

Stair Geometry

Architecture

The rule that makes a stair comfortable, and the dimensions to use.

A comfortable stair keeps twice the rise plus the going within a narrow band.

$$2 \times \text{rise} + \text{going} = 550 \text{ to } 700 \text{ mm}$$

Rise 175, going 275

comfortable

$$350 + 275 = 625$$

Rise 200, going 250

steeper, still in band

$$400 + 250 = 650$$

3.0 m floor to floor

risers must be equal

17 risers at 176 mm

THE COMMON MISTAKE

✗ **Leaving one shorter riser at the top**

✓ **All risers exactly equal**

People climb stairs without looking after the first two steps. An unequal riser at either end is the most common cause of falls on a stair.

Educational reference only. Rise, going, pitch, width, headroom and handrails are set by building regulations.