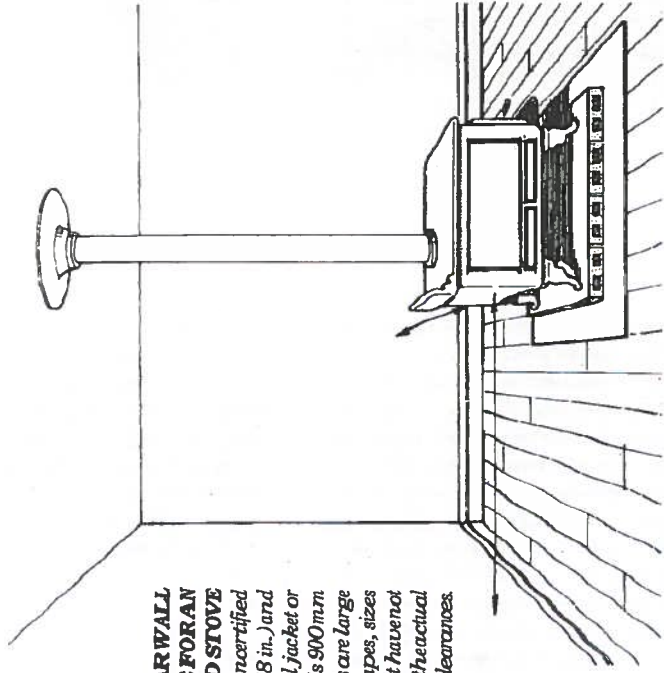


The installation guidelines for wood stoves can be grouped into two categories. The first is stoves that have been tested and certified as meeting safety standards. The tests determine minimum installation clearances and other guidelines. This information is found in the manufacturer's installation instructions. Almost all new wood stoves currently offered for sale in Canada have been safety certified and most insurance companies will only accept certified appliances.

The second group is those appliances that are not tested and certified. These include used or antique stoves or stoves that have been built by small, informal welding shops. You are advised to avoid such appliances for serious heating because their safety and efficiency are likely to be inferior to those of modern certified units.

Guidelines for the installation of these uncertified stoves are found in the CSA solid fuel installation code, CSA B365. The minimum clearances to combustible materials for uncertified appliances are quite large — 1200 mm (48 in.) for radiant stoves and 900 mm (36 in.) for stoves surrounded by jackets behind which convection air can flow.



SIDE AND REAR WALL CLEARANCE FOR AN UNCERTIFIED STOVE

The clearance for an uncertified radiant stove is 1200 mm (48 in.) and for a stove with a sheet metal jacket or casing the clearance is 900 mm (36 in.). The clearances are large because they apply to all shapes, sizes and designs of stoves that have not been tested to determine the actual clearances.

Reducing Minimum Clearances Safely

Most homeowners want their wood stove installation to take up as little floor space as possible. As a result, the reduction of minimum clearances using special shields is very common. The clearances for both certified and uncertified stoves can be reduced safely using the rules set out in CSA standard B365. The common feature of the clearance reduction rules provided in B365 is the air space behind the shield material. This space sets up a convection flow of air as the stove is operating and prevents the stove's heat from reaching the wall behind. The percentage indicated in the table is the amount that the minimum clearance may be reduced with the particular shield system listed. Both wall and ceiling clearances may be reduced using shields.

A variety of materials can be used for clearance-reducing shields, from simple sheet metal to more decorative shields using brick, stone slices or ceramic tiles. Shields must be permanently mounted to walls. Free-standing, folding panels are not acceptable as clearance-reducing shields.

Shield Construction Rules

- 1) Minimum space between shield and combustibles: 21 mm (7/8 in.).
- 2) Minimum clearance along the bottom of shield: 25 mm (1 in.).
- 3) Maximum clearance along the bottom of shield: 75 mm (3 in.).
- 4) Minimum clearance along the top of shield at ceiling: 75 mm (3 in.).
- 5) Shield extension beyond each side of appliance: 450 mm (18 in.).
- 6) Shield extension above appliance: 500 mm (20 in.).
- 7) Edge clearance for ceiling shields: 75 mm (3 in.).
- 8) Adhesives used in shield construction must not ignite or lose adhesive qualities at temperatures likely to be encountered.
- 9) Mounting hardware must allow full vertical ventilation.
- 10) Mounting hardware must not be located closer than 200 mm (8 in.) from the vertical centre line of the appliance.
- 11) Mounting hardware which extends from the shield surface into combustibles may be used only at the lateral extremities of the shield.

Reducing Clearances With Shielding

Clearances may be reduced by these percentages

Type of protection (shield)	Sides and rear %	Top %
Sheet metal, a minimum of 29 gauge in thickness spaced out at least 21 mm (7/8 in.) by non-combustible spacers	67	50
Ceramic tiles, or equivalent non-combustible material on non-combustible supports spaced out at least 21 mm (7/8 in.) by non-combustible spacers	50	33
Ceramic tiles, or equivalent non-combustible material on non-combustible supports with a minimum of 29 gauge sheet metal backing spaced out at least 21 mm (7/8 in.) by non-combustible spacers	67	50
Brick spaced out at least 21 mm (7/8 in.) by non-combustible spacers	50	N/A
Brick with a minimum of 29 gauge sheet metal backing spaced out at least 21 mm (7/8 in.) by non-combustible spacers	67	N/A

Source: CSA Standard B365-1991, Table 4, Page 27

Clearances for Uncertified Equipment

Application	Minimum clearance, mm (in.)	
	Top	Sides, rear and corner
Appliances with no shielding*	1500 (60)	1200 (48)
Appliances with shielding	1500 (60)	900 (36)
Appliances with fuelling and ash removal sides	1200 (48)	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 non-combustible spacers, with provision for air circulation at bottom and top.

Note: Clearances must be measured from the outer surface of the appliance to the combustible material; the protection (such as drywall) applied over the combustible material is disregarded.

Source: CSA Standard B365-1991, Table 3, Page 26

Note: The installation clearances for certified appliances vary widely, but are always considerably smaller than those shown in the table, allowing as much as a 90 per cent reduction in clearances.