Tip Evaluation

1st 3mm

SIZE	S1 (.17 tip/progressive taper)
FLUTES	3 (convex triangle)
SPIRALS PER 16MM	3
HELIX ANGLE	19.1˚
CUTTING ANGLE	(-) 31˚
DEBRIS REMOVING AREA	35.3%
X-SEC. AS % OF CUTTING DIA.	54%
CORE AS % OF X-SEC. AREA	83%
ROTATION TO FAILURE	310˚
PEAK TORQUE AT FAILURE	22.35 gf/cm
60˚ DEFLECTION	5.39 g
PLASTIC DEFORMATION	0˚

ProTaperGoldS1®

Company:
Dentsply Tulsa Dental

Manufacturer:
Dentsply Tulsa Dental

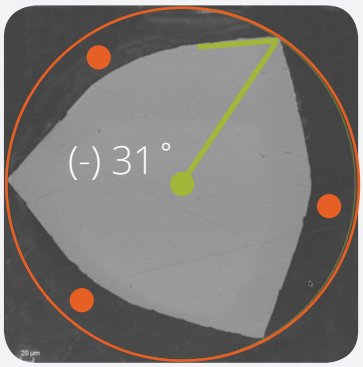
Made In:
USA

Website:
TulsaDentalSpecialties.com

SEM Images

Courtesy of UT Memphis

TIP



TIP X-SECTION

Discussion:

- The ProTaper series of files have tapers that are not constant along the working length making comparative testing difficult. It is worth noting that the core area relative to the file's circumference and the file's x-section is comparatively high when measured against all other files. That is consistent with the relative high peak torque during rotation to failure. On a negative note this feature also accounts for the small debris removal area and negative cutting angle both contributing to high torsional stress during canal enlargement.

SEMs are provided by Dr. Franklin Garcia-Godoy, Professor and Senior Executive Associate Dean for Research Director, Bioscience Research Center University of Tennessee Health Science Center