DESIGN CHECK NO. 7—Design capacity of flanges of spliced member

Design requirements:

$\phi N_{ft} \geq N_{ft}^*$ tension flange, N_{ft}^* calculated in accordance with Table B1

$\phi N_{fc} \geq N_{fc}^*$ compression flange, N_{fc}^* calculated in accordance with Table B1

where ϕN_{ft} = design capacity of tension flange (using AS 4100 Clause 7.2)

= minimum of

$0.9 \times f_{yf} t_f b_f$

$0.9 \times 0.85 f_{uf} (b_f - n_g d_h) t_f$

ϕN_{fc} = design capacity of compression flange (using AS 4100 Clause 6.2.1 assuming holes are filled with bolts and that $k_f = 1.0$)

= $0.9 \times f_{yf} b_f t_f$

Terms are as defined in Figure B5 and Table B5 in DESIGN CHECK NO. 1.

NOTE: The use of the SIMPLIFIED METHOD with this DESIGN CHECK in evaluating N_{ft}^* and N_{fc}^* may result in non-compliance if the design moment M^* is more than approximately 60% of the section moment capacity ϕM_s. The use of the ALTERNATIVE METHOD to evaluate N_{ft}^* and N_{fc}^* is recommended in such instances. It may be necessary to relocate the splice to a location where the design moment M^* is lower in order to comply with this DESIGN CHECK in some instances.

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