

Use of ROCKWOOL™ stone wool as a Thermal and Ignition Barrier

ROCKWOOL COMFORTBOARD™ 80 at 2" [50 mm] and 3" [76 mm] and **ROCKWOOL COMFORTBATT®** at 5 ½" [140 mm] are approved and certified for use as thermal barriers over foamed plastic insulation in Canada meeting the requirements of CAN/ULC - S101 and CAN/ULC - S124. The Canadian thermal barrier listing is currently held with QAI; Listing No: B1067 [See Appendix A]

ROCKWOOL COMFORTBOARD™ 80 have been approved and certified for use as a thermal barrier in front of thermoset and thermoplastic insulation in the US meeting the requirements for NFPA 275 Part I and Part II. The minimum thickness of ROCKWOOL insulation required to meet this is 2" [50 mm]. The US thermal barrier listing is currently held with Intertek; Design Listing 38968 [See Appendix B]

ROCKWOOL COMFORTBOARD™ 80 at 1 ½" [38 mm] may be installed in attics and crawl spaces over foam plastic insulation in accordance with IBC Section 2603.4.1.6 or IRC Section R316.5.3 and R316.5.4, respectively.

What is a Thermal Barrier?

A thermal barrier is a material applied between foamed plastics and interior spaces designed to:

1. Delay the ignition of the foamed plastic insulation in a fire
2. Delay or prevent the involvement of the foamed plastic in the fire

What is an Ignition Barrier?

Ignition barriers are considered acceptable for attics and crawl spaces where entry is limited. Model building codes allow an exception to the thermal barrier requirement in attics and crawlspaces where entry is only made for repairs or maintenance [IRC] or for the service of utilities [IBC].

^{NB} A thermal barrier is still required between attic and crawlspace areas and interior living spaces. The ignition barrier exception is only applicable to foamed plastic insulation that is facing attic and crawlspaces areas. Typically, ceiling or floor treatments provide separation from interior living spaces and serve as a thermal barrier in these cases.

Canadian Thermal Barrier Requirements

The National Building Code of Canada Sentence 3.1.5.15.(2) articulates that an approved thermal barrier over foamed plastics as being any material that meets the requirements of classification B when tested in conformance with CAN/ULC-S124, "Test for the Evaluation of Protective Coverings for Foamed Plastic."

Classification B is a classification for materials that do not experience an average temperature rise of 140°C or 180°C at any of the thermocouple locations for a period of 10 minutes

Classification B states that the temperature rise at the interface at the end of 10 minutes should not exceed an average of 140°C or 180°C at any of the thermocouple locations

US Thermal Barrier Requirements

The International Building Code/International Residential Code defines an approved thermal barrier as a material having equivalent performance to ½” gypsum wallboard. For any material to be considered as an approved equivalent [non-prescriptive thermal barrier] it must perform as well as or better than ½” gypsum.

Non-prescriptive thermal barriers must then undergo two fire tests:

3. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials
4. NFPA 286 / UL 1040 / UL 1715 / FM 4880 – Fire integrity testing to meet specific acceptance criteria defined within the IBC / IRC

The NFPA 275 – Standard Method of Fire Tests for the Evaluation of Thermal Barriers Used over Foam Plastic Insulation test incorporates both the temperature transmission test [Part I] as well as the fire integrity testing [Part II] as such is typically used by manufacturers to show that a material meets the thermal barrier requirements.

