

Conduit Expansion Movement Calculator

Estimates signed and absolute conduit thermal movement plus preliminary fitting count from run length, temperatures, coefficient, and fitting movement.

Generated October 10, 2026

<https://www.elecatrrix.com/wire-raceway-ampacity/conduit-expansion-movement-calculator/>

Inputs

Input	Value	Unit
Conduit material	PVC or nonmetallic	
Run length	100	ft
Installation temperature	50	??F
Operating temperature	120	??F
Expansion coefficient	N/A	in/(ft??F)
Movement per fitting	4	in
Manufacturer note	Record conduit series, fitting, anchors, guides, and source revision separately.	

Results

Result	Value	Unit
Signed linear movement	0.252	in
Absolute movement	0.252	in
Minimum fitting count estimate	1	fittings
Average movement per fitting	0.252	in

Calculation details

Detail	Value	Unit
Calculation basis	Linear movement uses the entered coefficient, run length, and temperature change. Fitting count is a planning division by entered fitting movement.	

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Conduit boundary

Movement estimate only; verify conduit material, product expansion fitting, support and anchor arrangement, installation temperature, operating range, and manufacturer instructions separately.

Formulas

$$\Delta T = T_{\text{operating}} - T_{\text{installation}}$$

$$\Delta L = \alpha L \Delta T$$

$$n_{\text{fitting}} = \lceil \frac{|\Delta L|}{m_{\text{fitting}}} \rceil$$

$$\overline{n}_{\text{fitting}} = \frac{|\Delta L|}{m_{\text{fitting}}} \text{ when } n_{\text{fitting}} > 0$$

Warnings and limitations

This is a conduit movement estimate. It does not select a fitting, determine support spacing, approve anchors or guides, or prove installation compliance.