Solid Fuel Heater Guidance

This information sheet provides guidance on the details we need you to provide when applying for a building consent to install a solid fuel burning appliance in a residential dwelling.

GENERAL

The building consent application form is completed online at ObjectiveBuild. Please ensure to complete the supporting document Form 2-H and submit it with your application.

a. **Provide proof of ownership:**

Attach one of the following showing full name of legal owner(s) of the building.

- Record of title
- Lease
- Agreement for sale and purchase
- Rates Bill / Enquiry

b. **Relationship to owner:**

You as agent must state the details of the authorisation from the owner to make application on the owner's behalf (e.g. contractual agreement etc.) **Please note:** This question **must be** answered before your application for building consent can be processed.

c. **Application Fee:**

Fees payable are set out in the Building consents fee schedule available on our website and will be invoiced on acceptance of the application.

THE PROJECT

Details you will need to provide on the application form about the solid fuel burning appliance:

- Make and model
- NES Clean Air Certification number (If applicable)
- The installation type; in-built, insert or freestanding
- The fuel type; wood, multi fuel, wood pellets or coal
- Clearances to combustible materials
- Hearth details (thickness and construction material)
- If it is a new or second-hand appliance
- Flue Details
- The distance from the flue to the ridge (Appendix B, see page 4)
- The distance from the flue to neighbouring structure (Appendix B, see page 4)
- Weathertightness details
- Smoke alarm details NZS 4514:2021

- If the existing or proposed installation involves a wetback. Either disconnecting existing, replacing existing wetback or installing a new wetback
- If a wetback is involved the name, address and license number of the certifying plumber

Please note, when a new wetback is being installed, an anti-scalding device must be fitted in the supply from the hot water cylinder to hygiene fixtures. This requirement does not apply if an existing wetback is being replaced or is existing elsewhere in the hot water system. The hot water cylinder must be open vented.

- Estimated value of appliance and installation (incl. GST)

Manufacturer's installation specifications/instructions

Attach the manufacturer's installation specifications/instructions for installing and using the solid fuel burning appliance. The specification/instructions must be specific to the make and model of the solid fuel burning appliance to be installed.

Flue details

- **Flue Height:** The minimum flue heights are specified in AS/NZS 2918:2001 (Domestic solid fuel burning appliances – Installation) or in the manufacturer's installation instructions.

  Note: where downdraught conditions may exist (usually caused by the flue terminating downstream of a nearby obstruction to airflow), consideration should be given to extending the flue height above those required by the manufacturer or AS/NZS 2918:2001.

  Note: If the flue height exceeds 1.2m above the roofline, consideration needs to be given to building code performance B1.3.3. The flue may need lateral bracing to withstand wind-load. If applicable, please include details of flue bracing.

Floor plan to 1:100 scale of all floor levels showing:

- Location of the solid fuel burning appliance (also location of existing appliance if different from proposed).
- Location of all walls, windows and doors, with the designated use of all spaces (for all floor levels).
- Location of the existing/proposed smoke alarm system that complies with the current smoke alarm standards. (NZS 4514:2021) The location of each smoke alarm must be marked on the floor plan. Smoke alarms will be inspected and tested prior to the issue of the code compliance certificate.
- Location of the existing hot water cylinder if an appliance with a wetback is to be fitted.

Weathertightness details: (Flashing guidance – Appendix C, see page 5)

Flue roof penetration weathertightness details complying with the requirements of NZ Building Code, clause E2 (e.g. refer E2/AS1, figure 54 for guidance), or an appropriate verification method complying with E2, or Manufacturer's instructions, and/or AS/NZS 2918. An "alternative solution" MAY only be considered (but not necessarily accepted by Council) when appropriate details and information are received in conjunction with the application.

Other details:

Provide the following cross section details where applicable:

