

# Information for Homeowners & Building Practitioners: Installation for Solid Fuel Heater Flue Flashing at the Roof

## 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.dbh.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.

### 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.

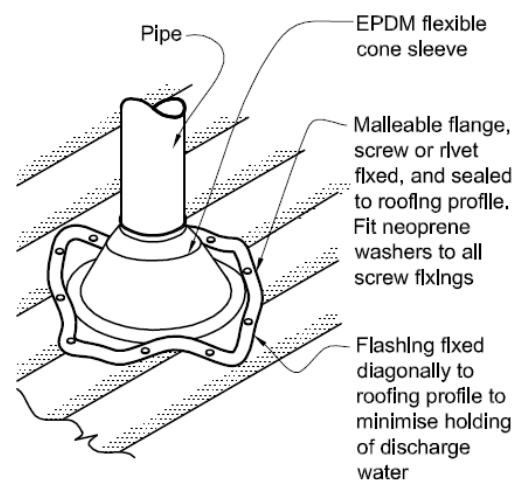
In the instance of a flue flashing, the variations from the acceptable solution may be minor but any change from the acceptable solution is seen as an alternative.

For Alternative Solutions, refer to the Building Research Association of New Zealand – go to [www.branz.co.nz](http://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 53:** NZBC E2 External moisture - EPDM flashing (boot or cone)



**NOTE:**

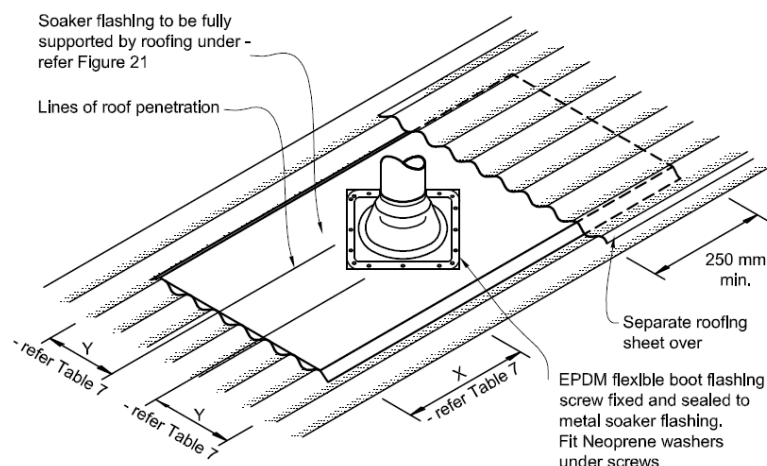
- (1) Max. roof pitch for this flashing 45°, minimum pitch 10° If base of flange covers one or more complete troughs.
- (2) For pipes up to 85 mm diameter.

**Figure 54:** NZBC E2 External moisture - Soaker flashing for pipe penetrations

NOTE: (1) Suitable for pipes from 86 mm to 500 mm diameter.  
(2) Suitable only for roof pitches of 10° or more.

Soaker flashing to be fully supported by roofing under - refer Figure 21

Lines of roof penetration



EPDM flexible boot flashing screw fixed and sealed to metal soaker flashing. Fit Neoprene washers under screws

## 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

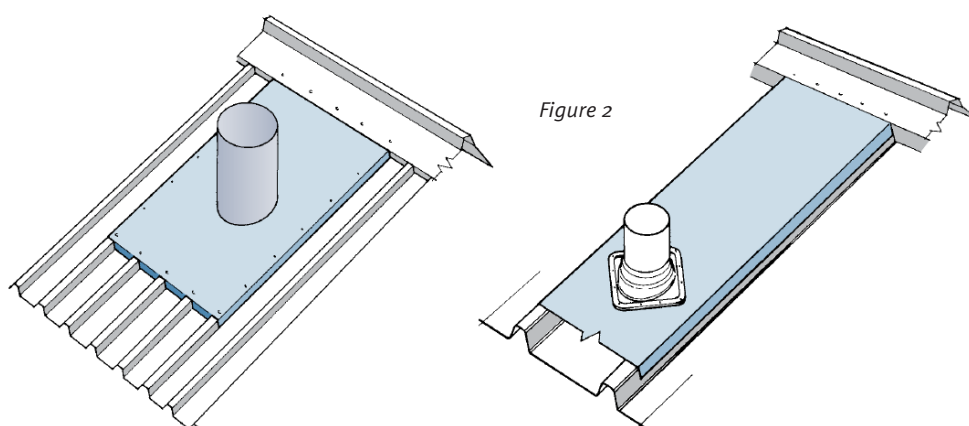
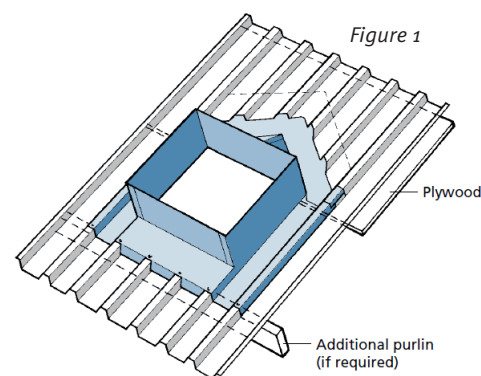




Figure 3



Figure 4



Figure 5