#### 8. INTERIOR CLIMATE CONTROL

### 8.1 Air infiltration through windows and doors

# **Acceptable Performance**

Windows and doors shall comply with the Building Code, and when properly closed, should not allow excessive air leakage under normal design weather conditions.

Daylight should not be evident at the frame when properly closed.

Doors and windows are manufactured to meet specifications for weather tightness and are designed to withstand reasonable wind loads.

Minor air infiltration may occur during very windy conditions. Doors and windows must be properly closed to ensure positive contact with weather stripping.

### **Warranty Coverage**

12 months

15 months common property

Damage resulting from maintenance not conducted by the owner in keeping with maintenance documentation provided to the owner by the warranty provider or builder, or from additions, deletions or alterations made by the homeowner is excluded from coverage.

#### **Claim Response**

Air infiltration through windows and doors that exceeds the Acceptable Performance/Condition must be rectified.

#### 8.2 Kitchen or bath fans allow cold air infiltration or drafts

## **Acceptable Performance/Condition**

Kitchen and bath exhaust fans shall be installed according to the Building Code and manufacturer's specifications.

Since fans are often connected to the exterior by a duct, ventilation fans are indirectly open to outside air. Even though these types of fans come equipped with dampers, some air infiltration is normal under windy conditions.

#### **Warranty Coverage**

12 months

15 months common property

Damage resulting from maintenance not conducted by the owner in keeping with maintenance documentation provided to the owner by the warranty provider or builder, or from additions, deletions or alterations made by the homeowner is excluded from coverage.

As part of regular home maintenance, vent terminations on exterior walls should be inspected periodically to ensure the openings are not obstructed (e.g. by birds or other animals).

#### **Claim Response**

Kitchen and bath exhaust fans not meeting the Acceptable Performance/Condition must be rectified.

### 8.3 Condensation in attic space

### **Acceptable Performance/Condition**

Attic spaces shall be vented in accordance with the Building Code.

Some condensation may occur in attics from time to time due to weather conditions but these occurrences should be infrequent and without any adverse effect on the building.

Constant or excessive condensation in attics may indicate either a lack of ventilation, a source of moisture within or in to the attic space, blocked roof vents or peak seasonal environmental conditions, and should be investigated.

### **Warranty Coverage**

12 months

15 months common property

Damage resulting from maintenance not conducted by the owner in keeping with maintenance documentation provided to the owner by the warranty provider or builder, or from additions, deletions or alterations made by the homeowner is excluded from coverage.

#### **Claim Response**

Attic spaces with condensation that exceeds the Acceptable Performance/Condition must be rectified.

### 8.4 Condensation and/or frost on windows

### **Acceptable Performance/Condition**

Some condensation may occur when water vapour in indoor air contacts cold surfaces such as window glass. Condensation on interior window surfaces is common during cold seasons. When outdoor temperatures are well below freezing, ice may form at the bottom of the window.

Condensation may occur on interior window surfaces from time to time due to environmental conditions and/or interior generated humidity.

#### **Warranty Coverage**

#### None

Since it is important for homeowners to regulate proper humidity levels within the home to prevent damage to other components such as hardwood flooring and for physical health, some condensation on windows may be expected. Indoor humidity levels may be controlled by dehumidification, ventilation or air conditioning.

#### **Claim Response**

None

## 8.5 Condensation on interior ductwork and air handling equipment

### **Acceptable Performance/Condition**

On occasion, condensation may occur on indoor ductwork and air handling equipment due to environmental conditions or interior generated humidity.

This condition may occur in the summer when air conditioning equipment is operating or in winter when ducts are chilled by incoming outdoor air. For example, condensation may occur on range hood exhaust or bathroom exhaust ducts during cold outdoor temperatures.

**Warranty Coverage** 

None

**Claim Response** 

None

#### 8.6 Insufficient insulation

#### **Acceptable Performance/Condition**

Insulation shall be installed in accordance with the Building Code.

Several factors affect living space temperatures and comfort:

- Proper installation of insulation: installation shall include correct placement behind electrical boxes, backing studs, corner framing and wiring, and around window and door openings.
- Directional orientation: north-facing rooms are generally cooler than south-facing rooms.
- Windows: glass has little insulating value and allows more heat to escape from the room.
- Rooms over garages: have insulated floors that lose heat to the unheated garage below.

