



BRANZ Appraised

Appraisal No. 953 [2017]

KAFLEX AND ROFLEX GROMMETS



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BRANZ Appraisals

Technical Assessments of products for building and construction.



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Product

- 1.1 KAFLEX and ROFLEX Grommets are a range of pipe and cable penetration seals consisting of a soft, flexible EPDM membrane.

Scope

Wall Underlays

- 2.1 KAFLEX and ROFLEX Grommets have been appraised as pipe and cable penetration seals for use where the penetration is through the wall underlay on framed walls within the following scope:
 - within the limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1 with regards to building height and floor plan area; and,
 - with flexible wall underlays situated in NZS 3604 Wind Zones up to, and including, Very High; or
 - with flexible wall underlays used over rigid wall underlays in accordance with E2/AS1, Paragraph 9.1.7.2, and situated in NZS 3604 Wind Zones up to, and including, Extra High; or,
 - with proprietary plywood or fibre cement based rigid wall underlays (rigid air barriers).
- 2.2 The flexible and rigid wall underlays must be covered by a valid BRANZ Appraisal.

Roof Underlays

- 2.3 KAFLEX and ROFLEX Grommets have also been appraised as pipe and cable grommets for use where the penetration is through the roof underlay on framed pitched roofs within the following scope:
 - within the limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1 with regards to building height and floor plan area; and,
 - with flexible roof underlays fixed over framing or rigid roof sarking; and,
 - situated in NZS 3604 Wind Zones up to, and including, Extra High.
- 2.4 The flexible roof underlays must be covered by a valid BRANZ Appraisal.

Specific Design

- 2.5 KAFLEX and ROFLEX Grommets have also been appraised for use on buildings subject to specific weathertightness design. Building designers are responsible for the building design and for the incorporation of KAFLEX and ROFLEX Grommets into their design in accordance with the declared properties and the instructions of Pro Clima (NZ) Ltd.

Building Regulations

New Zealand Building Code (NZBC)

3.1 In the opinion of BRANZ, KAFLEX and ROFLEX Grommets, if designed, used, installed and maintained in accordance with the statements and conditions of this Appraisal, will meet or contribute to meeting the following provisions of the NZBC:

Clause B2 DURABILITY: Performance B2.3.1 (b), 15 years and B2.3.2. KAFLEX and ROFLEX Grommets meet these requirements. See Paragraphs 8.1 and 8.2.

Clause E2 EXTERNAL MOISTURE: Performance E2.3.2. When used as part of the wall or roof cladding system, KAFLEX and ROFLEX Grommets will contribute to meeting this requirement. See Paragraphs 7.1 - 7.7 and 11.1 - 11.2.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. KAFLEX and ROFLEX Grommets meet this requirement and will not present a health hazard to people .

Technical Specification

4.1 KAFLEX and ROFLEX Grommets are manufactured with a black, soft and flexible 1.2 mm thick EPDM fabric. KAFLEX MULTI and ROFLEX 20 MULTI are supplied with pre-punched holes. All other grommets are supplied with pre-formed holes.

4.2 The following grommets are EPDM seals adhered to a polypropylene fleece with a pressure sensitive self-adhering backing and a release backing paper:

- KAFLEX MONO is 145 x 145 mm with a single hole suitable for 1 cable, 6 – 12 mm in diameter.
- KAFLEX DUO is 145 x 145 mm with two holes suitable for 2 cables, 6 – 12 mm in diameter.
- KAFLEX POST is 140 x 140 mm and is a split / pre-cut option for already installed cables.
- ROFLEX 20 is 145 x 145 mm with a single hole suitable for 1 pipe, 15 – 30 mm in diameter.

4.3 The following products are EPDM sheets which are adhered to the substrate with TESCON EXTORA Sealing Tape:

- KAFLEX MULTI is 140 X 140 mm with 16 pre-punched markings, suitable for up to 16 cables, 6 – 12 mm in diameter. The product is supplied with a stencil tool to punch up to 16 holes for cables.
- ROFLEX 20 MULTI is 200 x 200 mm with 9 pre-punched markings, suitable for up to 9 conduits, 15 – 30 mm in diameter. The product is supplied with a stencil tool to punch up to 9 holes for conduits.
- ROFLEX 30 to 300 Grommets are available in a range of sizes. See Table 1.

