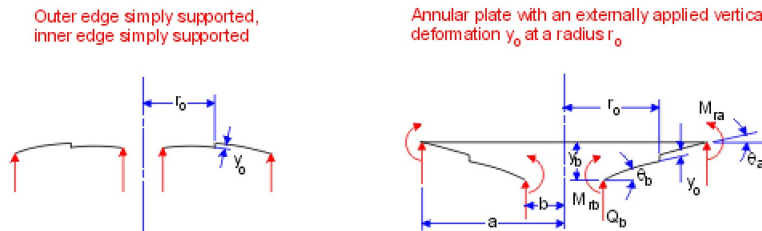


Roark's Formulas for Excel

Table 11.2, Case 7 (7c Supported, Supported)



Input

Description	Value	Unit
Vertical deformation (y_0)	1.27	mm
Radius to deformation (r_0)	25.4	mm
Material Number (See Material Table) (matnum)	17	
Outer Radius (a)	76.2	mm
Inner Radius (b)	12.7	mm
Plate Thickness (t)	6.35	mm
Sample radius, r (r)	25.4	mm

Output

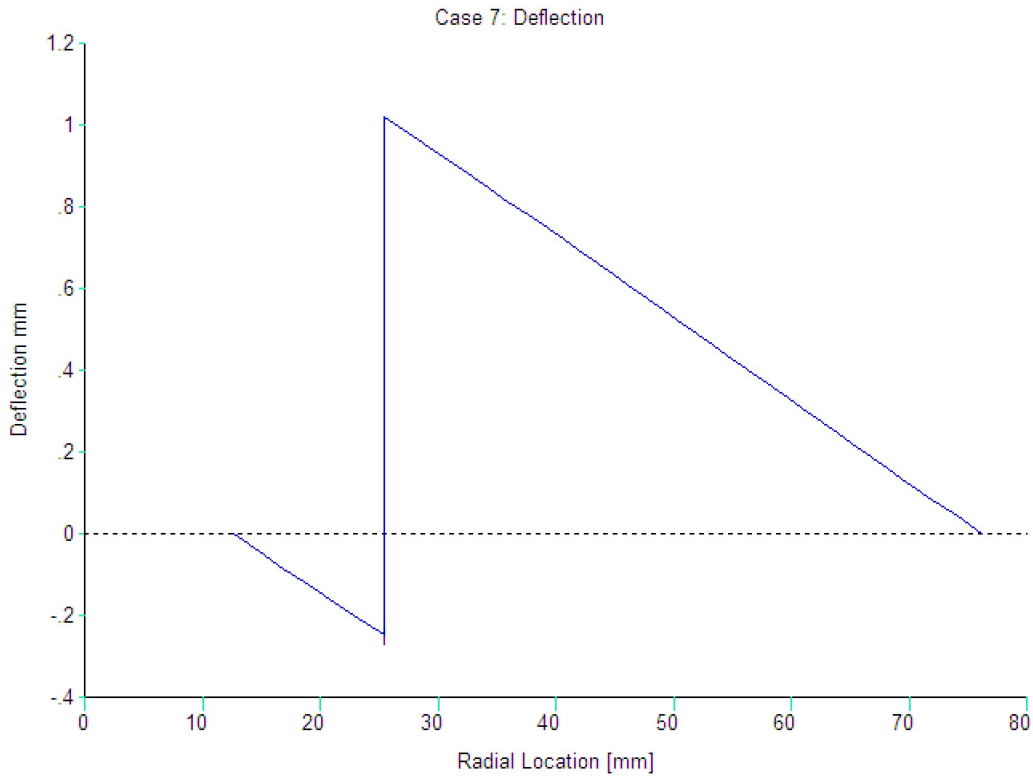
Description	Value	Unit
Dimension Check (caution1)	'	
Thickness Check (caution2)	'	
Material name (matl)	"Steel - A.S.T.M. A7-61T"	
Young's Modulus (E)	1.999E5	MPa
Poisson's ratio (ν)	0.27	
Plate Constant (D)	4601.827	N-m
Deflection at radius r (y)	-2.4846455E-1	mm
Radial Slope Angle at radius r (θ)	-1.9372806E-2	rad
Radial Bending Moment at radius r (M_r)	-1121.501	N-m/m
Tangential Bending Moment at radius r (M_t)	-3556.792	N-m/m
Shear Force at radius r (Q)	100909.171	N/m
Radial Bending Stress at radius r (σ_r)	-166.88	MPa
Tangential Bending Stress at radius r (σ_t)	-529.252	MPa

