

#3 Appliance and flue pipe clearances

WHAT ARE CLEARANCES?

Clearances represent the minimum distance that a woodburning appliance can be installed from anything that could overheat and potentially burn. During normal operation, the outer surface of a woodburning stove reaches temperatures around 300°C (570°F). At peak output, it can reach temperatures as high as 540°C (1000°F). If combustible materials are located too close to the stove, they could burn.

The closer you are to a fire, the more intense the heat. Clearances are designed to keep combustible materials around a (190°F), even in the event of a chimney fire.

Wood exposed to temperatures as low as 120°C (250°F) over a prolonged period of time will begin to char and may ultimately ignite. The highest temperature to which combustibles can safely be exposed for long periods is 90°C (190°F).

WHAT'S A "COMBUSTIBLE"?

A combustible is anything that will burn, including wallpaper, wood studs, certain types of insulation (e.g., polystyrene) and paneling. Even so-called "fire-resistant" gypsum board (drywall) panels are considered combustible.

Even if a wall has a non-combustible surface of tile or brick, it is still considered combustible if this surface is mounted on combustible materials such as gypsum board and wood studs. Only a wall of concrete or brick without wood behind it, or one made of metal studs with a totally non-combustible covering, can be considered non-combustible.

THE GOOD NEWS FOR NEW APPLIANCE BUYERS

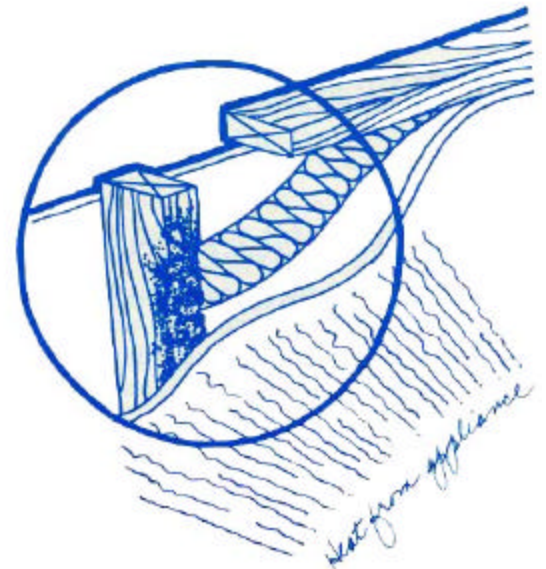
Virtually all the woodburning appliances now on the market have been tested and "certified" or "listed" by one of three recognized testing and certification agencies:

- the Canadian Standards Association (CSA),
- Underwriters' Laboratories of Canada (ULC),
- Warnock Hersey Professional Services



Look for one of these logos on the label of a certified appliance.

A certified appliance will be labeled as such. A product is not considered certified unless the label is attached. The label and installation manual of a certified appliance



contain all the clearance information needed for safe installation. Appliance installation is a complex job best left to professionals. For best results, consult a WETT certified professional.

CLEARANCES FOR UNCERTIFIED APPLIANCES

Because they haven't been tested under standard conditions, uncertified appliances present more of a challenge. To ensure safety, clearances are based on "worst case" assumptions.

Clearances are not guidelines.
They are exact minimum requirements.

Table 3 of CSA B365 1991
Clearances to Combustible Material for Appliances Using Solid Fuel
 (Forming part of Clause 7.2.3)

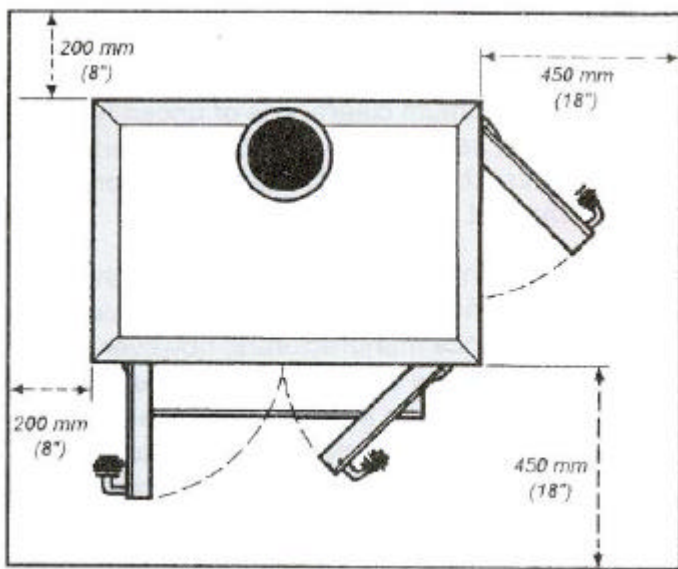
Minimum clearance, mm (in)

Application	Top	Sides, rear and corner	Fuelling and ash removal sides
Appliances with no shielding	1500 (60)	1200 (48)	1200 (48)
Appliances with shielding *	1500 (60)	900 (36)	1200 (48)

* Shielding consists of protection such as external jacketing or metal heat shield attached to the sides and rear of the appliance and spaced out at least 50 mm (2 in) by noncombustible spacers, with provision for air circulation at bottom and top.

