This paper provides information related to the sensor measurements obtained from five different unreinforced masonry (URM) walls subjected to incremental dynamic shake-table tests at EUCENTRE, Pavia, Italy. This information has been made available to assist in the development and calibration of analytical and numerical models intended to simulate the out-of-plane (OOP) two-way bending response of URM walls. For further interpretation of the sensor recordings, and for a detailed discussion on the observed seismic performance of the specimens, the reader is referred to the article entitled “Experimental Response of URM Single Leaf and Cavity Walls in Out-Of-Plane Two-Way Bending Generated by Seismic Excitation” [1]. Videos documenting the failure of each specimen are also available on YouTube [2].

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Data corresponding to incremental dynamic testing of five full-scale URM walls is provided. Each specimen was densely instrumented with various sensors measuring accelerations and displacements throughout the testing sequence. The locations of these sensors and their operating status throughout the testing sequence (Table 4 of reference article [1]) is provided in Tables 1–5 and Figs. 2–6. Figs. 2–6 also provide information on the mass distribution assumed to compute the provided inertial force associated with each specimen. The recorded data is organized into folders with each folder corresponding to a single specimen. Each folder contains several files with a single file containing the data of all instruments recording in a particular test. The name of each file provides information about which test of the testing sequence it contains data of. Within each .txt file, the first column corresponds to a time vector whereas all other columns correspond to instrument readings. All data acquired was filtered from frequencies higher than 50 Hz. All recordings of accelerations and forces are provided in units of g and kN, respectively while displacements are given in mm.

2. Experimental design, materials, and methods

This article presents the experimental data obtained from incremental dynamic testing of five full-scale URM walls subjected to two-way bending OOP seismic excitation. Four full scale URM walls

Specifications table

| Subject area       | Engineering                                      |
|--------------------|--------------------------------------------------|
| More specific subject area | Structural dynamics, Earthquake engineering |
| Type of data       | Tables, figures, videos and recordings from instruments (acceleration, displacement and force time histories) |
| How data was acquired | The specimens were instrumented with accelerometers, wire potentiometers, linear potentiometers, and a three-dimensional motion-capture system was used for recording their response during testing. |
| Data format        | Filtered and processed time histories: .txt files |
| Experimental factors | Specimens were U shaped: consisting of an out-of-plane panel and two return walls. Their materials can be considered representative of the URM building stock of the Groningen province of the Netherlands |
| Experimental features | Incremental unidirectional dynamic shake-table tests were performed up to near-collapse or collapse conditions of the specimens, using input ground motions compatible with induced-seismicity scenario for the Groningen region of the Netherlands |
| Data source location | The tests were carried out at the laboratory facilities of the European Centre for Training and Research in Earthquake Engineering (EUCENTRE) based in Pavia, Italy |
| Data accessibility | All recorded data (acceleration and displacement time histories) included with this article can also be requested on the EUCENTRE repository at the URL www.eucentre.it/nam-project/?lang=en |
| Related research article | Graziotti F, Tomassetti U, Sharma S, Grotti L, Magenes G. Experimental response of URM single leaf and cavity walls in out-of-plane two-way bending generated by seismic excitation. Construction and Building Materials. 195, 2019, 650–670.; https://doi.org/10.1016/j.conbuildmat.2018.10.076 [1] |

Value of the data

- The data provides detailed information about the dynamic response of URM walls in two-way bending. It may serve as a benchmark for the development as well as calibration of numerical models to simulate the response of URM in the out-of-plane direction (e.g. Refs. [4–6]).
- The data can also be used to validate simplified analytical methods to assess the response of URM in the out-of-plane direction.
- The data may serve to evaluate the effectiveness of the test setup.

