



Date of completion: 4/11/22 | Contact : PSS\_UK@hotmail.com

## **SURVEY COMPLETED BY MR K BOX**

---

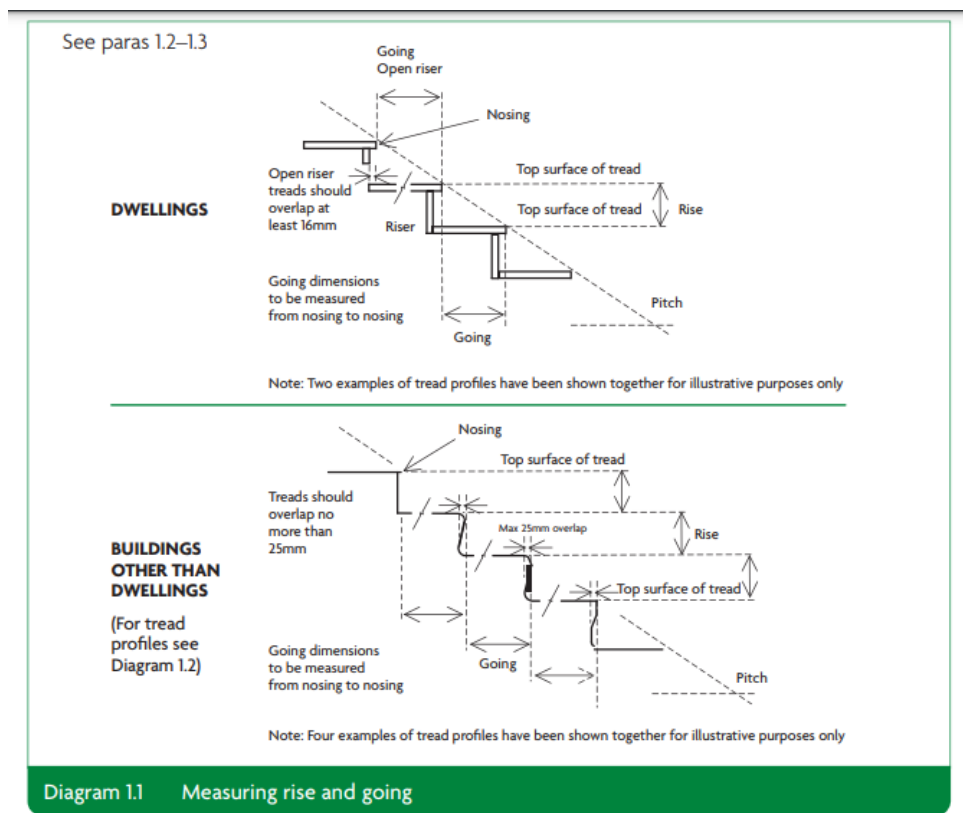
Survey contents: External Stair Survey inline with the Approved Document K Building Regulations 2010.



### **Client Address:**

1 Victoria Mansions, Malvern Road, Cheltenham GL50 2JH

The information within this survey is taken directly from The Building Regulations 2010 “Protection from falling, collision and impact: Approved Document K” which I have referred to within my report.



**Table 1.1 Rise and going**

	Rise*		Going*	
	Minimum (mm)	Maximum (mm)	Minimum (mm)	Maximum (mm)
Private stair <sup>1,2</sup>	150	220	220	300
Utility stair	150	190	250	400
General access stair <sup>3</sup>	150	170	250	400

Notes:

[1] The maximum pitch for a private stair is 42°.

[2] For dwellings, for external tapered steps and stairs that are part of the building the going of each step should be a minimum of 280mm.

[3] For school buildings, the preferred going is 280mm and rise is 150mm.

\* The normal relationship between the dimensions of the rise and going is: twice the rise plus the going (2R + G) equals between 550mm and 700mm.

For existing buildings the dimensional requirements in Table 1.1 should be followed, unless due to dimensional constraints it is not possible. Any alternative proposal should be agreed with the relevant building control body and included in an access strategy (refer to Approved Document M).

To start, I took three measurements on each of the steps, the left, the middle, and the right for the Going (G) and the Rise (R).



Step One:

Rise measurements

- Left = 68mm
- Middle = 72mm
- Right = 73mm

Going measurements

- Left = 445mm
- Middle = 445mm
- Right = 445mm

I measured the lip at 15mm and a total width of the step of 1065mm





## Step Two:

### Rise measurements

- Left = 265mm
- Middle = 265mm
- Right = 265mm

### Going measurements

- Left = 340mm
- Middle = 340mm
- Right = 335mm

I measured the lip at 19mm with a 5mm fall out of level towards the base of the stairs. The total width of the step was measured at 1070mm



### Step Three:

#### Rise measurements

- Left = 215mm
- Middle = 215mm
- Right = 217mm

#### Going measurements

- Left = 310mm
- Middle = 310mm
- Right = 310mm

I measured the lip at 37mm with a 3mm fall out of level towards the base of the stairs. The total width of the step was measured at 1070mm.



