

Kick Bend Calculator

Use kick or rise height, bend angle, and the distance from the conduit end to the bend mark to estimate the obstruction edge mark and related layout measurements.

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<https://www.elecatrix.com/conduit-bending/kick-bend-calculator/>

Inputs

Input	Value	Unit
Kick or rise height	4	in
Bend angle	30 deg	deg
Reference mark from conduit end	24	in

Results

Result	Value	Unit
Bend mark	24	in
Obstruction edge mark from conduit end	30.9282	in
Mark-to-obstruction distance	6.9282	in
Kick multiplier	1.7321	x
Estimated shrink	1.0718	in
Bend angle	30	deg

Formulas

$\text{kick multiplier} = 1 / \tan(\text{angle})$

$\text{mark-to-obstruction distance} = \text{rise} / \tan(\text{angle})$

$\text{bend mark} = \text{reference mark}$

$\text{obstruction edge mark} = \text{reference mark} + \text{mark-to-obstruction distance}$

$\text{estimated shrink} = \text{rise} \times \tan(\text{angle} / 2)$

$\text{angle} = \text{selected bend angle}$

Warnings and limitations

This is a field-layout estimate, not a code compliance claim. Verify the bender shoe marks, conduit size and material, springback, obstruction edge, available straight length, bend direction, and job conditions before marking or bending.