

The CSA Standard CAN/CSA Z412-00 (R2005) - "Office Ergonomics" gives acceptable ranges of temperature and relative humidity for offices in Canada. These values are the same as recommended by the American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE) Standard 55 - 2010 "Thermal Environmental Conditions for Human Occupancy".

The CSA and ASHRAE standards for offices are in alignment and shown below. These standards are based on the 80% rule (these thermal conditions satisfy 80% of occupants). Some people may feel uncomfortable even if these values are met. The BC interior experiences indoor relative humidity that generally doesn't creep above 50% and is often in the 25%~35% range.

Generally, we should be controlling offices with the setpoints of 20.5°C in winter to 24.5°C in summer. In an environment where occupants are more active and need cooler temperatures, 24.5°C in summer may be about 1°C too high.

Temperature / Humidity Ranges for Comfort			
Conditions	Relative Humidity	Acceptable Operating Temperatures	
		°C	°F
Summer (light clothing)	If 30%, then	24.5 - 28	76 - 82
	If 60%, then	23 - 25.5	74 - 78
Winter (warm clothing)	If 30%, then	20.5 - 25.5	69 - 78
	If 60%, then	20 - 24	68 - 75

These temperatures are for:

1. A person wearing a normal amount of clothing (feels neither too cold nor too warm)
2. Where air movement is virtually absent (at or below 0.25 m/s)
3. When relative humidity can be kept at about 50%

A general recommendation is that the temperature be held constant in the range of 21-23°C (69-73°F). In summertime when outdoor temperatures are higher it is advisable to keep air-conditioned offices slightly warmer to minimize the temperature discrepancy between indoors and outdoors. It also allows for people to dress lighter in the summer.

A US study from Cornell University recently equated warmer temperatures with much higher productivity. When office temps were 25°C (77°F), workers were keyboarding 100% of the time with a 10% error rate, but at 20°C (68°F), their keying rate went down to 54% of the time with a 25% error rate. This equates to increased productivity at a rate of \$2 / hour per worker, in 2004 dollars.
<http://news.cornell.edu/stories/2004/10/warm-offices-linked-fewer-typing-errors-higher-productivity>