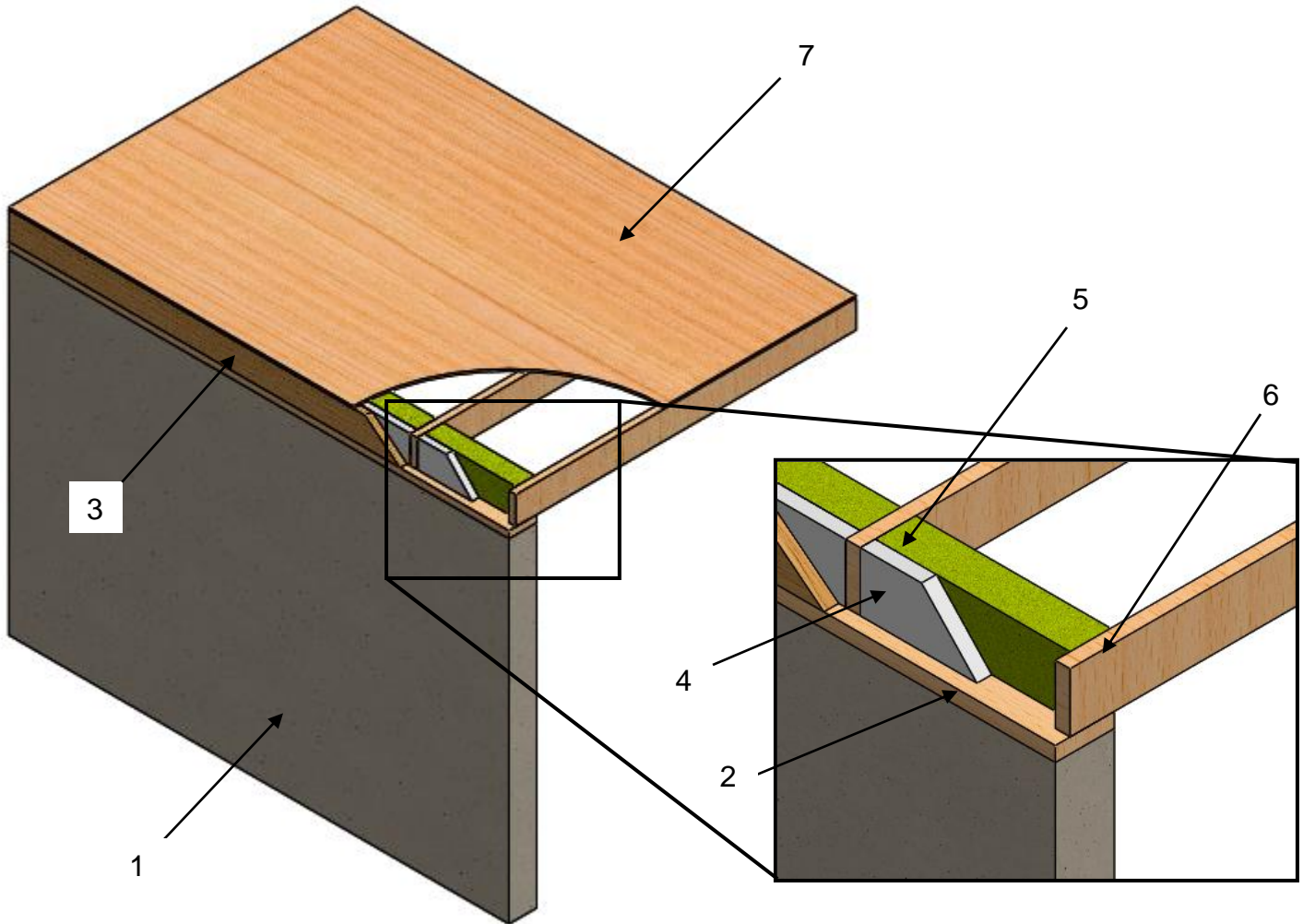
Where is a Thermal Barrier required?

Model building codes, with some exception, require that the foamed plastic insulation be separated from the interior living spaces by an “approved thermal barrier.” Therefore, unless an exception applies, all interior applications utilising foamed plastic insulation are required to be covered by an approved thermal barrier.

NB PLEASE REVIEW YOUR LOCAL CODE REQUIREMENTS ON A CASE-BY-CASE BASIS TO SEE IF A THERMAL BARRIER IS REQUIRED.

