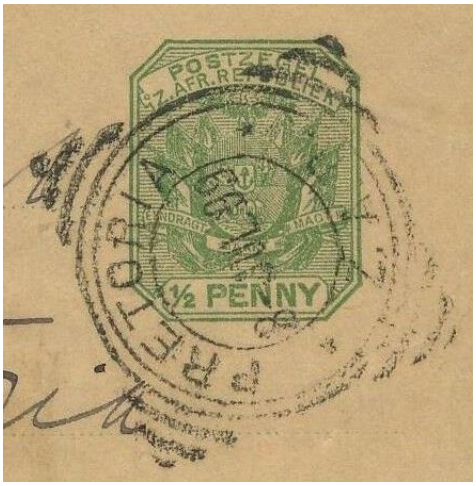
**Measuring postmarks**

Measuring postmarks isn't as simple as it sounds. Even with a good clear postmark, the lines and other elements are often irregular – stronger in some places, weaker in others, sharper in some places and fuzzier in others. It's often not clear exactly where to measure from and to, and diameters measured on the same postmark in different positions often produce results that differ by a millimetre or more.





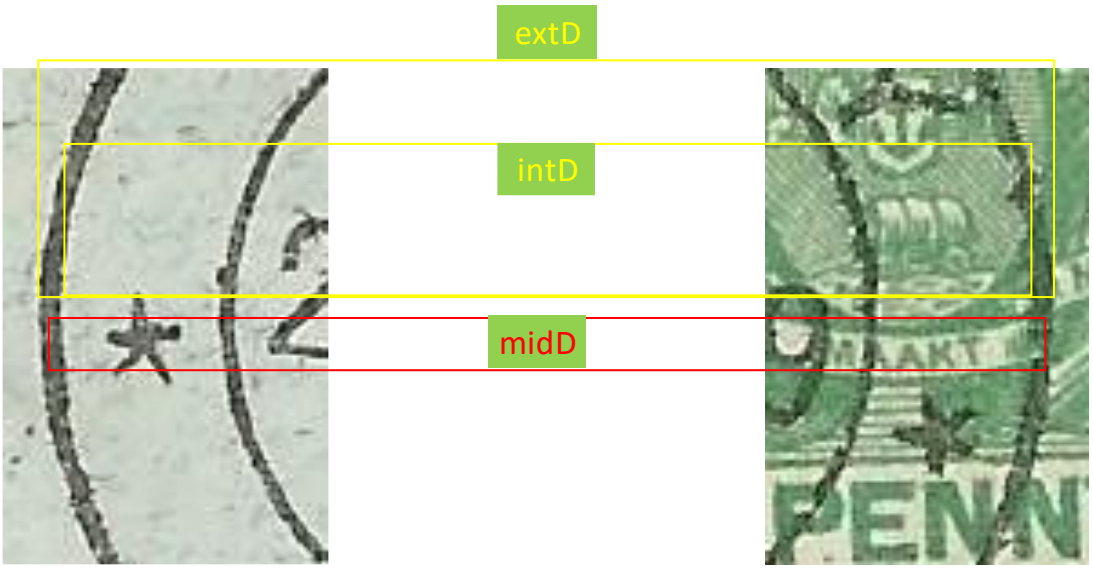
There are obvious reasons for this. A canceller (usually metal, sometimes rubber or other materials) may be worn or damaged. Ink uptake depends on the condition of the canceller and how recently it has been cleaned to remove dried ink, and on the condition of the pad and the ink. The appearance of a postmark depends on the material of the card or cover, the hardness of the surface on which the card or cover is placed when being postmarked, on whether it is struck cleanly, or at an angle, and so on. Nonetheless, measurements provide useful information if taken consistently.

***Measuring diameters***:

The commonest measurement taken on circular cancellers is the diameter of the outside ring. The external ring of a circular canceller is usually a fairly thick metal ring – often around 0.4 mm wide in South African cancellers, as shown by images of an unusually sharp post-mark, and of a ZAR canceller (Put 11) now in the collection of the Royal Philatelic Society.


0.4 mm doesn't sound like a lot – but in the Derby postmark it means that the external diameter of the postmark (extD) is about 24.6 mm, while the internal diameter (intD) is about 23.8 mm – a difference of nearly 1mm. Most postmarks aren't as clear as this; as the main purpose of measurement is to provide a

useful basis for comparison, it usually makes sense to measure from the middle of the circle on one side to the middle on the other side (midD). In the case of the Derby postmark above, midD is about 24.2 mm.