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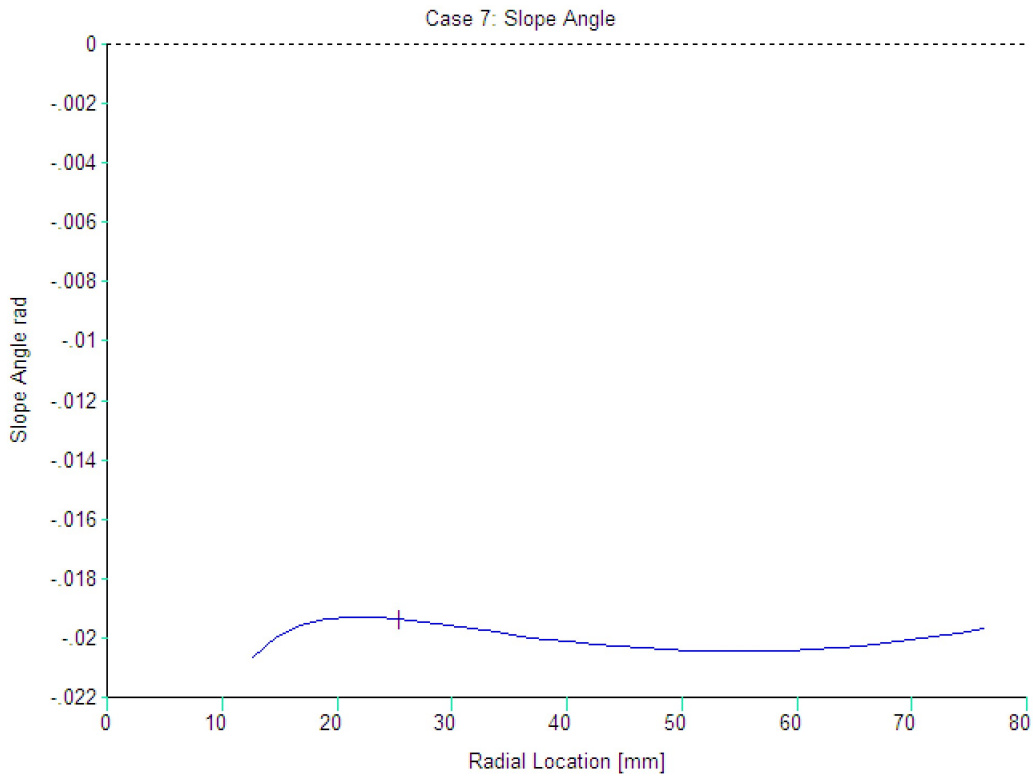
Output

Description	Value	Unit
Deflection at outer edge (ya)	0	mm
Radial Slope Angle at outer edge (tha)	-1.9685493E-2	rad
Radial Bending Moment at outer edge (Mra)	0	N-m/m
Shear Force at outer edge (Qa)	33636.39	N/m
Deflection at inner edge (yb)	0	mm
Radial Slope Angle at inner edge (thb)	-2.0642709E-2	rad
Radial Bending Moment at inner edge (Mrb)	0	N-m/m
Shear Force at inner edge (Qb)	201818.342	N/m