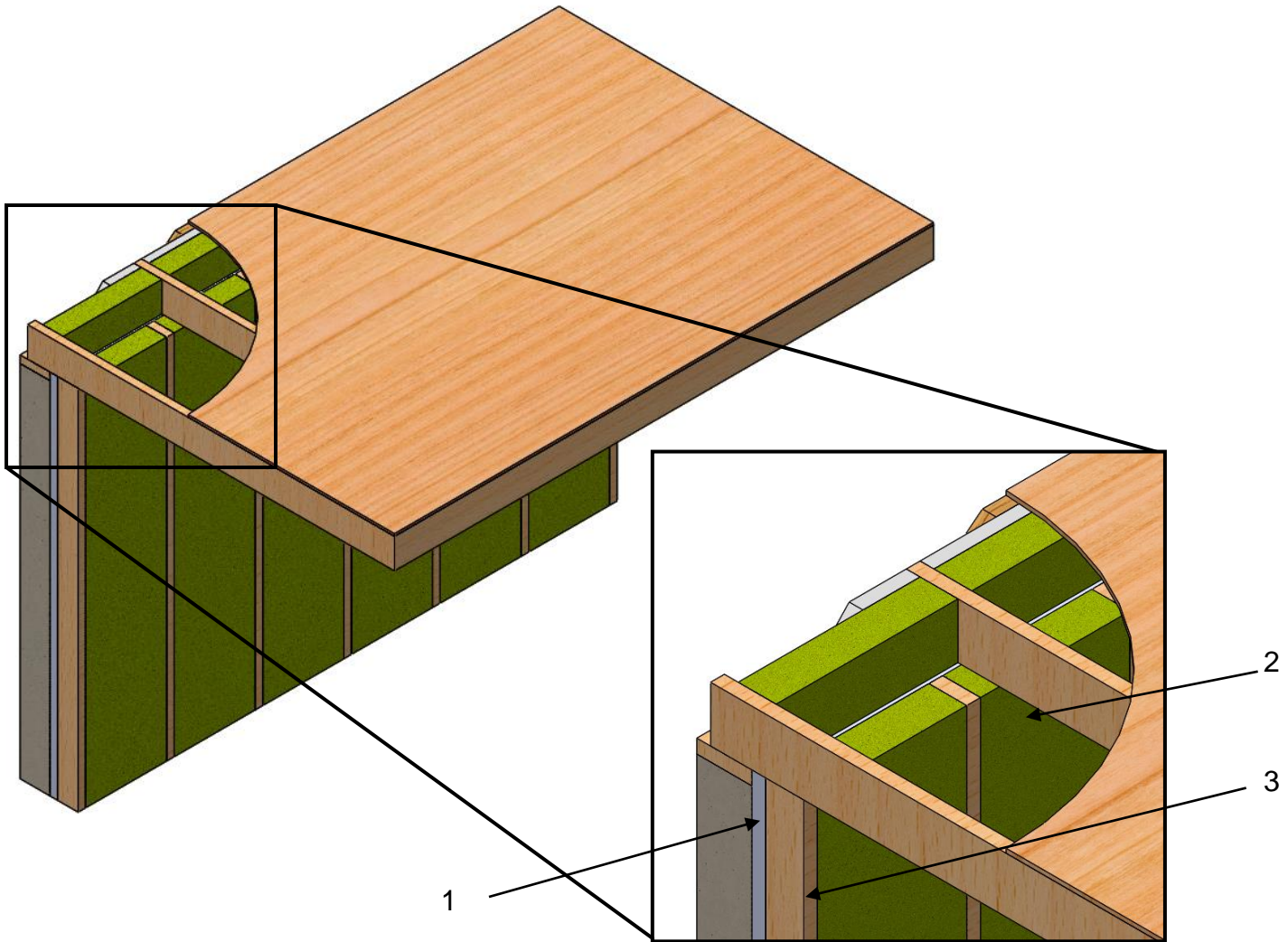
Appendix A

**QAI Design B1067-1e – ROXUL, Inc. – ROCKWOOL COMFORTBATT®/COMFORTBOARD™ 80
 CAN/ULC-S124 – Classification A & B protective covering for foamed insulation**



