# SIMPLEFIX SEISMIC HOT WATER CYLINDER RESTRAINT KITS

## BPIR Declaration

### Designated building product: Class 1

### Declaration

Ray Staiger Limited has provided this declaration to satisfy the provisions of Schedule 1(d) of the Building (Building Product Information Requirements) Regulations 2022.

### Product/System

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|---|---|
| NAME | SIMPLEFIX SEISMIC HOT WATER CYLINDER RESTRAINT KITS |
| LINE | From the Range of SimpleFix Strapping Systems |
| IDENTIFIER | SIMKIT, SIMKIT/3, SIMKIT/ST, SIMKIT/ST3, SIMKIT/PC3 |

### Description

The SimpleFix Seismic Cylinder Restraint Kit contain:
Galvanised strap, 25 x 0.75 mm, G550 (powder-coated options also available). Galvanised earthquake brackets. Tensioning device. Type 17 screws, 55 mm long. M5 bolts and nuts for connecting the straps to the earthquake brackets.

The SimpleFix Seismic Stainless Cylinder Restraint Kit contain: Grade 304 stainless steel strap, 25 x 0.70 mm, G550. Grade 304 stainless steel earthquake brackets. Grade 304 stainless steel tensioning device. Grade 304 stainless steel type 17 screws, 55 mm long. Grade 304 stainless steel M5 bolts and nuts for connecting the straps and the earthquake brackets.

Designed to restrain Hot Water Cylinders to meet the seismic requirements as set out in the NZBC.

### Scope of use

Timber vertical blocking as described in NZBC Acceptable Solution G12/AS1 Paragraph 6.11.4 and Figure 14 must be installed. For external installations, suitably treated timber and fixings must be used. Additional timber framing may be required in retrofit situations to ensure adequate strap fixing is available. Separation between any treated timber and the water cylinder may be necessary.

SimpleFix Seismic Cylinder Restraint Kits are installed in accordance with the Technical Literature. The earthquake brackets are screwed to the framing using the supplied screws. A suitable length of strap is then cut from the supplied reel. This is fixed to the earthquake brackets with the M5 bolts and nuts. The tensioner is then used to take up the slack in the strap.

Straps must not be installed where they clash with the water heater inlet, outlet or controls. Where the 100 mm maximum strap clearance from the top or bottom of the cylinder cannot be achieved, straps may be placed within the top and bottom 25% and one or two additional straps may be required. 1 additional strap placed centrally for water heaters up to 200 litres and 2 additional evenly spaced straps for cylinders 200-360 litres.

An additional centre strap is required where a storage water heater is located more than 12 m off the ground. A maximum total of four straps are required when complying with both 12.3 and 12.4. Please see https://www.branz.co.nz/appraisal-codemark-certificates/simple-fix-water-storage-cylinder-restraint-kits/ for more information.

## Conditions of Use

Must be installed using good building practice and in accordance with the installation document and additional guidelines including the ones stated in this document.

## Relevant building code clauses

**B1 Structure —** B1.3.1, B1.3.2, B1.3.3 (f, h, j), B1.3.4

**B2 Durability —** B2.3.1 (b)

**F2 Hazardous building materials —** F2.3.1

**G10 Piped services —** G10.3.1

**G12 Water Supplies —** 6.11.4

## Contributions to compliance

B1.3.1, B1.3.2, B1.3.3 (F,H,J), B1.3.4: The SimpleFix Seismic Restraint Kit has been approved by a registered engineer for water heaters up to 700 litres in accordance with the seismic design code NZS 1170.5:2004.

B2.3.1 (a): The components of SimpleFix Seismic Cylinder Restraint Kits are all steel. As long as they are kept dry in service, they are expected to have the same serviceable life as the cylinders that they restrain.
The components of SimpleFix Seismic Stainless Cylinder Restraint Kits are all Grade 304 stainless steel. They are expected to have the same serviceable life as the cylinders that they restrain

F2.3.1: The Simplefix Seimic Cylinder Restraint Kits are safe when handled. There are no additional requirements for these products.

G12 Water Supplies — G12 6.11.4 The SimpleFix Seismic Hot Water Cylinder Restraint Kits are BRANZ Appraised to confirm they comply as an acceptable solution to the NZBC (AS1). The number of straps required when using the SimpleFix Seismic Cylinder Restraint Kits depends on the size of the cylinder to be restrained and the height of the cylinder within the building.

## Supporting Documentation

Supporting documentation can be made available upon request if not already available on www.simplefix.co.nz. This may include installation guides, BRANZ Appraisal, load ratings, mill certificates, or any other supporting information.

## Contact Details

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| Manufacture Location | China, Taiwan |
| Manufactured on behalf of | Ray Staiger Ltd. |
| Legal and trading name of importer | Ray Staiger Ltd. |
| Importer address for service | 44 Hounsell Road, Burbush |
| Importer Website | www.simplefix.co.nz |
| Importer NZBN | 9429038913860 |
| Importer Email | RSL@simplefix.co.nz |
| Importer Phone Number | 07 850 4200 |

## Responsible person

To the best of the company's knowledge all information supplied in this declaration is based upon documentation and information supplied to RSL from genuine sources and is correct. The SimpleFix Hot Water Cylinder Restraint Kits are not subject to a warning or ban under s26 of the Building Act.

**Building Code Performance Clauses**

**B1 Structure**

B1.3.1 Buildings, building elements and sitework shall have a low probability of rupturing, becoming unstable, losing equilibrium, or collapsing during construction or alteration and throughout their lives.

B1.3.2 Buildings, building elements and sitework shall have a low probability of causing loss of amenity through undue deformation, vibratory response, degradation, or other physical characteristics throughout their lives, or during construction or alteration when the building is in use.

B1.3.3 Account shall be taken of all physical conditions likely to affect the stability of buildings, building elements and sitework, including:
- (f) earthquake
- (h) wind
- (j) impact

B1.3.4 Due allowances shall be made for:
a. the consequences of failure,
b. the intended use of the building,
c. effects of uncertainties resulting from construction activities, or the sequence in which construction activities occur,
d. variation in the properties of materials and the characteristics of the site, and
e. accuracy limitations inherent in the methods used to predict the stability of buildings

**B2 Durability**

B2.3.1 Building elements must, with only normal maintenance, continue to satisfy the performance requirements of this code for the lesser of the specified intended life of the building, if stated, or:
- (a) the life of the building, being not less than 50 years, if: those building elements (including floors, walls, and fixings) provide structural stability to the building, or those building elements are difficult to access or replace, or failure of those building elements to comply with the building code would go undetected during both normal use and maintenance of the building

**F2 Hazardous building materials**

F2.3.1 The quantities of gas, liquid, radiation or solid particles emitted by materials used in the construction of buildings, shall not give rise to harmful concentrations at the surface of the material where the material is exposed, or in the atmosphere of any space.

**G12 Water Supplies**

G12.6.11.4 NZBC B1.3.2 requires building elements (including storage water heaters) to be adequately supported including support against earthquake forces. The method illustrated in Figure 14 is acceptable for water heaters up to 360 litre capacity. Where fittings and pipework are attached to the water heater through the supporting platform or floor a 50 mm minimum clearance shall be provided between the fitting and the support structure.