#### **Warranty Coverage**

12 months

15 months common property

24 months if condition results in inability to heat the home to Building Code requirements

#### **Claim Response**

Insulation not meeting the Acceptable Performance/Condition must be rectified.

### 8.7 Heating, ventilating or air conditioning (HVAC) systems not installed properly

### **Acceptable Performance/Condition**

HVAC appliances shall be installed to meet the Building Code and the manufacturers' recommendations.

Ductwork and piping shall be joined and supported to maintain joint integrity.

For equipment performance requirements refer to the section on "Inadequate Heating."

### **Warranty Coverage**

### 2 years

Damage resulting from alterations, deletions or additions by the homeowner, or maintenance not conducted in keeping with maintenance documentation provided to the owner by the warranty provider or builder may be excluded.

### **Claim Response**

Heating, ventilating or air conditioning (HVAC) systems not meeting the Acceptable Performance/Condition must be rectified.

### 8.8 Inadequate heating

#### **Acceptable Performance/Condition**

Under design climatic conditions, heating systems shall be capable of maintaining an indoor air temperature in accordance with the Building Code.

If outdoor temperatures are below the local design temperature, maintaining heat at the Building Code level may be limited and is not considered to be a defect.

In determining the temperature of a room, measurements shall be taken in the center of the room at 1,500 mm (5') above the floor after the heating system has been running continuously for an appropriate period of time.

Several factors affect living space temperatures and comfort:

- Directional orientation: north-facing rooms are generally cooler than south-facing rooms.
- Windows: glass has little insulating value and allows more heat to escape from the room.
- Rooms over garages: have insulated floors that lose heat to the unheated garage below.
- Airflow: free airflow from the supply outlet in a room to a return inlet or undercut door is essential. Generally, a minimum 25 mm (1") space under interior doors above the finished floor covering should be provided.
- Personal preference: personal comfort differs between individuals. Balancing the air delivery system may not completely compensate for the effects of these factors.

#### **Warranty Coverage**

#### 2 years

Damage resulting from maintenance not conducted by the owner in keeping with maintenance documentation provided to the owner by the warranty provider or builder, or from additions, deletions or alterations made by the homeowner is excluded from coverage.

#### Claim Response

Heating systems not meeting the Acceptable Performance/Condition must be rectified.

# 8.9 Noisy ductwork

# **Acceptable Performance/Condition**

Ductwork may make noise as it expands and contracts during heating and cooling cycles.

**Warranty Coverage** 

None

**Claim Response** 

None

# 8.10 Ductwork noisy ("oil canning") when floor is walked on

## **Acceptable Performance/Condition**

Ductwork shall be constructed and installed to limit excessive "oil canning."

Weight transfer on floors over metal ductwork can sometimes result in a temporary deflection of the metal ductwork. Shrinkage of floor joists may cause "oil canning."

### **Warranty Coverage**

12 months

15 months common property

### **Claim Response**

Ductwork with "oil canning" that exceeds the Acceptable Performance/Condition must be rectified.

# 8.11 Noise can be heard at register

#### **Acceptable Performance/Condition**

Under normal heating or cooling conditions, floor registers and cold air return grilles shall be installed to prevent rattling.

The sound of air movement at floor registers or cold air return grilles is normal and not considered to be a defect.

## **Warranty Coverage**

12 months

15 months common property

#### **Claim Response**

Floor registers or cold air return grilles not meeting the Acceptable Performance/Condition must be rectified.

## 8.12 Ductwork comes apart

### **Acceptable Performance/Condition**

Ductwork shall be joined and supported to prevent separation or detachment and maintain joint integrity.

#### **Warranty Coverage**

### 2 years

Damage resulting from maintenance not conducted in keeping with maintenance documentation provided to the owner by the warranty provider or builder, or from additions, deletions or alterations made by the homeowner may be excluded.

## **Claim Response**

Ductwork not meeting the Acceptable Performance/Condition must be rectified.

# 8.13 Air conditioning coolant line leaks

#### **Acceptable Performance/Condition**

Air conditioning systems supplied and installed by the builder shall not leak.

Condensation can often be mistaken for a leak and is not a defect.

#### **Warranty Coverage**

### 2 years

Damage resulting from maintenance not conducted in keeping with maintenance documentation provided to the owner by the warranty provider or builder, or from additions, deletions or alterations made by the homeowner may be excluded.

Condensation on a coolant line is not considered to be a defect.

#### **Claim Response**

Air conditioning systems not meeting the Acceptable Performance/Condition must be rectified.