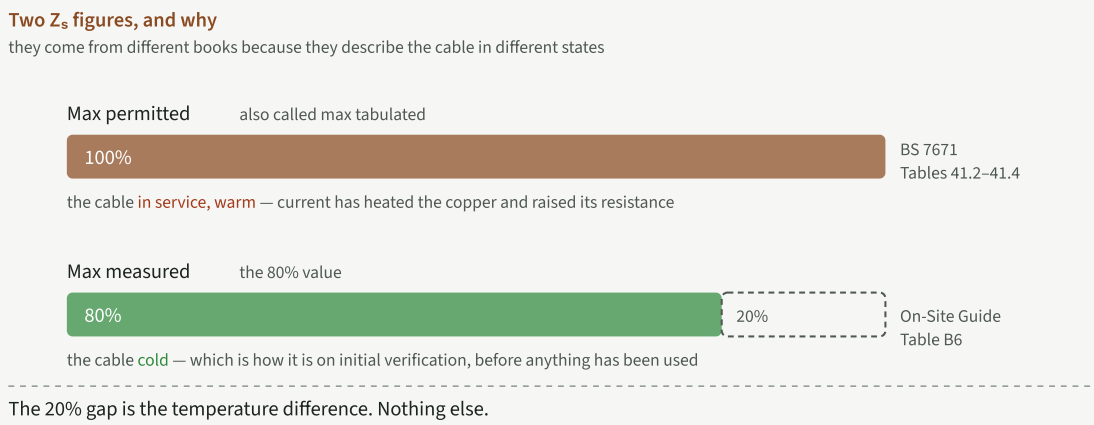
MAX PERMITTED ZS AND THE 80% FIGURE

WHICH MAXIMUM ZS DO YOU COMPARE AGAINST?

Two figures for the same circuit, from different books for a reason. Only one goes in the schedule's maximum Z_s box.

FIGURE	ALSO CALLED	COMES FROM	APPLIES TO
Max permitted — the schedule box	Max tabulated	BS 7671 · Tables 41.2–41.4	The cable **in service**, warm
Max measured — your check value	The 80% value	On-Site Guide Table B6	The cable **cold**, as you test it



Both figures describe the same circuit, measured in two different conditions. BS 7671's figures assume the cable is in use and warm, which raises its resistance. You test on a cold cable, so your reading has to come in under the lower, 80% figure — and that is the one from GN3 or the On-Site Guide. Comparing your cold reading against the warm table is the mistake.

> `The 20% gap is the temperature difference`

BS 7671's figures assume the cable is in use and current has warmed the copper, raising its resistance. On initial verification the cable is cold — nothing has run through it but your test current. The 80% allowance covers the difference.

On the schedule.

The maximum Z_s box takes the **BS 7671 Chapter 41 table figure** — 1.37 Ω for a B32. If you worked to another source, such as the 80% figure, state it in the **Remarks** (column 31).

Where the 80% values live.

On-Site Guide

· Table B6 · p.159 (16 A Type B 2.19 Ω, 20 A 1.75 Ω, 32 A 1.09 Ω).

You can also just do the arithmetic.

Take the BS 7671 figure and multiply by 0.8. Or go the other way: a 2.19 Ω figure in the 80% table goes back to the **2.73 Ω** BS 7671 figure for a 16 A Type B (2.19 ÷ 0.8 gives 2.74 only because 2.19 is itself rounded).

Free section from Sparky Study Notes. The full Level 3 notes, 1,463 practice questions and the video lessons: sparkystudynotes.co.uk