§ 157.22 Intact stability requirements.

All tank ships of 5,000 DWT and above contracted after December 3, 2001 must comply with the intact stability requirements.

§ 157.21 Subdivision and stability.

A new vessel that is a U.S. vessel must meet the following subdivision and damage stability criteria after assuming side and bottom damages, as defined in appendix B of this part. A U.S. vessel that meets the requirements in this section is considered by the Coast Guard as meeting 46 CFR 42.20-5.

(a) The final waterline, taking into account sinkage, heel, and trim, must be below the lower edge of an opening through which progressive flooding may take place, such as an air pipe, or any opening that is closed by means of a weathertight door or hatch cover. This opening does not include an opening closed by a:

(1) Watertight manhole cover;
(2) Flush scuttle;
(3) Small watertight cargo tank hatch cover that maintains the high integrity of the deck;
(4) Remotely operated watertight sliding door; or
(5) Side scuttle of the non-opening type.

(b) In the final stage of flooding, the angle of heel due to unsymmetrical flooding must not exceed 25 degrees, except that this angle may be increased to 30 degrees if no deck edge immersion occurs.

(c) For acceptable stability in the final stage of flooding, the righting lever curve must have a range of at least 20 degrees beyond the position of equilibrium in association with a maximum residual righting lever of at least 0.1 meter. For the calculations required in this section, weathertight openings or openings fitted with automatic closures (e.g., a vent fitted with a ball check valve), need not be considered as points of downflooding within the range of residual stability, but other openings must be accounted for in the calculation.