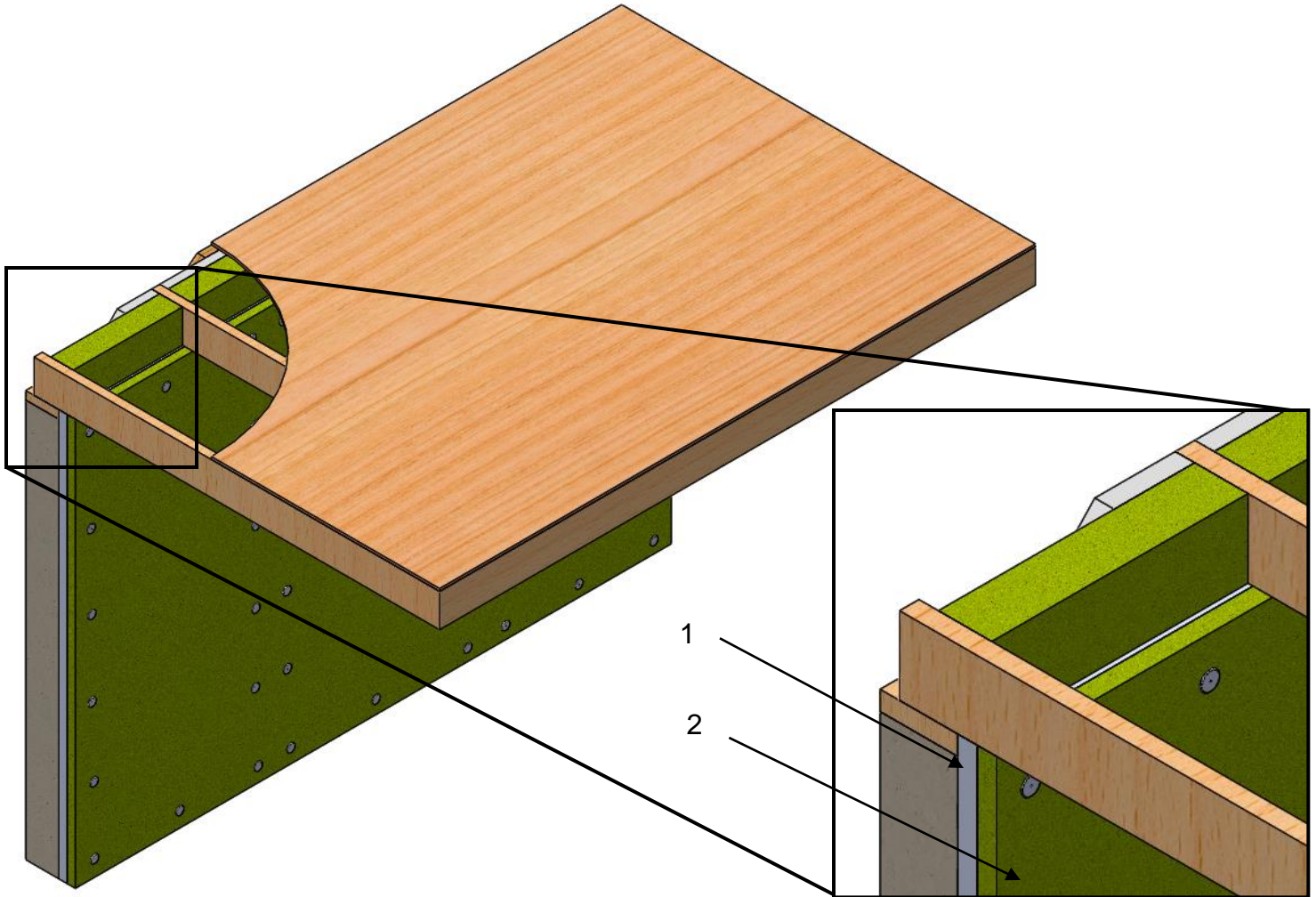
No.	COMPONENT	DESCRIPTION			
1	Concrete Foundation	Concrete foundation wall			
2	Bearing Plate	Standard bearing plate			
3	Rim Joist	Standard rim joist			
4	Foam Insulation	Type:	Foamed Plastic		
		Maximum R-Value:	7.5/inch		
5	Protective Covering of Foam Insulation	Certified Manufacturer:	ROXUL Inc.		
		Certified Product Name:	ROCKWOOL COMFORTBATT®	ROCKWOOL COMFORTBOARD™ 80	ROCKWOOL COMFORTBOARD™ 80
		Assembly Class:	Classification B	Classification B	Classification A
		Minimum Thickness:	5-1/2 inch (140 mm)	2 in (50 mm)	3 in (76 mm)
		Minimum Density:	2 lb/ft ³ (32 kg/m ³)	8.0 lb/ft ³ (128 kg/m ³)	8.0 lb/ft ³ (128 kg/m ³)
		Installation:	Friction fit into the joist cavity.		
6	Floor Joists	Standard floor joists system			
7	Sheathing	Standard floor sheathing			

