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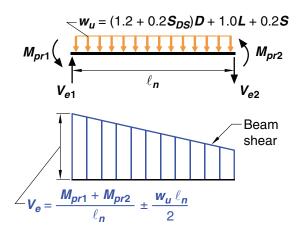


Fig. R18.6.5—Design shears for beams and columns.

18.7—Columns of special moment frames **18.7.1** *Scope*

18.7.1.1 This section shall apply to columns of special moment frames that form part of the seismic-force-resisting system and are proportioned primarily to resist flexure, shear, and axial forces.

18.7.2 Dimensional limits

18.7.2.1 Columns shall satisfy (a) and (b):

- (a) The shortest cross-sectional dimension, measured on a straight line passing through the geometric centroid, shall be at least 300 mm
- (b) The ratio of the shortest cross-sectional dimension to the perpendicular dimension shall be at least 0.4.

18.7.3 *Minimum flexural strength of columns*

18.7.3.1 Columns shall satisfy 18.7.3.2 or 18.7.3.3, except at connections where the column is discontinuous above the connection and the column factored axial compressive force

Notes on Fig. R18.6.5:

- 1. Direction of shear force V_e depends on relative magnitudes of gravity loads and shear generated by end moments.
- 2. End moments M_{pr} based on steel tensile stress of 1.25 f_{v} , where f_{v} is specified yield strength. (Both end moments should be considered in both directions, clockwise and counter-clockwise).
- 3. End moment M_{pr} for columns need not be greater than moments generated by the M_{pr} of the beams framing into the beam-column joints. V_e should not be less than that required by analysis of the structure.

R18.7—Columns of special moment frames **R18.7.1** *Scope*

This section applies to columns of special moment frames regardless of the magnitude of axial force. Before 2014, the Code permitted columns with low levels of axial stress to be detailed as beams.

R18.7.2 Dimensional limits

The geometric constraints in this provision follow from previous practice (Seismology Committee of SEAOC 1996).

R18.7.3 *Minimum flexural strength of columns*

The intent of 18.7.3.2 is to reduce the likelihood of yielding in columns that are considered as part of the seismic-forceresisting system. If columns are not stronger than beams framing into a joint, there is increased likelihood of inelastic