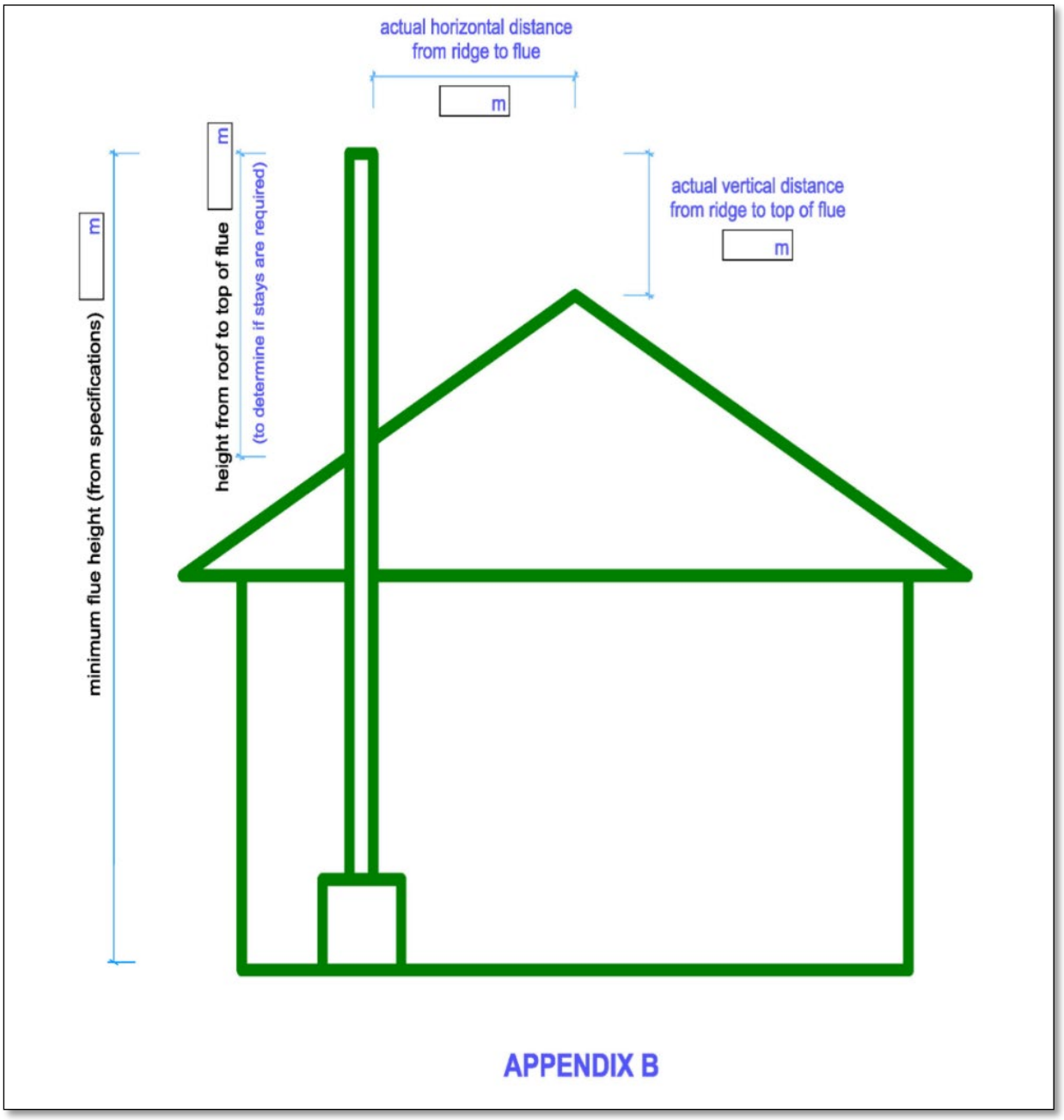
- Cross section through building showing roof material and applicable flue flashing details

- Cross section through building showing safety clearances of flue penetration through floor construction (only required if the flue penetrates through an intermediate floor where the building has two or more levels.

- Provide the completed Form 6-HPS and submit once the installation has been carried out – this will be listed as a required document on the Form 5 (Building Consent).

- If a second-hand solid fuel burning appliance:

  - If you intend to install a second-hand fire you will also need to provide us with a copy of an inspection report from an Approved Heating Engineer. This report must detail the age of the fire, the anticipated life expectancy of the fire and the condition of the fire box, the door and other component parts.
  - Alternatively, you could provide a producer statement on our Form 6PS signed by an appropriately skilled person stating that they have inspected the fire (prior to installation) and that it is in good condition.


actual horizontal distance
from ridge to flue
m
m
height from roof to top of flue
(to determine if stays are required)
m
minimum flue height (from specifications)
actual vertical distance
from ridge to top of flue
m
APPENDIX B

Flashing guidance – Appendix C

Purpose

The purpose of this public information notice is to provide general guidance for the installation of a flashing to the flue of a solid fuel heater (SFH) passing through profiled metal roof cladding material.

Legislative Requirements

A building consent is required under the New Zealand Building Act 2004 to carry out the installation of a Solid Fuel Heater (wood burner/Diesel burners/Pellet fire) but the installation or part of the installation may be carried out by the homeowner.

There are 3 criteria to be met when carrying out building work in New Zealand and comply with the NZ Building Code (NZBC). You must meet the functional and performance requirements as well as the objectives of the Building Code to ensure the work, as completed, complies with the Building Code and therefore meets the intent of the New Zealand Building Act 2004. There are several ways to do this. You may follow the acceptable solution shown in the building code or use an alternative solution which is assessed and approved through the building consent process.

