

Raceway Fill Area Calculator

Estimate allowable fill area, remaining area, and reserved share from entered raceway dimensions and planning assumptions.

Generated October 10, 2026

<https://www.elecatrix.com/wire-raceway-ampacity/raceway-fill-area-calculator/>

Inputs

Input	Value	Unit
Raceway inside area	3.356	sq in
Entered fill percent	40	%
Reserved or installed area	0.25	sq in

Results

Result	Value	Unit
Allowable fill area	1.3424	sq in
Available fill area after reserved area	1.0924	sq in
Reserved share of allowable fill	18.6234	%

Status

Status	Value	Unit
Fill-area comparison	Remaining area is available	

Calculation details

Detail	Value	Unit
Calculation basis	Entered raceway area multiplied by entered fill percent, then reduced by reserved area.	
Raceway boundary	Preliminary area estimate only; raceway selection, conductor tables, and adopted-code fill rules remain external.	

Formulas

$$A_{\text{allowable}} = A_{\text{raceway}} \times (\text{fill percent} / 100)$$

$$A_{\text{available}} = A_{\text{allowable}} - A_{\text{reserved}}$$

$$\text{Reserved share}_{\%} = \frac{A_{\text{reserved}}}{A_{\text{allowable}}} \times 100$$

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Warnings and limitations

This preliminary area estimate uses entered raceway and fill assumptions. It does not select a raceway, verify conductor tables, approve code fill, or replace adopted-code and manufacturer review.