# Characteristic Length of a Bend Cut at an Arbitrary Angle 

For Input into CAESAR
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$L 1=R \cdot N S$

$$
L 2=L 1\left(\frac{1}{\sin (\theta)}-\frac{1}{\tan (\theta)}\right)
$$

Where:
L1 = Characteristic length of a bend
NS = Nominal Size
$\mathrm{R}=$ Bend Radius
$\theta=$ angle that the bend is cut short
$\mathrm{L} 2=$ Characteristic length of a bend that has been trimmed from a $90^{\circ}$ bend

