

WAC 296-880-40005 Guardrail systems. Guardrail systems and their use must conform to the following provisions:

(1) A standard guardrail system must consist of top rail, intermediate rail, and posts, and must have a vertical height of thirty-nine to forty-five inches from upper surface of top rail to floor, platform, runway, or ramp level. When conditions warrant, the height of the top edge may exceed the forty-five inch height, provided the guardrail system meets all other criteria of this subsection. The intermediate rail must be halfway between the top rail and the floor, platform, runway, or ramp. The ends of the rails must not overhang the terminal posts except where such overhang does not constitute a projection hazard.

(2) Minimum requirements for standard guardrail systems under various types of construction are specified in the following items:

(a) For wood guardrails, the posts must be of at least two-inch by four-inch stock spaced not to exceed eight feet. The top rail must be of at least two-inch by four-inch stock and each length of lumber must be smooth surfaced throughout the length of the guardrail. The intermediate rail must be of at least one-inch by six-inch stock. Other configurations may be used for the top rail when the configuration meets the requirements of (g) of this subsection.

(b) For pipe guardrails, posts and top and intermediate rails must be at least one and one-half inches nominal OD diameter with posts spaced not more than eight feet on centers. Other configurations may be used for the top rail when the configuration meets the requirements of (g) of this subsection.

(c) For structural steel guardrails, posts and top and intermediate rails must be of two-inch by two-inch by three-eighths inch angles or other metal shapes of equivalent bending strength, with posts spaced not more than eight feet on centers. Other configurations may be used for the top rail when the configuration meets the requirements of (g) of this subsection.

(d) For wire rope guardrails, the top and intermediate rails must meet the strength factor and deflection of (g)(ii) of this subsection. The top rail must be flagged at not more than six foot intervals with high visibility material. Posts must be spaced not more than eight feet on centers. The rope must be stretched taut and must be between thirty-nine and forty-five inches in height at all points. Other configurations may be used for the top rail when the configuration meets the requirements of (h) of this subsection.

(e) Guardrail systems must be of such construction that the completed structure is capable of withstanding a load of at least two hundred pounds applied within two inches of the top edge, in any outward or downward direction, at any point along the top edge.

(f) When the two hundred pound test load specified in (e) of this subsection is applied in a downward direction, the top edge of the guardrail must not deflect to a height less than thirty-nine inches above the walking/working surface.

(g) Guardrails receiving heavy stresses from employees trucking or handling materials must be provided additional strength by the use of heavier stock, closer spacing of posts, bracing, or by other means.

(h) Other types, sizes, and arrangements of guardrail construction are acceptable, provided they meet the following conditions:

(i) A smooth surfaced top rail at a height above floor, platform, runway, or ramp level between thirty-nine and forty-five inches;

(ii) When the two hundred pound (890 N) load specified in (e) of this subsection is applied in a downward direction, the top edge of

the guardrail must not deflect to a height less than thirty-nine inches (1.0 m) above the walking/working surface. Guardrail system components selected and constructed in accordance with this chapter will be deemed to meet this requirement;

(iii) Protection between top rail and floor, platform, runway, ramp, or stair treads, equivalent at least to that afforded by a standard intermediate rail;

(iv) Elimination of overhang of rail ends unless such overhang does not constitute a hazard.

(3) Toeboard specifications.

(a) A standard toeboard must be a minimum of three and one-half inches in vertical height from the top edge to the level of the walking/working surface. Toeboards may be made of any substantial material, either solid, or with openings not over one inch in greatest dimension. Toeboards must be securely fastened in place with no more than one-quarter inch clearance above the walking/working surface.

(b) Where material is piled to such height that a standard toeboard does not provide protection, paneling, or screening from floor to intermediate rail or to top rail must be provided.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, and chapter 49.17 RCW. WSR 20-12-091, § 296-880-40005, filed 6/2/20, effective 10/1/20.]