes are used as bearing piles, the length tolerance is plus 5 inches and minus 0 inch.

#### Ends Out-of-Square

1/64 in. per inch of depth, or of flange width if it is greater than depth.

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### Wide Flange Shapes

#### Straightness—Camber and Sweep

Wide Flange Shapes	Permissible Variation
All, except following .....	$\frac{1}{8}$ inch $\times$ $\frac{\text{number of feet of total length}^*}{10}$
When certain shapes† with a flange width approximately equal to depth are specified on order as columns:	
Lengths of 45 feet and under .....	$\frac{1}{8}$ inch $\times$ $\frac{\text{number of feet of total length}}{10}$ but not over $\frac{3}{8}$ inch.
Lengths over 45 feet .....	$\frac{3}{8}$ inch + $\frac{1}{8}$ inch $\times$ $\frac{\text{number of feet of total length} - 45}{10}$

\*Shapes with a flange width less than 6 inches, variation for sweep =  $\frac{1}{8}$  inch  $\times$   $\frac{\text{number of feet of total length}}{5}$ .

†Applies only to:

- 8 inch deep shapes 31 pounds per foot and heavier.
- 10 inch deep shapes 49 pounds per foot and heavier.
- 12 inch deep shapes 65 pounds per foot and heavier, and
- 14 inch deep shapes 90 pounds per foot and heavier.

If other shapes are specified on the order as columns, the variation will be subject to negotiation with the manufacturer.

