

PROPOSED CHANGE: Dimensions of Tapered Treads

CHANGE NUMBER: 2018-BCBC-12-Stairs-Dimensions of Tapered Treads

RELATED CHANGES: 2018-BCBC-14-Stairs-No Spiral Stairs, 2018-BCBC-13-Handrails in Curved Stairs

CODE REFERENCE: 2015 National Building Code - Division B - Article 9.8.4.3. and Article 9.8.4.6.

DESCRIPTION OF THE PROPOSED AMENDMENT:

It is proposed to adopt most of the National Building Code of Canada (NBC) requirements and code structure for stairs, but not to adopt the permissions in the 2015 NBC for dimensions of tapered treads.

PROBLEM/BACKGROUND:

The British Columbia Building Code (BCBC) is based substantially on the model NBC. The NBC is updated about every five years and British Columbia adopts most of the NBC requirements into the next edition of the BCBC. The 2018 BCBC will be based on the 2015 NBC with some changes specific to British Columbia.

British Columbia variations related to dimensions of tapered tread are proposed to be carried forward. Some provisions have been moved as a result.

The code language shown below is the proposed final code language that will appear in the 2018 BCBC. Comments submitted should focus on the changes noted. Changes from the 2012 BCBC to the 2015 NBC are not identified.

2018 PROPOSED BRITISH COLUMBIA BUILDING CODE CHANGE LANGUAGE (~~Deleted text~~ / Added text):

9.8.3.1. Permitted Configurations

(See Notes A-9.8.3.1. and A-9.8.4.)

- 1) Stairs in *buildings* other than *dwelling units* shall consist of
 - a) straight *flights*,
 - b) except as provided in Sentence (4), curved *flights*,
- 2) Stairs within *dwelling units* shall consist of
 - a) straight *flights*,
 - b) except as provided in Sentence (4), curved *flights*, or
 - c) ~~Reserved except as provided in Sentence 9.8.4.7.(2), spiral stairs,~~
 - d) except as provided in Sentence (3), *flights* with rectangular treads and winders, ~~or.~~
 - e) ~~*flights* with a mix of rectangular and tapered treads.~~
- 3) Only one set of winders described in Article 9.8.4.6. shall be permitted between floor levels.

- 4) Curved *flights* in *exits* shall comply with Sentence 3.4.6.9.(2).
- 5) All *tapered treads* within a *flight* shall turn in the same direction.

9.8.4.3. Dimensions of Tapered Treads

(See Note A-9.8.4.)

1) Except as provided in Sentence (23) ~~and Articles 9.8.4.6. and 9.8.4.7.~~, *tapered treads* shall have a *run* that

a) is not less than 150 mm at the narrow end of the tread, ~~and.~~

b) ~~complies with the dimensions stated in Table 9.8.4.2. when measured at a point 300 mm from the centre line of the handrail at the narrow end of the tread.~~

2) Except as provided in Sentence (3) and Article 9.8.4.6., and except as required by Sentence 9.8.3.1.(4), *tapered treads* shall have an average *run*, of not less than 200 mm.

23) *Tapered treads* in required *exit stairs* shall conform to the requirements in Article 3.4.6.9.

34) The depth of a *tapered tread* shall be not less than its *run* at any point and not more than its *run* at any point plus 25 mm.

9.8.4.6. Winders

(See Note A-9.8.4.6.)

1) Individual treads in winders ~~that converge on a centre point~~ shall turn through an angle of

a) 30° with no deviation above or below 30°, or

b) 45° with no deviation above or below 45°.

2) Where winders are incorporated into a stair, each set shall not turn through more than 90.

3) Treads in winders shall have a *run*, measured at a point 200 mm from the narrow end of the tread, conforming to the *run* requirements for a private stair in Table 9.8.4.2.

RATIONALE FOR CHANGE:

Research shows, in general terms, rectangular tread runs smaller than an average foot or shoe (less than about 200 mm or 10") are hazardous and lead to increased trips, falls, and injuries. Changes in stair rise and/or run are also proven to be hazardous, unless a landing is provided in between the changes in height.

A stair that is safer and easier to navigate not only benefits all users, but is of greater importance to users with physical or sensory limitations. The changes to the 2015 NBC allow short tread runs in spiral stairs, mixed flights, and changes in stair run within a flight, which may reduce the level of safety for users.

JUSTIFICATION/EXPLANATION:

The above noted requirements of the NBC do not align with British Columbia's objective of increasing the accessibility of buildings. In general, British Columbia's variations require longer tread runs, which are safer and easier to navigate, and hence more accessible. Further, continuing these British Columbia variations will minimize the impact to industry as no change of practice will be required.

CODE REFERENCE	SUMMARY OF CHANGE
Sentence 9.8.3.1.(2)	Permissions for spiral stairs and mixed flights removed (see PCF 2018-BCBC-14).
Sentence 9.8.4.3.(1)	- Exception for Article 9.8.4.6. for winders is moved to new Sentence 9.8.4.3.(2) - Exception for Article 9.8.4.7. deleted as winder stairs not permitted (see PCF 2018-BCBC-14) - BC variation is continued – NBC requirement to measure tread at 300mm is deleted (see new Sentence 9.8.4.3.(2))
Sentence 9.8.4.3.(2)	BC variation is continued – tapered treads must have an average run of 200mm, except for winder stairs (see Sentence 9.8.4.6.(3)).
Sentence 9.8.4.6.(1)	BC variation is continued – winder stairs require a minimum run of 150mm (see Sentence 9.8.4.3.(1)). The Term <i>tapered tread</i> includes winders.
Sentence 9.8.4.6.(3)	BC variation is continued – minimum run of winder stairs is measured 200mm from narrow end of tread.