Note: Clearances shall be measured from the outer surface of the appliance to the combustible material; the protection applied over the combustible material is disregarded.

Both certified and uncertified appliances require floor pads to protect the floor from hot embers. For uncertified appliances, a continuous noncombustible surface must extend 450 mm (18 in.) beyond any side with a loading door, and 200 mm (8 in.) on all other sides.



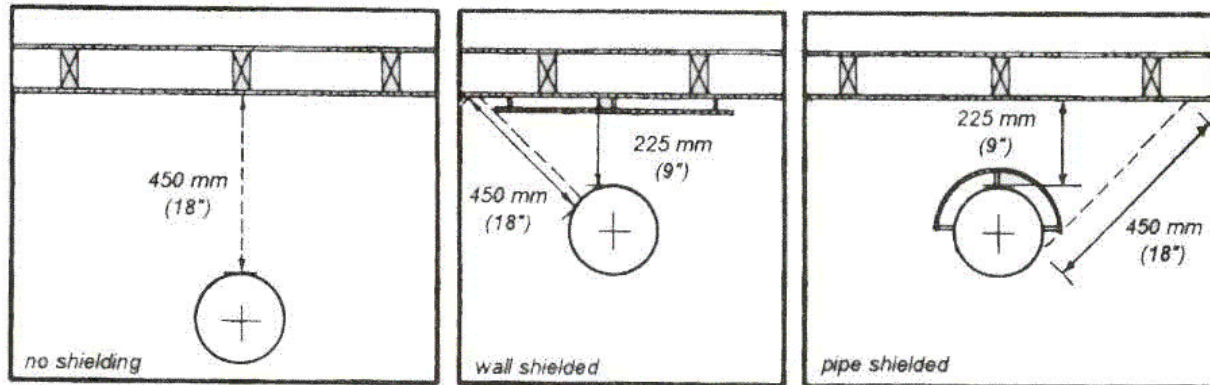
Many uncertified appliances also require additional floor protection, to protect the floor from radiation. For certified appliances, consult the manufacturer's instructions.

With clearances like these, it may be worth considering shielding for clearance reduction (see WISE fact sheet #4). Consult a WETT-certified professional for more information on how to ensure that your uncertified appliance is safely installed.

FLUE PIPE CLEARANCES

The minimum clearance between a single-wall flue pipe and combustible material is 450 mm (18 in.). Certified double-wall flue pipes may be installed closer, check the label for the safe installation clearance.

Flue pipes must never pass through combustible ceilings or concealed spaces such as closets - this is very unsafe! If yours does, consult a WETT certified professional about getting the situation corrected. Passing flue pipes through combustible walls is complicated, and should be handled by a WETT certified professional.



REDUCING CLEARANCES WITH HEAT SHIELDS

Clearances can be reduced in most cases by the proper installation of non-combustible shields between your appliance and combustible materials. To find out more about shielding, refer to WISE fact sheet #4, entitled Reducing Clearances With Heat Shields.

This fact sheet is intended only to provide an introduction to the topic of "Appliance and flue pipe clearances" not a "how to" manual! Be sure to consult a WETT certified professional for more detailed information and explanations.

The WISE Fact sheet Series

1. Is Your Wood Heat Installation Safe?
2. Space Heating With Wood
3. Appliance and Flue Pipe Clearances
4. Reducing Clearances With Heat Shields
5. Chimneys
6. Flue Pipes
7. Operating Your Appliance ...Safely
8. Maintaining Your Heating System
9. Fireplaces
10. Fireplace Inserts
11. Purchasing, Processing and Seasoning Wood
12. Central Heating With Wood

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Wood Energy Technical Training (WETT)

The Wood Energy Technical Training Inc, is a non-profit, educational institution established in 1988. Provincial affiliates of WETT Inc are dedicated to chimney and venting system safety, and to the elimination of residential chimney fires, carbon monoxide intrusion and other chimney related hazards that result in the loss of lives and property. WETT devotes its resources to educating the public, chimney service professionals, and other fire prevention specialists about the prevention and correction of chimney and venting system hazards.

WETT has developed a training and certification program for wood heat appliance installers, inspectors, chimney sweeps and other professionals called the "Wood Energy Technical Training" (WETT) program. Be sure that any wood heat professional you consult is WETT certified. Look for the WETT logo, it's your best guarantee of reliable advice. For additional information, contact:

Wood Energy Technical Training Inc at 1-888-358-9388 or fax at 1-416-968-6818 or email at info@wettinc.ca

The local British Columbia affiliate is the Wood Energy Technicians of British Columbia, aptly named "*WETBC*". They can be reached at zigi@shaw.ca or phone/fax is 1-604-941-4172. Our web site is at www.wetbc.ca

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