The fact that the Profile and the Profile GT instruments have the same cross-section design but different dimensions provides an opportunity to examine the consequences of the differences. The Profile has fewer spirals at the tip end that renders it slightly less flexible, less likely to become bound by screwing-in, and more resistant to torsion deformation. Although one would expect the Profile to generate more torque at its handle end due to the increased engagement area of more spirals during rotation than the Profile GT, its narrower lands enables it to enlarge the canal with less torque. The longer working surfaces of smaller Profile GTs allow a greater engagement of their total working length that can also cause greater requirements of torque during instrumentation.

The characteristics of file flexibility differ between instruments formed by twisting and grinding. As pointed out, more spirals in ground nickel titanium files result in greater flexibility. The increase results from more cuts across the crystalline grain of the metal that also decreases its resistance to torsion failure. However, more spirals in stainless steel files formed by twisting result in greater resistance to deformation and less flexibility that is caused from the work hardening of twisting. It is assumed that added resistance to deformation in nickel titanium files might possibly result of manufacturing by twisting if the problems of shape memory can be solved during the process. At this time no nickel titanium files are manufactured by twisting.

How much flexibility a file design may exhibit at a specific point along its working surface may vary as it rotates in a curvature and the flexibility may be due to the file yielding to stress rather than accommodating it (exceeding the elastic limit), in which case failure can be the result. Deformation of the long axis or length of the file is not commonly apparent since the file is rotating in the curvature and any deformation is corrected as the file is rotated 180 degrees and becomes flexed in the opposite direction.

Dynamic testing in addition to finite element modeling becomes extremely important for determining what design modification constitutes an improvement. Characteristics of nickel titanium are not always predictable and enhancing one aspect of a file can compromise it in another. For instance, increasing the number of spirals decreases the file's resistance to torsion stress and increases the stress concentration points during flexion but generally increases its resistance to fatigue. One would expect increased flexibility with more spirals, but for flexibility to be accompanied with increased resistance to fatigue would be less certain.