For the Nationally approved documentation, known as Acceptable Solutions, refer to the NZ Building Code. The Compliance Documents containing the Acceptable Solutions can be found at the following address — go to http://www.building.govt.nz/compliance-documents.

As a minimum the following building code clauses should be taken into account:

- C – Protection from Fire
- B2 — Durability
- E2 – External Moisture

The Acceptable Solutions (In Brief)

E2 - External Moisture

a) Limitations

For any pipe penetration that is more than 85mm in diameter and which uses only EPDM rubber (boot) flashing, is outside the scope of the Acceptable Solution (E2/AS1). Refer to the Compliance Document for NZBC Clause E2 External Moisture (Figure 53). For pipe penetrations over 85 mm, a soaker type flashing configuration is specified (See Figure 54).

The metal roof profiles that are covered by the Acceptable Solution (E2/AS1) are detailed in Section 8.4.4 and are as follows:

- Corrugated profile
- Trapezoidal profile (Symmetrical & Asymmetrical) and
- Trough Profile

Other products Such as Onduline, Fibreglass, etc., will be treated as an Alternative Solution. A design, plus supporting documentation of all proposed flashings, will need to be submitted for approval through the normal building consent process.

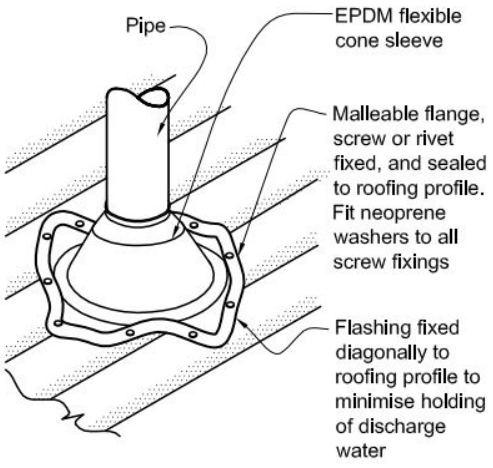
b) Other Requirements

Any pipe penetration over 200mm (in any dimension in any direction) through the roofing material required additional trimming out with timber framing to support the roofing material.

Maximum length of roofing material above the flue penetration is 12 metres (corrugated) and 18 metres (Trapezoidal & Trough Profile) as shown in table 17 NZBC E2.

For material selection, Material compatibility and roofing underlay acceptability refer to Tables 20 – 23 in Section 10 of the NZBC Acceptable Solution E2/AS1.

Figure 53: Flashing for small pipes
Paragraphs 8.3.10, 8.4.17, 9.6.8.5 and 9.6.9.6



NOTE:
(1) Max. roof pitch for this flashing 45°, minimum pitch 10° if base of flange covers one or more complete troughs.
(2) For pipes up to 85 mm diameter.

The Alternative Solutions (in brief)

All other flashing configurations must to be treated as an Alternative Solution and this has to meet the functional and performance requirements as well as the objectives of the NZBC. However, as the name suggests, the solution chosen does not have to reflect the acceptable solution in its entirety.

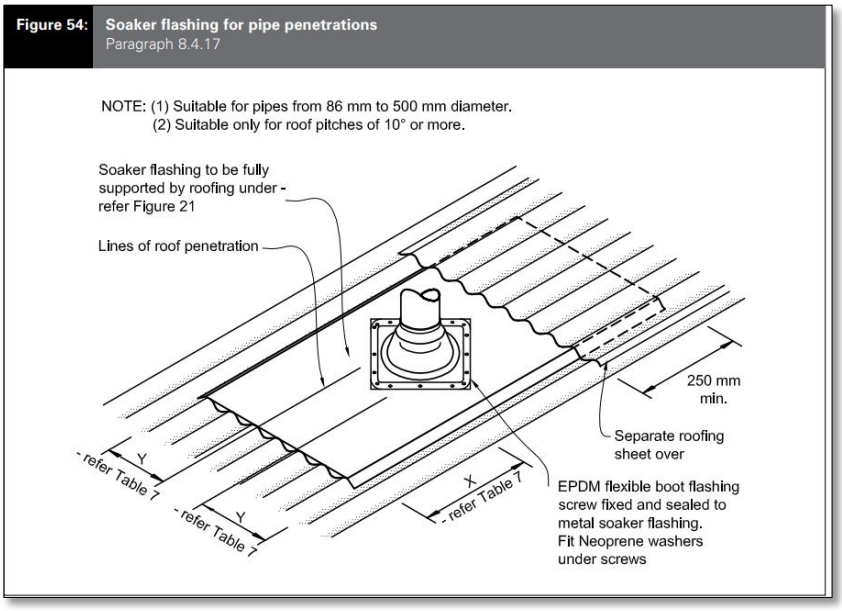
In the instance of a flue flashing, the variations from the acceptable solution may be minor but any change from the acceptable solution is seen as an alternative.