Table 1: ROFLEX Grommets Available Sizes

Product	Size (mm)	Suitable for pipe diameter (mm)
ROFLEX 30	140 x 140	30 – 50
ROFLEX 50	140 x 140	50 – 90
ROFLEX 100	200 x 200	100 – 120
ROFLEX 150	250 x 250	120 – 170
ROFLEX 200	300 x 300	170 – 220
ROFLEX 250	450 x 450	220 – 270
ROFLEX 300	500 x 500	270 – 320

Handling and Storage

5.1 KAFLEX and ROFLEX Grommets must be protected from damage and weather. They must be stored under cover in clean, dry conditions away from direct exposure to sunlight, heat or flame. KAFLEX and ROFLEX Grommets should not be removed from the packaging until they are ready to use.

5.2 Handling and storage of KAFLEX and ROFLEX Grommets, whether on-site or off-site, is the responsibility of the installer.

Technical Literature

- 6.1 Refer to the Appraisals listing on the BRANZ website for details of the current Technical Literature for KAFLEX and ROFLEX Grommets. The Technical Literature must be read in conjunction with this Appraisal. All aspects of design, use, installation and maintenance contained within the scope of this Appraisal and the Technical Literature must be followed.

Design Information

General

- 7.1 KAFLEX Grommets are for use with cables and ROFLEX Grommets are for use with pipes or conduits.
- 7.2 KAFLEX and ROFLEX Grommets must not be exposed to the weather or ultra-violet light for a total of more than 180 days. The maximum exposure period of KAFLEX and ROFLEX Grommets may be limited by the maximum exposure period of the wall or roof underlay.
- 7.3 KAFLEX and ROFLEX Grommets when used with flexible and rigid wall underlays, provide an Alternative Solution to the pipe and service penetration detailing specified in NZBC Acceptable Solution E2/AS1, Paragraph 9.1.9.3 and Figure 68.
- 7.4 KAFLEX and ROFLEX Grommets are primarily designed to prevent moisture ingress at pipe and cable penetrations through walls. The performance of KAFLEX and ROFLEX Grommets relies on the correct size being selected for the pipe or cable penetration being sealed, and the grommet being fully adhered to the wall underlay.
- 7.5 Where a proprietary cladding system is used, all weatherproofing details for the cladding system around the penetration must be carried out in accordance with the system proprietor's Technical Literature. Installation details not covered by the cladding system proprietor's details are the responsibility of the designer for compliance with the NZBC.
- 7.6 Where KAFLEX and ROFLEX Grommets are used on a roof underlay, the roof penetration must be detailed in accordance with NZBC Acceptable Solution E2/AS1, Paragraph 8.4.17 a) or b).
- 7.7 KAFLEX and ROFLEX Grommets can withstand temperatures of -40°C to +80°C in service.

Durability

- 8.1 Assessment of durability to meet the NZBC is based on the difficulty of access and replacement, and the ability to detect failure of the KAFLEX and ROFLEX Grommets during both normal use and maintenance of the building.

Serviceable Life

- 8.2 Provided the selected flexible or rigid underlay is not exposed to the weather or ultra-violet light for longer than stated in the relevant Appraisal, [a maximum of 180 days applies to the KAFLEX and ROFLEX Grommets], and provided the exterior cladding is maintained in accordance with the cladding manufacturer's instructions and the cladding remains weather resistant, KAFLEX and ROFLEX Grommets are expected to have a serviceable life equal to that of the cladding.

Maintenance

- 9.1 No maintenance is required for KAFLEX and ROFLEX Grommets, however regular checks must be made of the cladding system to ensure it is sound and will not allow moisture penetration.

Prevention of Fire Occurring

- 10.1 Separation or protection must be provided to KAFLEX and ROFLEX Grommets from heat sources such as fire places, heating appliances, flues and chimneys. Part 7 of NZBC Acceptable Solutions C/AS1 – C/AS6 and NZBC Verification Method C/VM1 provide methods for separation and protection of combustible materials from heat sources.
- 10.2 KAFLEX and ROFLEX Grommets must not be used around the flues of heating appliances such as gas or wood-burning heaters.



External Moisture

- 11.1 KAFLEX and ROFLEX Grommets provide suitable flashing and sealing around pipe and cable penetrations when used in conjunction with BRANZ Appraised wall underlays, and will contribute to the wall cladding meeting code compliance with NZBC Clause E2.3.2.
- 11.2 Roof penetrations must be constructed in accordance with NZBC Acceptable Solution E2/AS1, Paragraph 8.4.17 a) or b).

Installation Information

Installation Skill Level Requirements

- 12.1 Installation must always be carried out in accordance with the KAFLEX and ROFLEX Grommets Technical Literature and this Appraisal by, or under the supervision of, a Licensed Building Practitioner (LBP) with the relevant Licence Class.

