



Calculating Thermal Performance

CORRELATION FACTOR CHART

Extrusion Length (in)	Correlation Factor
1.0	1.80
2.0	1.25
3.0	1.00
4.0	0.87
5.0	0.78
6.0	0.73
7.0	0.67
8.0	0.64
9.0	.060
10.0	.058
11.0	.056
12.0	.054
13.0	.052
14.0	.051
15.0	.050

Calculating Thermal Performance - Natural Convection (based on 75degree C Ambient Rise and Point Source Load)

Tsa x length correction factor = Thermal Resistance

Example: Perimeter = 90.66in

Tsa:  $5.2C/W/3''$

If customer wants resistance for a 6" length:

$5.2 * .73 = 3.8/C/W$

Calculating Forced Convection (based on fully distributed load)

Calculation for Performance Factor =  $916 / \text{Sq Root of velocity} \times \text{length}$

Perimeter / Performance Factor

Example: Perimeter = 90.66in

Tsa:  $5.2/W/3''$

If END USER wants the performance for a 6" piece @ 400 CFM:  $18.69/90.66 = 0.206C/W$