For Alternative Solutions, refer to the Building Research Association of New Zealand – go to www.branz.co.nz. The following documents are relevant to fitting of a SFH Flue flashing.

- BRANZ Weather-tight Solutions Volume 5: Roofing.
- NZ Metal Roofing Manufacturers Code of practice (use latest version {2012})

Also, refer to the manufacturer's literature for the product you have chosen. Here you should find information showing how your chosen product will meet the requirements of the NZ Building Code. If this information is not available in store or on the internet, the product you have chosen may not have been tested with independent opinions given. For ease of achieving compliance, you may need to reconsider your options.

Figure 54: Soaker flashing for pipe penetrations
Paragraph 8.4.17



Choosing the Right Flashing & Fitting Instructions

a) For a standard profiled metal roof, it may be simpler to use a standard EPDM boot or cone flashing and this should be fitted as per the manufacturer's specifications.

b) Choose the correct flashing system to suit the roof type and pitch — always refer to manufacturer's product range for guidance.

c) For low and very high roof pitches or ones with deep ribbed profiles, a Soaker type EPDM flashing should be considered as it reduces the risk of water pooling. This type of flashing is fitted square to the roof. Check with the manufacturers for installation and availability.

d) Ribs and corrugations do not need to be removed on corrugated iron roofs when pitch is 22.5 degrees or more. However, for a roof with a trapezoidal profile, the ribs must be removed if the cone/flashings spans across more than one rib. Refer to manufacturer's installation instructions. As an example the "Dektite" soaker flashing is a good example of how to cut out the hole and adjacent ribs.

e) For larger pipe diameters, additional framework may need to be fitted beneath the roof cladding to support the flashing, preventing weak points and support the roofing material.

Inspections

A building inspector will assess the flashing for compliance with the NZ Building Code. You will need to ensure the information on the flashing used is contained within your building consent and available for the inspector when the inspector is carrying out your final inspection.

Illustrations of Designs and Types of Flashings Available

Some examples of the different type of flashings available on the market or with designs provided are shown below. Limitations apply and the accompanying documentation should always be referred to.

- Soaker Type Flashing (extracted for NZ Metal Roof & Wall Cladding – Code of Practice (version 2.2, 2012) - *figure 1*
- Water-shed Type Flashing (extracted for NZ Metal Roof & Wall Cladding – Code of Practice (version 2.2, 2012) - *figure 2*
- Example of an EPDM Soaker Type Flashing on a Trapezoidal Profile Metal Roof Currently Available on the Market - *figure 3*
- Example of an EPDM Boot Type Flashing on a Corrugated *(figure 4 overleaf)* and Trapezoidal *(figure 5 overleaf)* Profile Metal Roof Currently Available on the Market

Figure 1

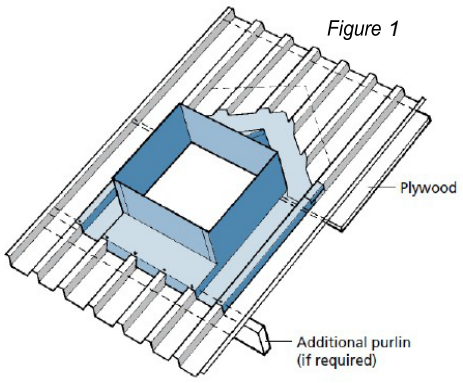


Figure 2

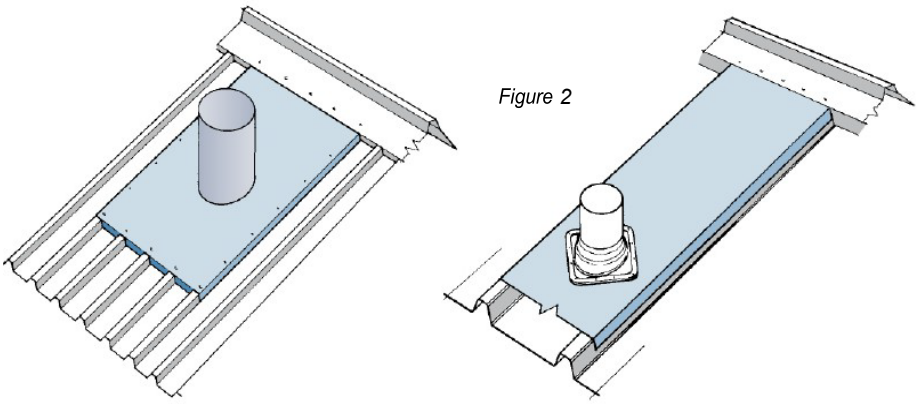


Figure 3

Figure 4

Figure 5