General

- 13.1 KAFLEX and ROFLEX Grommets must create a tight seal around the pipe or cable penetration. The appropriate sized KAFLEX and ROFLEX Grommet must be used based on the diameter of the pipe or cable penetration.
- 13.2 The substrate must be clean, dry and free of contaminants such as dust prior to adhering the KAFLEX and ROFLEX Grommets.
- 13.3 KAFLEX and ROFLEX Grommets must be installed in a diamond pattern, which will assist with moisture run-off.
- 13.4 If the KAFLEX and ROFLEX Grommets are exposed to the weather or UV light for more than 180 days, then they must be replaced with new seals.
- 13.5 The roof or wall cladding must be sealed as required by NZBC Acceptable Solution E2/AS1.

Installation Temperature

- 13.6 KAFLEX and ROFLEX Grommets must not be installed at temperatures of less than -5°C.

Inspections

- 13.7 The Technical Literature must be referred to during the inspection of KAFLEX and ROFLEX Grommets installations.

Basis of Appraisal

The following is a summary of the technical investigations carried out:

Tests

- 14.1 Testing after various forms of accelerated aging has confirmed the adhesion of KAFLEX and ROFLEX Grommets to a range of flexible and rigid wall underlays. The results have been reviewed by BRANZ experts and found to be satisfactory.

Other Investigations

- 15.1 Assessment of the composition of the materials used to make KAFLEX and ROFLEX Grommets has been completed and a durability opinion has been provided by BRANZ experts.
- 15.2 The practicability of installation was assessed by BRANZ and found to be satisfactory.
- 15.3 The Technical Literature has been reviewed by BRANZ and found to be satisfactory.



Quality

- 16.1 The manufacture of KAFLEX and ROFLEX Grommets has not been examined by BRANZ but details of the quality and composition of the materials used were obtained and found to be satisfactory. BRANZ undertakes an ongoing review of product quality on an inwards goods basis.
- 16.2 The quality of supply to the market is the responsibility of Pro Clima [NZ] Ltd.
- 16.3 The quality of installation on site is the responsibility of the installer.
- 16.4 Designers are responsible for the building design, and building contractors are responsible for the quality of the installation of the framing system, the wall and roof underlay and cladding system.
- 16.5 Building owners are responsible for the maintenance of the cladding system over the KAFLEX and ROFLEX Grommets.

Sources of Information

- NZS 3604: 2011 Timber-framed buildings.
- Acceptable Solutions and Verification Methods for New Zealand Building Code External Moisture Clause E2, Department of Building and Housing, Third Edition July 2005 (including Amendment 7, 01 January 2017).
- Ministry of Business, Innovation and Employment Record of Amendments for Compliance Documents and Handbooks.
- The Building Regulations 1992.



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22 November 2017

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In the opinion of BRANZ, **KAFLEX and ROFLEX Grommets** are fit for purpose and will comply with the Building Code to the extent specified in this Appraisal provided they are used, designed, installed and maintained as set out in this Appraisal.

The Appraisal is issued only to **Pro Clima [NZ] Ltd**, and is valid until further notice, subject to the Conditions of Appraisal.

Conditions of Appraisal

1. This Appraisal:
 - a) relates only to the product as described herein;
 - b) must be read, considered and used in full together with the Technical Literature;
 - c) does not address any Legislation, Regulations, Codes or Standards, not specifically named herein;
 - d) is copyright of BRANZ.
2. **Pro Clima [NZ] Ltd**:
 - a) continues to have the product reviewed by BRANZ;
 - b) shall notify BRANZ of any changes in product specification or quality assurance measures prior to the product being marketed;
 - c) abides by the BRANZ Appraisals Services Terms and Conditions;
 - d) warrants that the product and the manufacturing process for the product are maintained at or above the standards, levels and quality assessed and found satisfactory by BRANZ pursuant to BRANZ's Appraisal of the product.
3. BRANZ makes no representation or warranty as to:
 - a) the nature of individual examples of, batches of, or individual installations of the product, including methods and workmanship;
 - b) the presence or absence of any patent or similar rights subsisting in the product or any other product;
 - c) any guarantee or warranty offered by **Pro Clima [NZ] Ltd**.
4. Any reference in this Appraisal to any other publication shall be read as a reference to the version of the publication specified in this Appraisal.
5. BRANZ provides no certification, guarantee, indemnity or warranty, to **Pro Clima [NZ] Ltd** or any third party.

For BRANZ

Chelydra Percy

Chief Executive

Date of Issue:

22 November 2017