

**WAC 296-307-26021 What angles may stairways be installed at?**

(1) Fixed stairs must be installed at angles to the horizontal of between thirty and fifty degrees. Any uniform combination of rise/tread dimensions may be used that will provide a stairway at an angle within the permissible range.

The following table lists examples of rise/tread dimensions that will produce a stairway within the permissible range. Rise/tread combinations are not limited to those in the table.

Angle to horizontal	Rise (in inches)	Tread run (in inches)
30°35'	6-1/2	11
32°08'	6-3/4	10-3/4
33°41'	7	10-1/2
35°16'	7-1/4	10-1/4
36°52'	7-1/2	10
38°29'	7-3/4	9-3/4
40°08'	8	9-1/2
41°44'	8-1/4	9-1/4
43°22'	8-1/2	9
45°00'	8-3/4	8-3/4
46°38'	9	8-1/2
48°16'	9-1/4	8-1/4
49°54'	9-1/2	8

(2) A permanent stairway may be installed at an angle above the fifty degree critical angle when space limitations require. Such installations (commonly called inclined ladders or ships ladders) must have handrails on both sides and open risers. They must be capable of sustaining a live load of one hundred pounds per square foot with a safety factor of four. The following preferred and critical angles from the horizontal are recommended for inclined ladders and ships ladders:

- (a) 35 to 60 degrees—Preferred angle from horizontal.
- (b) 60 to 70 degrees—Critical angle from horizontal.

[WSR 97-09-013, recodified as § 296-307-26021, filed 4/7/97, effective 4/7/97. Statutory Authority: RCW 49.17.040, [49.17.]050 and [49.17.]060. WSR 96-22-048, § 296-306A-26021, filed 10/31/96, effective 12/1/96.]