

Offset Bend Calculator

Use rise height, bend angle, and the first mark distance from the conduit end to estimate the second mark and offset layout geometry.

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

Inputs

Input	Value	Unit
Offset rise	4	in
Bend angle	30	deg
First mark from conduit end	24	in

Results

Result	Value	Unit
First bend mark	24	in
Second bend mark	32	in
Travel between marks	8	in
Offset multiplier	2	x
Estimated shrink	1.0718	in
Bend angle used	30	deg

Formulas

$\text{offset multiplier} = 1 / \sin(\text{angle})$

$\text{travel between marks} = \text{rise} / \sin(\text{angle})$

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

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

$\text{second mark} = \text{first mark} + \text{travel}$

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

Warnings and limitations

This calculator handles two-bend offset layout geometry only. It is not a code-compliance result and does not verify conduit fill, raceway support, minimum straight length, bend radius, manufacturer shoe markings, or local inspection requirements. Verify the bend sequence, conduit size, bender, and job conditions before marking or bending.