



-sizing requirements for heating with IR panel heaters

This document describes sizing requirements for installation of IR HEATING infrared panel heaters when used as a single heating source to heat residential areas.

Infrared heating does not heat the air directly, but instead heats objects and surface areas. These objects and surface areas can be made out of various materials that absorb the infrared heat in a different ways. This is the main reason why there is no general formula to compute the minimum Wattage that is required to heat a given area. Values and formulas used in this document are therefore combination of researches, reports, customer feedbacks and generally available information.

Most of the publications suggest 2 to 5 Watts/SqFt are needed to heat a space with infrared heaters. Due to the various environmental factors IR HEATING suggest using the coefficient of **6 Watts / SqFt** for a properly insulated room. In addition to this value, please use CORRECTION FACTORS table below to properly adjust this value based on other environmental factors. Please, refer to references in the Appendix A of this document for more information about this coefficient.

CORRECTION FACTORS

Extra 20%	Extra 30%	Less 20%
<ul style="list-style-type: none"> Bathrooms Conservatories (glass) Ceiling height over 10 ft Room temperatures above 21°C Window area 20% to 35% of external wall area. 	<ul style="list-style-type: none"> None or little external wall insulation (old buildings) Poor roof insulation external wall >40% (*1) Window area 35% to 45% of external wall area. Wood covered walls or ceilings 	<ul style="list-style-type: none"> Insulation rated at 2.5 (40 Watt) or more in both external and internal walls. Climate Zone A,B (*2)

*1 For a standard room of 4 walls, 1 external wall is 25%, 2 external walls is 50%, 3 external walls are 75%

*2 See Appendix B for Map of climate zones in Canada

SAMPLE SCENARIOS

Area (Sq Ft)	# Of External Walls	Insulation	Climate Zone	Wattage Needed
200	1	Good	A (Vancouver)	1000W
200	1	Good	C (Edmonton)	1200W
200	1	Bad	B (Halifax)	1600W
300	1	Good	A (Vancouver)	1500W
300	3	Good	B (Halifax)	2000W

Appendix A –References

CASE STUDY OF THE DIFFERENCES BETWEEN INFRARED HEATING AND GAS HEATING IN OLD RESIDENTIAL BUILDINGS, USING COMPARATIVE MEASUREMENTS. DR.-ING. PETER KOSACK, UNIVERSITY OF KAISERSLAUTERN, GERMANY

http://cdn.shopify.com/s/files/1/0452/6349/files/studyGASvsIR_en.pdf?3327

SIZING CALCULATOR, INFRACOMFORT

<http://infracomfort.co.nz/models/sizing-calculator/>

MONEY SAVING CALCULATOR, INFRARED HEAT PANELS, UK, GERMANY, IRELAND

<http://www.infraredheatpanels.com/save-money-on-heating/>

SAVE MONEY ON HEATING, INFRARED HEAT PANELS, UK, GERMANY, IRELAND

<http://www.infraredheatpanels.com/low-cost-infrared-heat-panels/>

ENERGY DEMAND CALCULATION FOR A ONE FAMILY HOUSE, REDWELL INFRARED HEATING

<http://www.redwell.com/en/page.asp?id=601>

COST SAVING ANALYSIS, REDWELL INFRARED HEATING

<http://www.redwellheaters.com/pdfs/How Infrared Heating Saves Money.pdf>

RADIATOR SIZE CALCULATOR, INFRARED PANEL HEATERS, UK

<http://infraredpanelheaters.co.uk/radiator-size-calculator-ezp-2.html>

WHAT SIZE INFRARED HEATER DO I NEED?, INFRARED-HEATING-SOLUTIONS, UK

<http://www.infrared-heating-solutions.co.uk/what-size-infrared-heater-do-i-need.html>

Appendix B –Climate Zones in Canada

