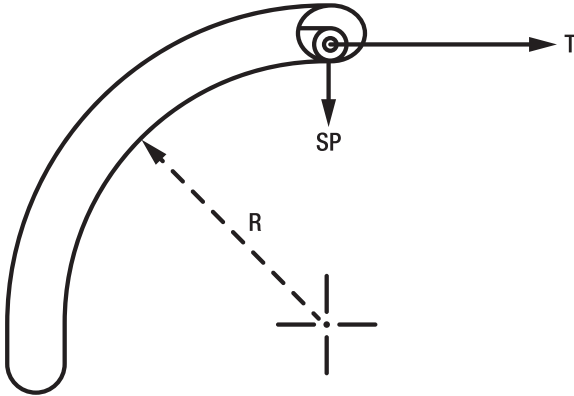


# MAXIMUM SIDEWALL PRESSURE FOR ELECTRICAL CONDUCTORS



## MAXIMUM SIDEWALL PRESSURE

Sidewall Pressure (SP) is the radial force exerted on a cable as it is pulled around a bend. Excessive sidewall pressure can cause cable damage and is the most restrictive factor in many installations.



## THE SIDEWALL PRESSURE IS CALCULATED AS FOLLOWS:

For **one single-conductor cable or multiple-conductor cable** under a common jacket:

$$SP = \frac{T}{R}$$

For **three single-conductor cables**, cradled:

$$SP = (3W - 2) \frac{T}{3R}$$

For **three single-conductor cables**, triangular:

$$SP = W \frac{T}{2R}$$

**WHERE:**

**T** tension coming out of the bend in pounds

**W** weight correction factor, dimensionless

**R** bend radius, in feet

**SP** sidewall pressure in pounds/foot

When the 3rd Edition of the Southwire Power Cable Manual was published in 2005, the recommended maximum sidewall pressure values were lower than they are now.

IEEE 576-2000 (IEEE Recommended Practice for Installation, Termination, and Testing of Insulated Power Cable as Used in Industrial and Commercial Applications) was last updated in 2000 and, likewise, the maximum sidewall pressures recommended by manufacturers were lower at that time.

Southwire constantly updates its products and improves their characteristics whenever possible while meeting the relevant NEC, UL, CEC, CSA, ICEA, ASTM, and IEEE requirements.

We currently recommend the following Maximum Sidewall Pressure values for our products:

Recommended Maximum Sidewall Pressure	
Cable Family Type	SP (lb/ft)
Industrial Products (300V – 35 kV)	1000
Utility Products (600V – 46kV)	1000
Building Wire Single Conductors (8 AWG and larger)	1000
Building Wire Single Conductors (14 AWG, 12 AWG, and 10 AWG)	500

These values are used in our Southwire Cable Pull calculator.

Date:	Spec No:	Customer:	Your signature constitutes that you have read and agreed to this specifications sheet and upon confirmation of your order; this item may be non-cancelable and non-returnable
Prepared by:	Job Name:		
			Signature _____
			Date _____