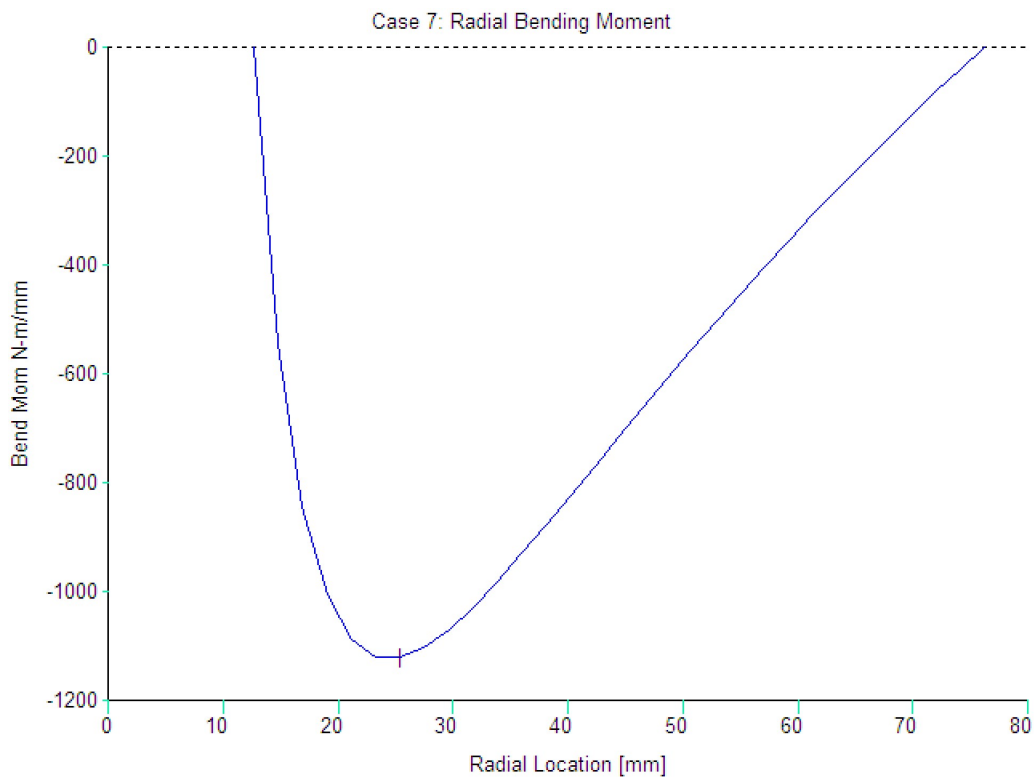
Roark's Formulas for Excel



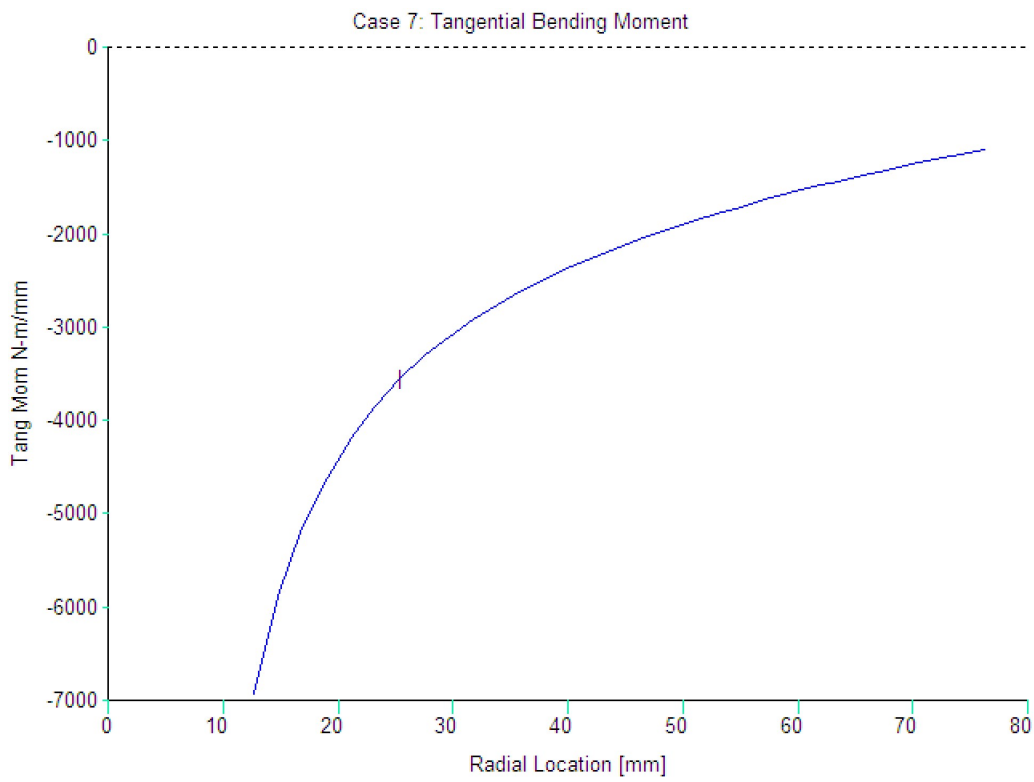
Roark's Formulas for Excel



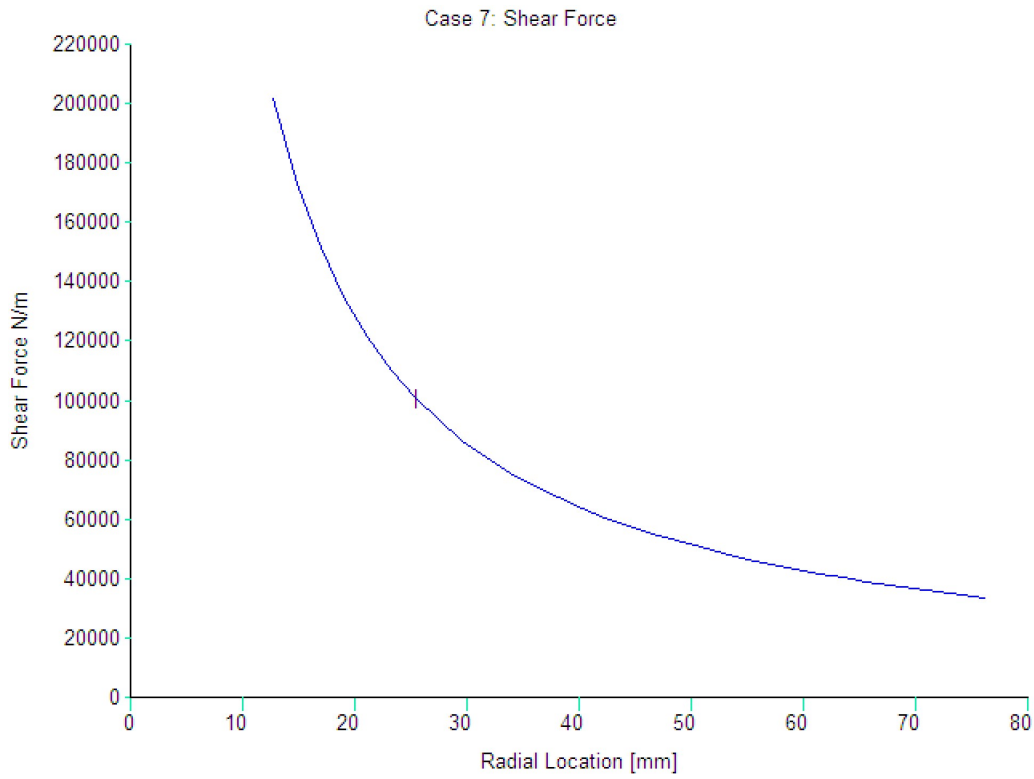