1. Data

Data corresponding to incremental dynamic testing of five full-scale URM walls is provided. Each specimen was densely instrumented with various sensors measuring accelerations and displacements throughout the testing sequence. The locations of these sensors and their operating status throughout the testing sequence (Table 4 of reference article [1]) is provided in Tables 1–5 and Figs. 2–6. Figs. 2–6 also provide information on the mass distribution assumed to compute the provided inertial force associated with each specimen. The recorded data is organized into folders with each folder corresponding to a single specimen. Each folder contains several files with a single file containing the data of all instruments recording in a particular test. The name of each file provides information about which test of the testing sequence it contains data of. Within each .txt file, the first column corresponds to a time vector whereas all other columns correspond to instrument readings. All data acquired was filtered from frequencies higher than 50 Hz. All recordings of accelerations and forces are provided in units of g and kN, respectively while displacements are given in mm.
(single leaf as well as cavity) were also previously tested by the authors under one-way bending excitation \[3\]. The data acquired from such tests may represent a benchmark for the development as well as calibration of numerical models to simulate the response of URM in the out-of-plane direction (e.g. Refs. \[4\]–\[6\]). This experimental data can also provide valuable insights on the comparison between results observed for walls with that of local two-way-bending failures observed in full-scale buildings (e.g. Tomassetti et al. \[7\]).

The five tested walls represent the first full-scale URM walls tested up to collapse that have been reported in literature. Three of these specimens were constructed in calcium silicate masonry (CS),

![Figure 1](https://via.placeholder.com/150)

**Table 1**

CS-010/005-RR data organisation.

| Col. | Instr. | Description                        | Offline Location | Associated Mass |
|------|--------|------------------------------------|------------------|-----------------|
|      |        |                                    | X [mm] Z [mm]    | 1st [kg] 2nd [kg] 3rd [kg] |
| 1    | –      | ‘Time [s]’                          | –                | –               |
| 2    | Acc.   | ‘Shake Table Acc. [g]’              | –                | –               |
| 3    | Acc.   | ‘Foundation Acc. [g]’               | –                | 449 449 284     |
| 4    | Acc.   | ‘Frame Acc. [g]’                    | –                | –               |
| 5    | Acc.   | ‘Side A Beam Acc. [g]’              | –                | –               |
| 6    | Acc.   | ‘Centre Beam Acc. [g]’              | –                | 412 412 260     |
| 7    | Acc.   | ‘Side C Beam Acc. [g]’              | –                | –               |
| 8    | Acc.   | ‘1/4 B Wall Acc. [g]’               | 1995 775         | 294 206 206     |
| 9    | Acc.   | ‘1/2 A Wall Acc. [g]’               | 885 1425         | 229 228 402     |
| 10   | Acc.   | ‘1/2 B Wall Acc. [g]’               | 1995 1425        | 163 137 136     |
| 11   | Acc.   | ‘1/2 C Wall Acc. [g]’               | 3105 1425        | 229 357 531     |
| 12   | Acc.   | ‘3/4 B Wall Acc. [g]’               | 1995 2070        | 281 288 267     |
| 13   | Pot.   | ‘Shake Table Disp. [mm]’            | –                | –               |
| 14   | WP     | ‘1/4 A Wall Disp. [mm]’             | 1, 9, 23, 27     | 885 775         |
| 15   | WP     | ‘1/4 B Wall Disp. [mm]’             | 1, 9, 23, 27     | 1995 775        |
| 16   | WP     | ‘1/4 C Wall Disp. [mm]’             | 1, 9, 23, 27     | 3105 775        |
| 17   | WP     | ‘1/2 A Wall Disp. [mm]’             | 1, 9, 23, 27     | 885 1425        |
| 18   | WP     | ‘1/2 B Wall Disp. [mm]’             | 1, 9, 23, 27     | 1995 1425        |
| 19   | WP     | ‘1/2 C Wall Disp. [mm]’             | 1, 9, 23, 27     | 3105 1425        |
| 20   | WP     | ‘3/4 A Wall Disp. [mm]’             | 1, 9, 23, 27     | 885 2070        |
| 21   | WP     | ‘3/4 B Wall Disp. [mm]’             | 1, 9, 23, 27     | 1995 2070        |
| 22   | WP     | ‘3/4 C Wall Disp. [mm]’             | 1, 9, 23, 27     | 3105 2070        |
| 23   | Pot.   | ‘4/4 A Wall Disp. [mm]’             | All Tests        | –               |
| 24   | Pot.   | ‘Top Beam Disp. [mm]’               | –                | –               |
| 25   | Pot.   | ‘4/4 C Wall Disp. [mm]’             | All Tests        | –               |
| 26   | Pot.   | ‘1/2 Side A OOP Detachment [mm]’    | –                | 220 1425        |
| 27   | Pot.   | ‘Side A Ret. Wall Sliding [mm]’     | 1–27             | 50 450          |
| 28   | Pot.   | ‘1/2 Side C OOP Detachment [mm]’    | –                | 3770 1425       |
| 29   | Pot.   | ‘Side C Ret. Wall Sliding [mm]’     | 1–27             | 3935 450        |
| 30   | –      | ‘Inertial Force [kN]’               | 1, 9, 23, 27     | –               |

