§ 25.391 Control surface loads: General.
The control surfaces must be designed for the limit loads resulting from the flight conditions in §§25.331, 25.341(a), 25.349 and 25.351 and the ground gust conditions in §25.415, considering the requirements for—
(a) Loads parallel to hinge line, in §25.393;
(b) Pilot effort effects, in §25.397;
(c) Trim tab effects, in §25.407;
(d) Unsymmetrical loads, in §25.427; and
(e) Auxiliary aerodynamic surfaces, in §25.445.

§ 25.393 Loads parallel to hinge line.
(a) Control surfaces and supporting hinge brackets must be designed for inertia loads acting parallel to the hinge line.
(b) In the absence of more rational data, the inertia loads may be assumed to be equal to $KW$, where—
(1) $K=24$ for vertical surfaces;
(2) $K=12$ for horizontal surfaces; and
(3) $W=$ weight of the movable surfaces.

§ 25.395 Control system.
(a) Longitudinal, lateral, directional, and drag control system and their supporting structures must be designed for loads corresponding to 125 percent of the computed hinge moments of the movable control surface in the conditions prescribed in §25.391.
(b) The system limit loads, except the loads resulting from ground gusts, need not exceed the loads that can be produced by the pilot (or pilots) and by automatic or power devices operating the controls.
(c) The loads must not be less than those resulting from application of the minimum forces prescribed in §25.397(c).