

## CODE

## COMMENTARY

**Table 6.3.2.1—Dimensional limits for effective overhanging flange width for T-beams**

Flange location	Effective overhanging flange width, beyond face of web	
Each side of web	Least of:	$8h$
		$s_w/2$
		$l_n/8$
One side of web	Least of:	$6h$
		$s_w/2$
		$l_n/12$

**6.3.2.2** Isolated nonprestressed T-beams in which the flange is used to provide additional compression area shall have a flange thickness greater than or equal to  $0.5b_w$  and an effective flange width less than or equal to  $4b_w$ .

**6.3.2.3** For prestressed T-beams, it shall be permitted to use the geometry provided by 6.3.2.1 and 6.3.2.2.

**R6.3.2.3** The empirical provisions of 6.3.2.1 and 6.3.2.2 were developed for nonprestressed T-beams. The flange widths in 6.3.2.1 and 6.3.2.2 should be used unless experience has proven that variations are safe and satisfactory. Although many standard prestressed products in use today do not satisfy the effective flange width requirements of 6.3.2.1 and 6.3.2.2, they demonstrate satisfactory performance. Therefore, determination of an effective flange width for prestressed T-beams is left to the experience and judgment of the licensed design professional. It is not always considered conservative in elastic analysis and design considerations to use the maximum flange width as permitted in 6.3.2.1.

**6.4—Arrangement of live load**

**6.4.1** For the design of floors or roofs to resist gravity loads, it shall be permitted to assume that live load is applied only to the level under consideration.

**6.4.2** For one-way slabs and beams, it shall be permitted to assume (a) and (b):

- (a) Maximum positive  $M_u$  near midspan occurs with factored  $L$  on the span and on alternate spans
- (b) Maximum negative  $M_u$  at a support occurs with factored  $L$  on adjacent spans only

**6.4.3** For two-way slab systems, factored moments shall be calculated in accordance with 6.4.3.1, 6.4.3.2, or 6.4.3.3, and shall be at least the moments resulting from factored  $L$  applied simultaneously to all panels.

**6.4.3.1** If the arrangement of  $L$  is known, the slab system shall be analyzed for that arrangement.

**6.4.3.2** If  $L$  is variable and does not exceed  $0.75D$ , or the nature of  $L$  is such that all panels will be loaded simultaneously, it shall be permitted to assume that maximum  $M_u$  at

**R6.4—Arrangement of live load**

**R6.4.2** The most demanding sets of design forces should be established by investigating the effects of live load placed in various critical patterns.