![YouTube](https://via.placeholder.com/150)
one in clay (CL) masonry and another one was a cavity wall consisting of an inner leaf in CS and an outer leaf in CL masonry connected to each other by metal ties. All dynamic tests were carried out at the uniaxial shake table of EUCENTRE Pavia. The main input motions used in this part of the campaign corresponded to second floor accelerograms recorded either from a building prototype tested by Graziotti et al. [8] or from a calibrated numerical model of the tested building [5]. Low amplitude random excitations (RN) were used in between test runs to identify the dynamic properties of the specimens. A summary of the naming adopted and boundary conditions associated with the tested specimens can be observed in Fig. 1. Characteristics of the employed input motions and their sequence along with the employed scaling factors are summarised in Table 4 of the reference article [1].

Every specimen was densely instrumented with sensors that recorded the dynamic response at various locations. The instrumentation adopted for each specimen consisted of accelerometers, potentiometers, wire potentiometers and a 3D optical acquisition system (used for all specimens except CS-005-RR). The location of all the instrumentation adopted for each specimen was decided based on the boundary conditions envisaged and correspondingly expected deformed shapes. Accelerometers were installed on the OOP panel of the specimen in order to record acceleration-time histories. Additional accelerometers were also installed at the specimen foundation, top beam, rigid frame and the return walls. Potentiometers were used to measure relative displacements associated with various locations of the specimen. Wire potentiometers attached to the rigid frame in several locations were used to record horizontal displacements relative to the shake table. Potentiometers were also adopted to record the relative displacements between the main panel and the return walls.