### Step Four:

#### Rise measurements

- Left = 220mm
- Middle = 225mm
- Right = 225mm

#### Going measurements

- Left = 320mm
- Middle = 320mm
- Right = 315mm

I measured the lip at 20mm with a 5mm fall out of level towards the base of the stairs. The total width of the step was measured at 1070mm



### Step Five:

#### Rise measurements

- Left = 220mm
- Middle = 220mm
- Right = 220mm

#### Going measurements

- Left = 318mm
- Middle = 318mm
- Rise = 319mm

I measured the lip at 21mm



### Step Six:

#### Rise measurements

- Left = 210mm
- Middle = 215mm
- Right = 215mm

#### Going measurements

- Left = 325mm
- Middle = 330mm
- Right = 330mm

I measured the lip at 29mm with a 3mm fall out of level towards the base of the stairs. The total width of the step was measured at 1070mm.

### Step Seven:

#### Rise measurements

- Left = 215mm
- Middle = 215mm
- Right = 215mm

#### Going measurements

- Left = 325mm
- Middle = 320mm
- Right = 325mm

I measured the lip at 35mm with a 3mm fall out of level towards the base of the stairs. The total width of the step was measured at 1070mm.



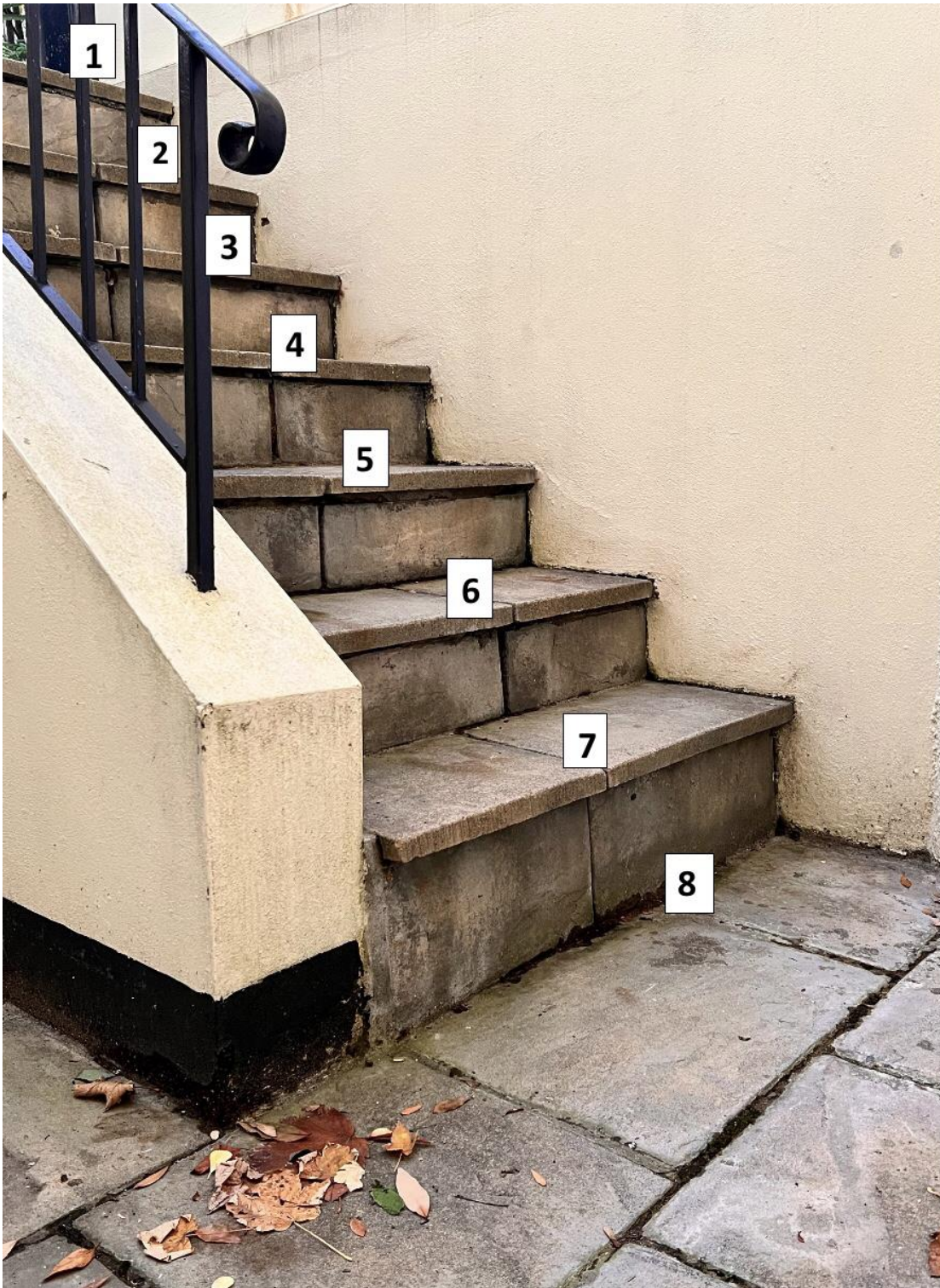
### Step eight into courtyard:

