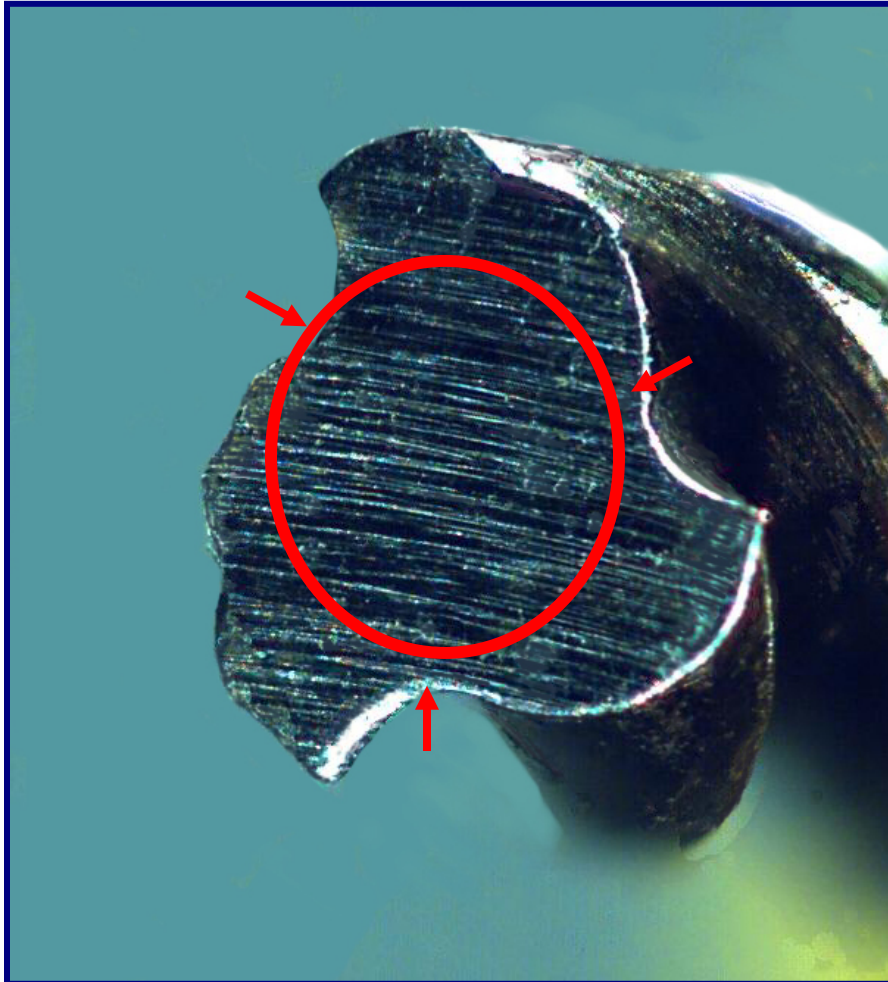
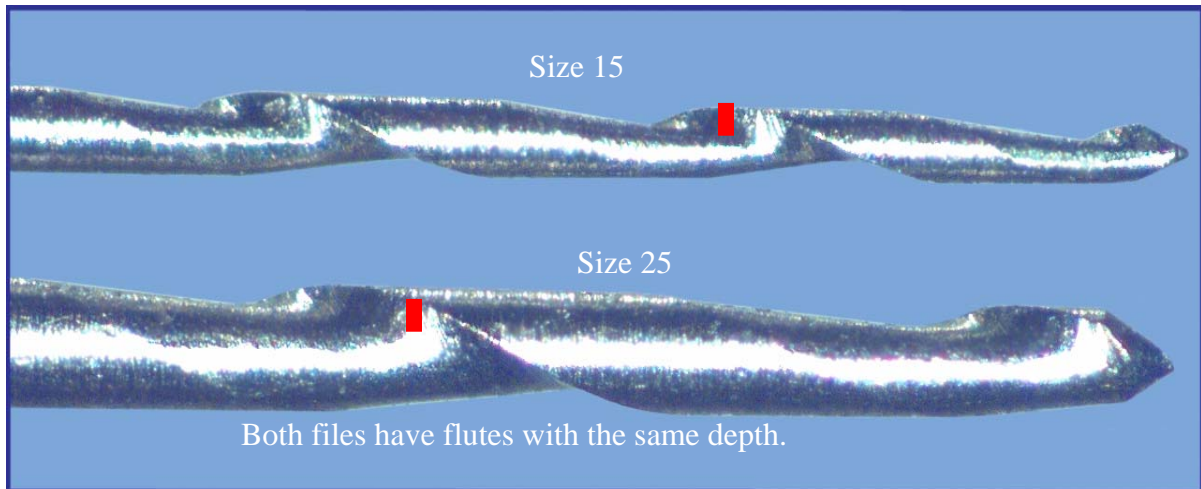


### 9. What is the core of a file?

The **core** is the cylindrical center part of the file having its circumference outlined and bordered by the depth of the flutes. The flexibility and resistance to torsion is partially determined by the core diameter. The core taper and total external taper can be different and the relative diameter of the core compared to the file's total diameter may vary along its working portion in order to change the flexibility and resistance to torsion. The importance of the ratio of core diameter to total diameter is often overlooked in predicting a file's susceptibility to failure and can be different for each file size of the same series.



*The central **core** circumference shown in cross-section of the K-3 file is determined by the boundaries of the depths of the flutes.*



*Although the two files above have the same basic design and are of the same series, the ratio of the depth of the flute to the external diameter differs significantly. The depth of flute of the small instrument is approximately the same as for the larger instrument resulting in excess susceptibility to failure, whereas the larger instrument has adequate flexibility and adequate resistance to torsion failure.*