### Table 2

| Col. | Instr. | Description | Offline | Location | Associated Mass |
|------|--------|-------------|---------|----------|-----------------|
|      |        |             |         | X [mm]   | Z [mm]          |
| 1    | –      | ‘Time [s]’  | –       | –        | –               |
| 2    | Acc.   | ‘Shake Table Acc. [g]’ | –       | –        | –               |
| 3    | Acc.   | ‘Foundation Acc. [g]’ | –       | –        | –               |
| 4    | Acc.   | ‘Frame Acc. [g]’ | –       | –        | –               |
| 5    | Acc.   | ‘Side A Ret. Wall Acc. [g]’ | –       | –        | 452 432         |
| 6    | Acc.   | ‘Top Beam Acc. [g]’ | –       | –        | –               |
| 7    | Acc.   | ‘Side C Ret. Wall Acc. [g]’ | –       | –        | 103             |
| 8    | Acc.   | ‘1/4 B Wall Acc. [g]’ | 20–22   | 1995     | 615 294         |
| 9    | Acc.   | ‘1/2 A Wall Acc. [g]’ | 20–22   | 885      | 1425 287        |
| 10   | Acc.   | ‘1/2 B Wall Acc. [g]’ | 20–22   | 1995     | 1425 249 1625   |
| 11   | Acc.   | ‘1/2 C Wall Acc. [g]’ | 20–22   | 3105     | 1425 287        |
| 12   | Acc.   | ‘4/4 B Wall Acc. [g]’ | –       | 1995     | 2070 281        |
| 13   | Pot.   | ‘Shake Table Disp. [mm]’ | –       | –        | –               |
| 14   | Opt.   | ‘1/4 A Wall Disp. [mm]’ | 1, 5, 19-22 | 885    | 775             |
| 15   | Opt.   | ‘1/4 B Wall Disp. [mm]’ | 1, 5, 19-22 | 1995   | 775             |
| 16   | Opt.   | ‘1/4 C Wall Disp. [mm]’ | 1, 5, 19-22 | 3105   | 775             |
| 17   | Opt.   | ‘1/2 A Wall Disp. [mm]’ | 1, 5, 19-22 | 885    | 1425            |
| 18   | Pot./Opt. | ‘1/2 B Wall Disp. [mm]’ | 1, 5, 19-22 | 1995   | 1425            |
| 19   | Opt.   | ‘1/2 C Wall Disp. [mm]’ | 1, 5, 19-22 | 3105   | 1425            |
| 20   | Opt.   | ‘3/4 A Wall Disp. [mm]’ | 1, 5, 19-22 | 885    | 2070            |
| 21   | Opt.   | ‘3/4 B Wall Disp. [mm]’ | 1, 5, 19-22 | 1995   | 2070            |
| 22   | Opt.   | ‘3/4 C Wall Disp. [mm]’ | 1, 5, 19-22 | 3105   | 2070            |
| 23   | Opt.   | ‘4/4 A Wall Disp. [mm]’ | 19–22   | 885      | 2720            |
| 24   | Pot.   | ‘4/4 B Wall Disp. [mm]’ | 1, 5, 19-22 | 1995   | 2720            |
| 25   | Opt.   | ‘4/4 C Wall Disp. [mm]’ | 19–22   | 3105     | 2720            |
| 26   | Pot./Opt. | ‘1/2 Side A OOP Detachment [mm]’ | 19–22 | 105     | 1340            |
| 27   | Pot./Opt. | ‘4/4 Side A OOP Detachment [mm]’ | 19–22 | 105     | 2640            |
| 28   | Pot./Opt. | ‘1/2 Side C OOP Detachment [mm]’ | 19–22 | 3880   | 1340            |
| 29   | Pot./Opt. | ‘4/4 Side C OOP Detachment [mm]’ | 19–22 | 3880   | 2640            |
| 30   | –      | ‘Inertial Force [kN]’ | 1, 5, 19 | –      | –               |

