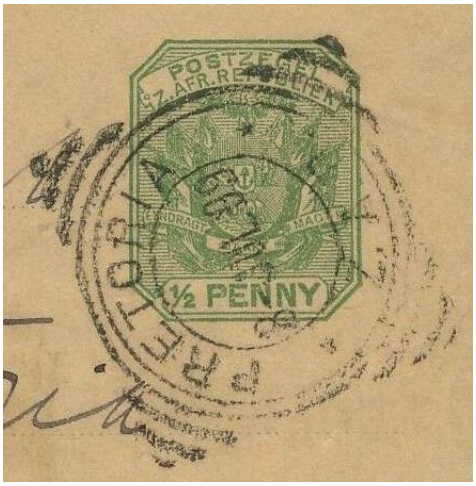
Measuring postmarks

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 – so it's often not clear exactly where to measure from and to, and, as a result, 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 removed 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 won'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.

Measuring letters and other components of a postmark:

The same considerations apply. Where the edges of letters are clearly-defined, as in the Derby postmark, the height of the letter "D" (extH) can be measured as about 2.6 mm; but for comparative purposes, in most cases it probably makes better sense to measure from the centre of the upper stroke to the centre of the lower stroke (midH), which gives a result of about 2.2mm. Thus in the two examples figured here, Krugersdorp Put 5 has taller letters ("D" midD is about 2.9 mm), while Add 5x has shorter letters ("D" midD is about 2.6 mm) – a small but very perceptible difference:

Put 5

Add 5x

Sometimes it can be 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 127º in Put 5, as against 135º in Add 5x.

Equipment and techniques:

Equipment: 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, 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.

It is better to use a lens with a built-in scale. These are used by printers and others needing to measure distances on paper to tenths of a millimetre. Cheap versions can be found for around £10, but quality isn't good; better optics 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.

This is great for measuring the size of the letters of an overprint, or small details in a post-mark, but as the scale is only 16 mm long, and the field of view isn't much wider, it's no use for measuring the diameter of a postmark, which is typically over 20 mm, and often more than 30 mm.

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, and again have a limited field of view.

The best solution I've found as yet is to measure postmarks directly with a transparent ruler graduated in millimetres, again protecting the stamp or cover with a thin plastic sheet. When the stamp or cover isn't available, but a reasonably good scan is, reliable measurements can be obtained if the scan includes an object of known size – for instance a stamp. For example, if, on-screen, the image of a postmark has a midD diameter of 42½ mm, and the image also includes an Edward VII Transvaal 1d stamp in which the on-screen height of the printed area is 31½ 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 42.5 x 22.5 / 31.5 = 30 mm (rounded to the nearest mm). More precise measurements of letter size and other smaller details can be made in the same way by magnifying a scan as long as it includes something that can be used as a scale, and as long as the scan is of high enough resolution that detail remains sharp.

All that's needed for measuring angles is a simple transparent protractor, available in school geometry sets. The main practical problem is finding the centre of the postmark. This can be done by scanning the postmark, printing the scan, and drawing on it to find the centre (see, for instance, https://www.wikihow.com/Find-the-Center-of-a-Circle/).