#### Rise Measurement

- Left = 275mm
- Middle = 275mm
- Right = 275mm



I have worked this report starting at the top of the stairs and working my way down to the bottom which opens into a courtyard where the entrance to the property is.





### Step one

- This is a “trip hazard” and will need to be a level access onto the stairs.
- A “trip” is caused by an obstacle of some kind causing you to stumble.
- The going is 445mm which is 145mm above the maximum shown in table 1.1 from the Approved Document K.

### Step Two

- The rise is 265mm which is 45mm above the maximum shown in table 1.1 from the Approved Document K.
- The going is 340mm which is 40mm above the maximum shown in table 1.1 from the Approved Document K.
- The overall width of the step is 1070mm with a lip measurement of 19mm.

### Step Three

- The rise is 215mm in the middle and right-hand side of the step is 5mm below the maximum shown in table 1.1 from the Approved Document K.
- The going is 310mm which is 10mm above the maximum shown in table 1.1 from the Approved Document K.
- The overall width of the step is 1065mm with a lip measurement of 37mm.

### Step Four

- The rise is 225mm which is 5mm above the maximum allowed shown in table 1.1 from the Approved Document K.
- The going is 320mm which is 30mm above the maximum allowed shown in table 1.1 from the Approved Document K.
- The overall width of the step is 1070mm with a lip measurement of 20mm.

### Step Five

- The rise is 220mm which is the maximum allowed shown in table 1.1 from the Approved Document K.
- The going is 318mm which is 18mm above the maximum allowed shown in table 1.1 from the Approved Document K.
- The overall width of the step is 1070mm with a lip measurement of 21mm.

#### Step Six

- The rise is 210mm which is 10mm above the maximum allowed shown in table 1.1 from the Approved Document K.
- The going is 330mm which is 30mm above the maximum allowed shown in table 1.1 from the Approved Document K.
- The overall width of the step is 1070mm with a lip measurement of 29mm.

#### Step Seven

- The rise is 220mm which is the maximum shown in table 1.1 from the Approved Document K.
- The going is 330mm which is 30mm above the maximum allowed shown in table 1.1 from the Approved Document K.
- The overall width of the step is 1085mm with a lip measurement of 35mm.

#### Step Eight at Floor Level

- The rise is 275mm which is 75mm above the maximum allowed shown in table 1.1 from the Approved Document K.
- The overall width of the step is 1070mm.





The pictures above highlights Health & Safety Hazards with respect to slips, trips, and falls. Notable observations are as follows.

- The trip hazard at the top of the stairs causing any person to slip, trip or fall down the stairs into an electrical cupboard door.
- Irregular rise and going of the steps presenting a hazard to personnel. In particular the final step down to the courtyard is considerably above the recommended rise height.
- On inspection of the staircase, the general condition of the perp joints is poor.

**Summary:**

- The steps have no consistency as they are of different measurements for both the going and the rise causing a major issue when descending or ascending the stairs giving no natural flow to the stairs which in turn could cause a slip, trip, or fall.
- The general condition of the perp joints is poor and would need to be addressed as anymore damage to these joints will cause movement and cause more of an issue to an already dangerous set of stairs.
- It should be noted that due to the dimensional constraints of the stairs it is not possible to meet the 'rise and going' guidance contained in Table 1.1. It is however possible to reduce the risks to 'As Low as Reasonably Practicable' through the recommendations below.

### **Our Advice and Recommendations**

1. Reduce/remove the trip hazard at the top of the stairs which presents a risk to personnel falling down the stairs and is a breach of the Building Regulations 2022.
2. 'Even up' the 'rise' through the addition of a lower 'step as indicated in the sketch below.
  - i. This is considered the lowest cost solution as the additional step will allow resetting of the steps above which can be achieved by overlaying slabs against the existing steps.
  - ii. In one or two instances there may be some reduction of steps required which can be developed during remediation of the steps.
  - iii. Note the final step down to the courtyard is considerably above the recommended rise height and should be rectified in the near term.
  - iv. The additional step can be positioned without interference to the electric cupboard as it open outwards and will need access at all times.
3. Include a second handrail to the other side of the stairs.
4. The perp joints will need to be raked out and repoint on the stair slabs