**QAI Design B1067-1e – ROXUL, Inc. – ROCKWOOL COMFORTBATT®/COMFORTBOARD™ 80
 CAN/ULC-S124 – Alternative Installation Method – Friction Fit Batt Insulation**



No.	COMPONENT	DESCRIPTION	
1	Foam Insulation	Type:	Foamed Plastic
		Maximum R-Value:	7.5/inch
2	Protective Covering of Foam Insulation	Certified Manufacturer:	ROXUL Inc.
		Certified Product Name:	ROCKWOOL COMFORTBATT®
		Assembly Class:	Classification B
		Minimum Thickness:	5-1/2 inch (140 mm)
		Minimum Density:	2 lb/ft ³ (32 kg/m ³)
		Installation:	Friction fit into wall stud cavity.
3	Wall Studs	Minimum 2 inch x 6 inch (51 mm x 102 mm) wood wall studs	

**QAI Design B1067-1e – ROXUL, Inc. – ROCKWOOL COMFORTBATT®/COMFORTBOARD™ 80
 CAN/ULC-S124 – Alternative Installation Method – Anchored Insulation Board**



No.	COMPONENT	DESCRIPTION		
1	Foam Insulation	Type:	Foamed Plastic	
		Maximum R-Value:	7.5/inch	
2	Protective Covering of Foam Insulation	Certified Manufacturer:	ROXUL Inc.	
		Certified Product Name:	ROCKWOOL COMFORTBOARD™ 80	
		Assembly Class:	Classification A	Classification B
		Minimum Thickness:	3 in (76 mm)	2 in (50 mm)
		Minimum Density:	8.0 lb/ft ³ (128 kg/m ³)	8.0 lb/ft ³ (128 kg/m ³)
		Installation:	Fastened through the foamed plastic using Ramset Insulfast insulation fasteners or non-combustible fasteners at manufacturer's recommended instructions, anchored into code compliant substrate. Tight butt-edge fit installation.	

Appendix B



LISTING INFORMATION OF
Roxul Inc. Thermal Barriers: Roxul Safe 45 COMFORTBOARD 80

SPEC ID: 38968

Roxul Inc.
8024 Esquesing Line

Milton, ON L9T 6W3
CANADA

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ROXUL Safe®/Safe 45 is a semi-rigid insulation batt, engineered and produced for commercial, industrial and residential buildings, with a nominal density of 4.4 lbs/ft³.

The **Roxul Safe®** name is used for the following applications:

- | Perimeter gaps between concrete floor slabs and exterior wall systems
- | Around conduit pipe and duct openings through walls and floor slabs
- | Between fire walls and ceiling slabs
- | Roxul Safe is intended to be used in conjunction with a fire sealant to prevent the passage of fire and smoke

ROXUL COMFORTBOARD™ is a rigid mineral wool insulation sheathing board.

ROXUL COMFORTBOARD™ 80 is an exterior non-structural insulation sheathing that provides a continuous layer of insulation around the residential building envelope. These products are made in sizes of 24 in. x 48 in. and 36 in. x 48 in. with a thickness range certified by Intertek of 1.5 in. to 3 in. **COMFORTBOARD™ 80** has a nominal density of 8.0 lb/ft³.

Roxul Safe 45 and Roxul COMFORTBOARD 80 have met the criteria set forth for NFPA 275 Part I and Part II and was tested and is certified for use as a thermal barrier in front of both thermoplastic and thermoset insulations.

	Min. Thickness Roxul Insulation	Max. Thickness Foamed Plastic Insulation
NFPA 275 with foamed plastic insulation	2 in.	4 in.

Attribute	Value
Criteria	NFPA 286 (2015)
Criteria	NFPA 275 (2012) Ed. 2013 (Part I)
Criteria	NFPA 275 (2012) Ed. 2013 (Part II)
CSI Code	07 21 00 Thermal Insulation
Intertek Services	Certification
Listed or Inspected	LISTED
Listing Section	THERMAL INSULATION BOARDS
Report Number	G102532541; G102387716
Spec ID	38968