

7 CALCULATION OF DESIGN ACTIONS

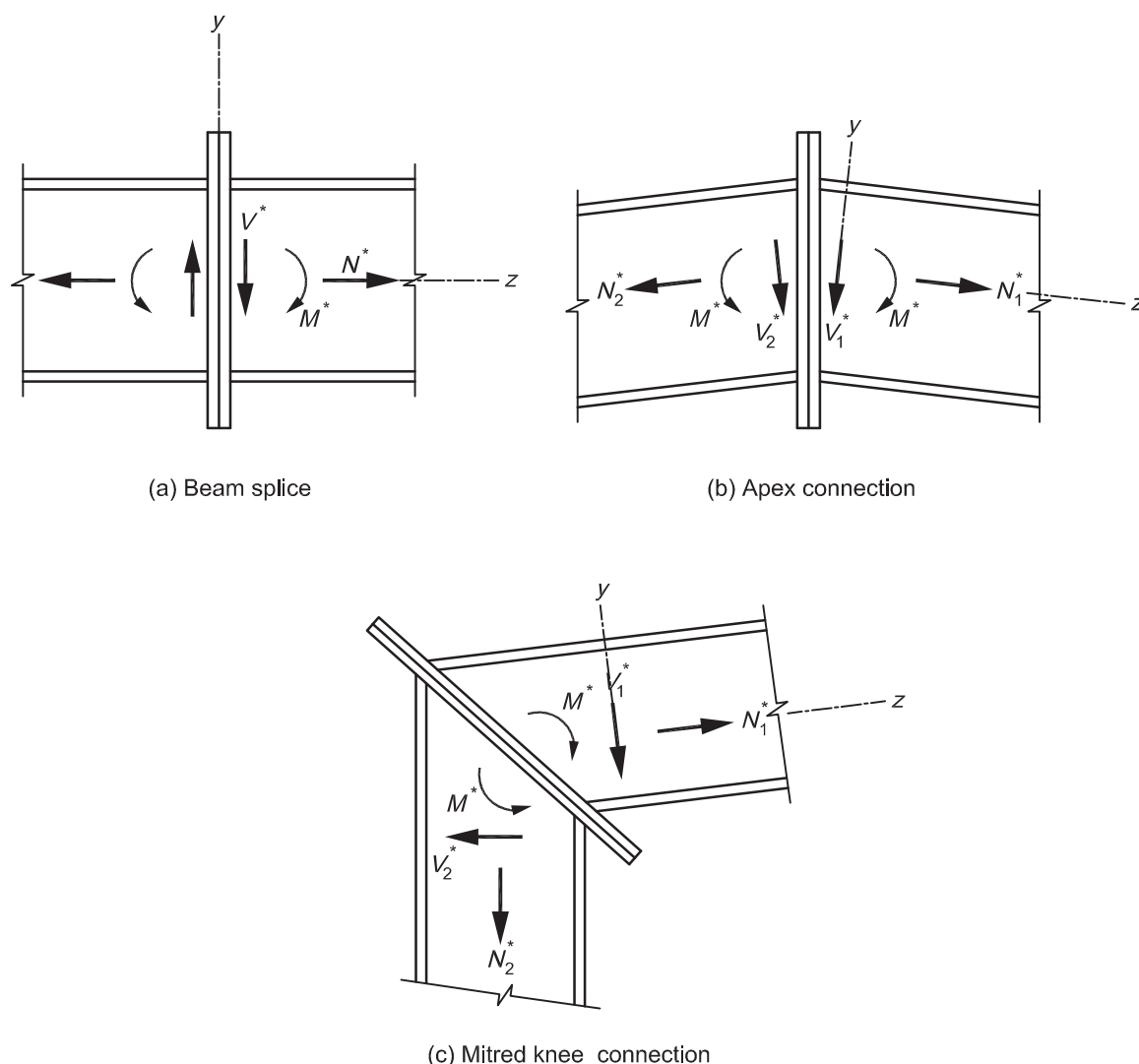


FIGURE 7 DESIGN ACTIONS AT CONNECTION

The design action effects at the connection can be determined from either:

- (a) elastic analysis (Clause 4.4 of AS 4100) which could in turn, be either—
 - (i) a first order elastic analysis with moment amplification (Clause 4.4.2 of AS 4100); or
 - (ii) a second order elastic analysis (Appendix E of AS 4100)

or

- (b) plastic analysis (Clause 4.5 of AS 4100).

Applied actions at a connection are assumed to be those shown in Figure 7 as follows:

- a design bending moment about the section x-axis M^*
- a design shear force parallel to the section y-axis V^* , or V_1^* and V_2^*
- a design axial force parallel to the z-axis N^* , or N_1^* and N_2^*

In the recommended design model, the design moment capacity of the bolt group and the end plate is determined using nominated formulae and these capacities must exceed M^* . The design capacity of the bolts and plate in shear are also evaluated and these must exceed a resultant shear force determined from components of V_1^* and N_1^* or V_2^* and N_2^* .



DESIGN GUIDE 10

Bolted moment end plate beam splice connections

by

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