Roark's Formulas for Excel



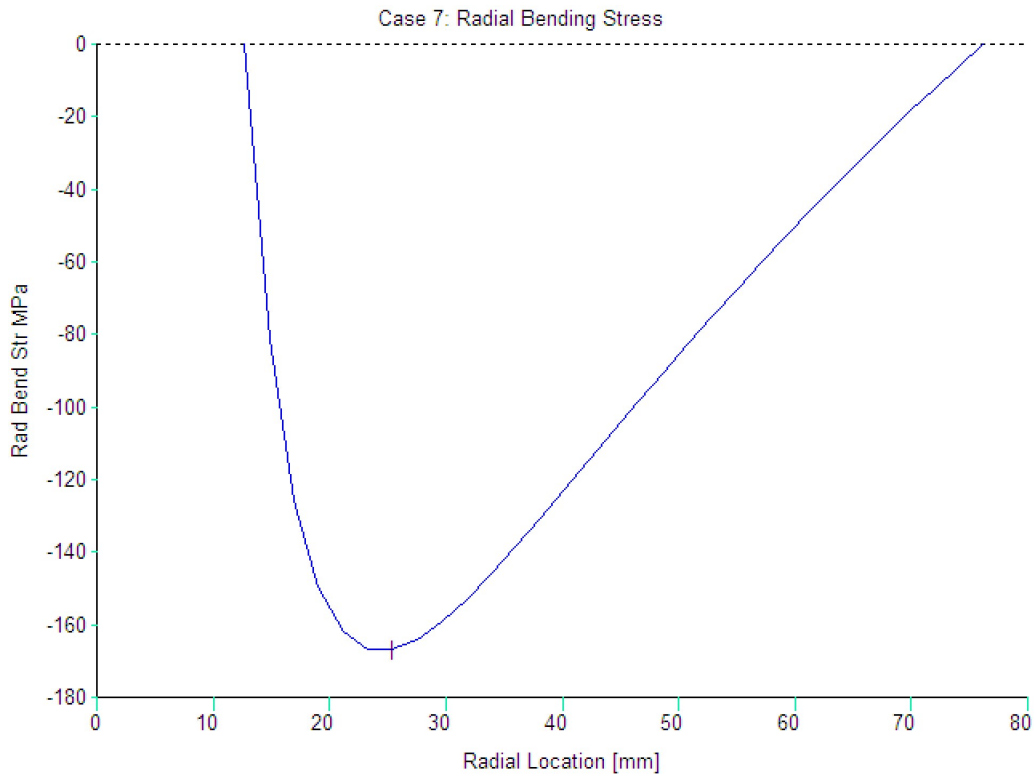
Roark's Formulas for Excel



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