

## Preventing wooden stair collapses in construction

Year after year, workers in British Columbia are being injured, sometimes very seriously, when using poorly constructed wooden stairs that collapse. This bulletin is intended for employers, prime contractors, and workers who build and use wooden stairs. It explains why stairs collapse and how collapses can be prevented.

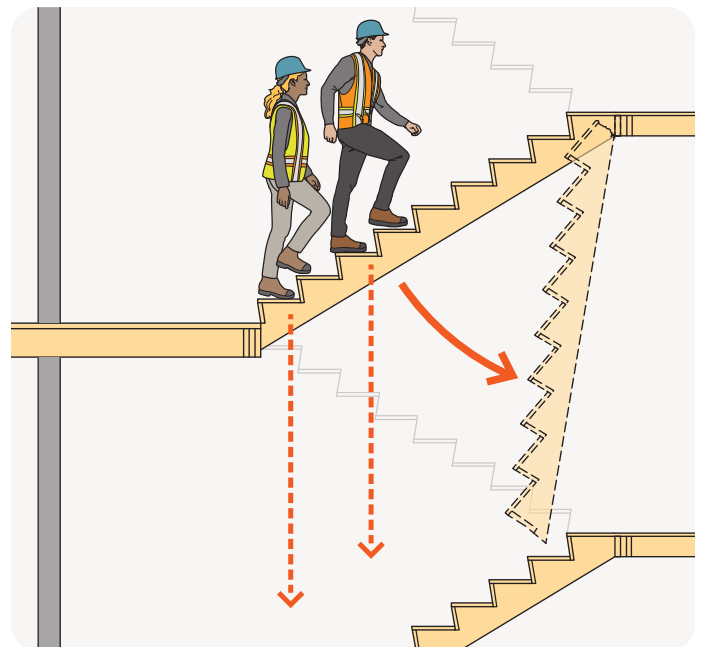
### Why do stairs collapse?

- The stair connections to the floor or landing, or the stair members, fail because they are inadequately designed, poorly selected (e.g., inadequate hardware, lumber with knots or cracks), or not built or installed as designed.
- A permanent stair is only partially connected to the building structure for construction use, and the installed connections fail.
- A stair is modified to suit the site conditions, and the modifications are structurally inadequate.
- A stair is removed and reinstalled, and the reinstallation is structurally deficient.
- Stairs are not inspected regularly by a qualified person to identify deterioration and design or installation flaws.

### How to protect workers

Employers are responsible for ensuring that wooden stairs are adequate for any loads likely to be imposed on them during construction. Here are a few ways you can fulfil your obligation:

- Use a solid design basis for the stair (e.g., P.Eng. drawings, Building Code requirements, established carpentry principles).
- Make sure stairs are built and installed by competent workers according to best practices.
- Ensure modifications are approved by a stair designer.
- Inspect stairs regularly for any damage or flaws.



In a recent stair collapse incident, two workers were injured when the connections from the stair to the floor structure failed.

- Have a qualified person inspect the stairs after installation or reinstallation to confirm they are as designed and structurally adequate.

### OHS Regulation requirements

- [Section 4.2, Safe buildings and structures](#)
- [Section 20.14, Temporary support](#)
- [Section 3.5, General requirement for inspections](#)

For more information and resources, visit [worksafebc.com/residential-construction](https://www.worksafebc.com/residential-construction).