In most cases, midD doesn't realistically have a precision of better than half a millimetre – two postmarks with midD measurements of 24 mm and 25 mm could be from the same canceller; but a difference of more than 1 mm or more is pretty clear indication that they were made by different cancellers.

The simplest way to measure diameters is to measure postmarks directly with a transparent ruler graduated in millimetres, protecting the stamp or cover with a thin plastic sheet – measurements can usually be taken to the nearest half-millimetre. It is often helpful to measure the same postmark more then once in different positions – slight movement while the canceller is striking a cover can result in distortion or slight doubling of the strike, in which case smaller measurements are probably more reliable than larger ones as long as the measuring points on the outer circle are reasonably clear.

In the absence of a stamp or cover itself, a reasonably good scan is, reliable measurements can be obtained if a good scan is available which includes an object of known size – for instance a stamp. For example, if the on-screen image of a postmark has a midD diameter of 61½ mm, and the image also includes an Edward VII Transvaal 1d stamp in which the on-screen height of the printed area is 42½ mm, as we know that the printed area of an Edward VII 1d stamp is about 22½ mm high, the diameter of the postmark can be calculated as 61.5 x 22.5 / 44.5 = 31 mm (rounded to the nearest half mm).

***Measuring letters and other components of a postmark:***

The same considerations about fuzziness apply even more to measuring smaller distances, such as the height of letters, or the distances between components of a postmark. Unless edges are unusually well-marked in both the postmarks you want to compare, it is usually simpler and better to measure between the centres of lines or features such as stops or stars. Two similar Krugersdorp cancellers, for instance, Put 5 and Add 5x, differ in the height of the lettering:

Put 5



Add 5x

As the images show, in Put 5, the upper and lower bars of the “E” are further apart (ca. 3 mm), while in Add 5x, they are closer (about 2½ mm).

Sometimes it can be even more helpful to measure angles than distances: in this case, the angle of the arc covered by “KRUGERSDORP”, measured from the centre of the line of the upright of the “K” to the centre of the line of the loop of the “P” is around 125º in Put 5, as against 135º in Add 5x. As “KRUGERSDORP” is curved, the difference in angle is larger than the difference in distance between the “K” and the “P”.



To measure angles reliably, all that is needed is a transparent protractor (provided in school geometry sets) and to locate the centre of the postmark reasonably accurately. This can be done by scanning the postmark, increasing the size of the image until the diameter of the outer circle of the postmark is the same as the diameter of the protractor, and then fitting the protractor to the outer circle. The centre of a postmark can

also be located more precisely geometrically (see, for instance, https://www.wikihow.com/Find-the-Center-of-a-Circle/); but this isn't usually necessary.

***More precise measurements:***

It is often not possible to measure postmarks with sub-half-millimetre precision because of their fuzziness, however more precise measurements can be useful when comparing unusually sharply-defined postmarks.

Vernier callipers and micrometers are the usual tools of choice for measuring to tenths of a millimetre, but they aren't very good for measuring postmarks as they have metal jaws or blades that are designed to close on a three-dimensional object. Some callipers have pointed tips, designed for measuring internal diameters, but it's hard to place these with any precision on a flat surface, and they risk damage if used on a stamp or cover.

Lenses with built-in scales are used by printers and others needing to measure distances on paper with a precision of close to one tenth of a millimetre. Cheap versions can be found for around £10, but quality isn't good, and better-engraved scales cost more. The one I use is an "Opticron scale loupe", currently available for £40, which has a 16mm scale bar marked in half-millimetres, with one mm marked in tenths of a millimetre. To avoid damage, and to make it easier to position the loupe, it helps to protect the stamp or cover with a thin plastic sheet.


A more precise alternative is provided by small digital microscopes with inbuilt measuring capabilities: see for instance https://www.dinolite-uk.com/. These are even better for measuring small details, and has the advantage that images can be uploaded directly to a PC; but they are expensive, a bit fiddly to use. It is also possible to use a binocular microscope with an eyepiece graticule (a glass disc with an engraved scale, set in the eyepiece).

These are all great tools for measuring small distances when edges or points are sharply-defined; they are however not generally useful for measuring distances greater than around 10 mm because the field of view is of limited size. Longer distances can be measured precisely using a travelling microscope, but details are outside the scope of this note.