



TIP EVALUATION

1ST 3mm

SIZE	X2 (.25 tip/0,04-1.2 taper)
FLUTES	4 (rectangular)
SPIRALS PER 16MM	3
HELIX ANGLE	18.5° ●
CUTTING ANGLE	(-) 45° ●
DEBRIS REMOVING AREA	46.4% ●
X-SEC. AS % OF CUTTING DIA.	42.9%
CORE AS % OF X-SEC. AREA	78%
ROTATION TO FAILURE	640° (@ 5.7mm)
PEAK TORQUE AT FAILURE	10.42 gf/cm
60° DEFLECTION	3.97 g
PLASTIC DEFORMATION	0°

PROTAPERNEXTX2®

COMPANY:

DENTSPLY TULSA DENTAL

MANUFACTURER:

DENTSPLY TULSA DENTAL

MADE IN:

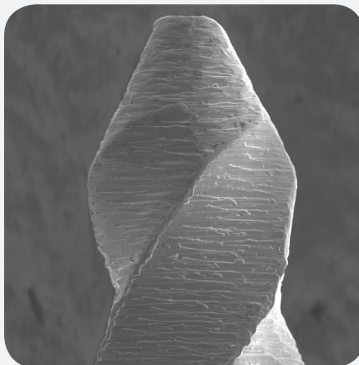
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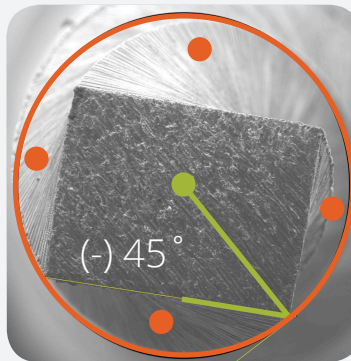
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SEM IMAGES

COURTESY OF UT MEMPHIS



TIP



TIP X-SECTION



DISCUSSION:

- Since the x-section is rectangular, the cutting angle meets the surface to be cut at a 45 degree angle and one might expect very little canal enlargement to occur. However, cam action resulting from the center of rotation being different from the center of mass enhances its cutting ability. Near the tip end, the file's relatively small core area as compared to its x-sectional area and circumference, makes it more susceptible to separation (especially when sufficient torque is applied for enlargement at its midsection and handle end).

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