CODE

COMMENTARY

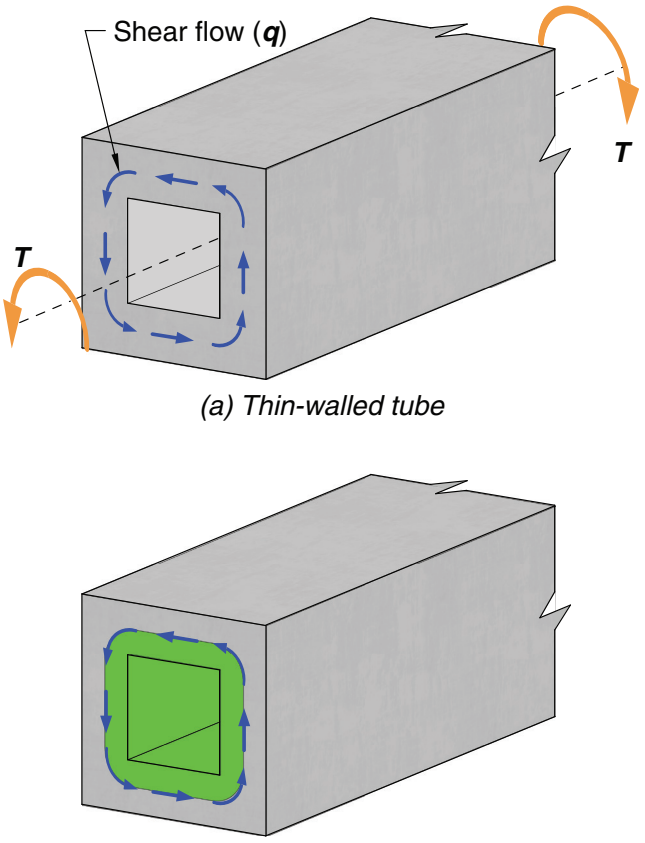

***Fig. R22.7**—(a) Thin-walled tube; and (b) area enclosed by shear flow path.*

22.7.1 *General*

22.7.1.1 This section shall apply to members if $T_u \geq \phi T_{th}$, where ϕ is given in Chapter 21 and threshold torsion T_{th} is given in 22.7.4. If $T_u < \phi T_{th}$, it shall be permitted to neglect torsional effects.

22.7.1.2 Nominal torsional strength shall be calculated in accordance with 22.7.6.

22.7.1.3 For calculation of T_{th} and T_{cr}, λ shall be in accordance with 19.2.4.

R22.7.1 *General*

R22.7.1.1 Torsional moments that do not exceed the threshold torsion T_{th} will not cause a structurally significant reduction in either flexural or shear strength and can be ignored.

22.7.2 *Limiting material strengths*

22.7.2.1 The value of $\sqrt{f'_c}$ used to calculate T_{th} and T_{cr} shall not exceed 8.3 MPa.

22.7.2.2 The values of f_y and f_{yt} for longitudinal and transverse torsional reinforcement shall not exceed the limits in 20.2.2.4.

R22.7.2 *Limiting material strengths*

R22.7.2.1 Because of a lack of test data and practical experience with concretes having compressive strengths greater than 70 MPa, the Code imposes a maximum value of 8.3 MPa on $\sqrt{f'_c}$ for use in the calculation of torsional strength.

R22.7.2.2 The upper limit of 420 MPa on the value of f_y and f_{yt} used in design is intended to control diagonal crack width.