U. Tomassetti et al. / Data in brief 24 (2019) 103854
Table 3
CSW-000-RF data organisation.

| Col. | Instr. | Description | Offline | Location | Associated Mass |
|------|--------|-------------|---------|----------|-----------------|
|      |        |             | X [mm]  | Z [mm]   | 1st [kg] | 2nd [kg] |
| 1    | -      | 'Time [s]'  | -       | -        | -        | -        |
| 2    | Acc.   | 'Shake Table Acc. [g]' | - | - | - | - |
| 3    | Acc.   | 'Foundation Acc. [g]' | - | - | 369 | 417 |
| 4    | Acc.   | 'Frame Acc. [g]' | 21–27 | - | - | - |
| 5    | Acc.   | 'Side A Ret. Wall Acc. [g]' | - | - | - | 103 |
| 6    | Acc.   | 'Top Beam Acc. [g]' | - | - | - | - |
| 7    | Acc.   | 'Side C Ret. Wall Acc. [g]' | - | - | - | 84 |
| 8    | Acc.   | '1/4 B Wall Acc. [g]' | 21–27 | 2325 | 615 | 72 |
| 9    | Acc.   | '1/4 A Wall Acc. [g]' | - | 885 | 1425 | 98 |
| 10   | Acc.   | '1/2 B Wall Acc. [g]' | 21–27 | 1330 | 1425 | 99 |
| 11   | Acc.   | '1/2 C Wall Acc. [g]' | - | 3380 | 1425 | 47 |
| 12   | Acc.   | '4/4 B Wall Acc. [g]' | - | 1975 | 2560 | 237 |
| 13   | Pot.   | 'Shake Table Disp. [mm]' | - | - | - | - |
| 14   | Opt.   | '1/4 A Wall Disp. [mm]' | 1-2, 10, 21 | 665 | 775 | - |
| 15   | Opt.   | '1/4 B Wall Disp. [mm]' | 1-2, 10, 21 | 1495 | 775 | - |
| 16   | Opt.   | '1/4 C Wall Disp. [mm]' | 1-2, 10, 21 | 3380 | 775 | - |
| 17   | Opt.   | '1/2 A Wall Disp. [mm]' | 1-2, 10, 21 | 665 | 1425 | - |
| 18   | WP/Opt.| '1/2 B Wall Disp. [mm]' | 1-2, 10, 21 | 1495 | 1425 | - |
| 19   | Opt.   | '1/2 C Wall Disp. [mm]' | 1-2, 10, 21 | 3380 | 1425 | - |
| 20   | Opt.   | '3/4 A Wall Disp. [mm]' | 1-2, 10, 21 | 665 | 2315 | - |
| 21   | WP/Opt.| '3/4 B Wall Disp. [mm]' | 1-2, 10, 21 | 1495 | 2315 | - |
| 22   | Opt.   | '3/4 C Wall Disp. [mm]' | 1-2, 10, 21 | 3380 | 2315 | - |
| 23   | Opt.   | '4/4 A Wall Disp. [mm]' | 1-2, 10, 21 | 665 | 2720 | - |
| 24   | Opt.   | '4/4 B Wall Disp. [mm]' | 1-2, 10, 21 | 1495 | 2720 | - |
| 25   | Opt.   | '4/4 C Wall Disp. [mm]' | 1-2, 10, 21 | 3380 | 2720 | - |
| 26   | Pot./Opt.| '1/2 Side A OOP Detachment [mm]' | 1-2, 10, 21 | 220 | 1425 | - |
| 27   | Pot./Opt.| '4/4 Side A OOP Detachment [mm]' | 1-2, 10, 21 | 220 | 2560 | - |
| 28   | Pot./Opt.| '1/2 Side C OOP Detachment [mm]' | 1-2, 10, 21 | 3770 | 1425 | - |
| 29   | Pot./Opt.| '4/4 Side C OOP Detachment [mm]' | 1-2, 10, 21 | 3770 | 2560 | - |
| 30   | -      | 'Inertial Force [kN]' | 1-2, 10, 22 | - | - | - |
| 31   | Acc.   | '1/4 A Wall Acc. [g]' | 21–27 | 885 | 615 | 138 |
| 32   | Acc.   | '1/4 C Wall Acc. [g]' | 21–27 | 3380 | 615 | 69 |
| 33   | Acc.   | '3/4 A Wall Acc. [g]' | 21–27 | 885 | 2150 | 176 |
| 34   | Acc.   | '3/4 C Wall Acc. [g]' | 21–27 | 3380 | 2150 | 42 |
| 35   | Opt.   | '1/8 A Wall Disp. [mm]' | 1-2, 10, 21 | 665 | 450 | - |
| 36   | Opt.   | '1/8 B Wall Disp. [mm]' | 1-2, 10, 21 | 1495 | 450 | - |
| 37   | Opt.   | '1/8 C Wall Disp. [mm]' | 1-2, 10, 21 | 3380 | 450 | - |
| 38   | Opt.   | 'Side A Window Corner Disp. [mm]' | 1-2, 10, 21 | 1660 | 530 | - |
| 39   | Opt.   | 'Side C Window Corner Disp. [mm]' | 1-2, 10, 21 | 3125 | 530 | - |

All data acquired was filtered from frequencies higher than 50 Hz. Accelerations and forces are provided in units of g and kN, respectively; displacements are given in mm. For each specimen, a folder is created named as the specimen: the folder containing data from all the tests corresponding to the second specimen is named as “CS-000-RF”. This folder contains .txt files for each test named as “TestT#” where “T#” refer to the same quantity provided in the testing sequence included in the reference article [1] (Table 4). Within each .txt file, the first column corresponds to a time vector whereas all other columns correspond to instrument readings. The instrument recordings contained in different columns for each specimen as well as coordinates of their exact location are provided in Tables 1–5. Figs. 2–6 shows graphically the employed instruments for each specimen. In these tables and figures, Acc.: refers to accelerometer, WP: refers to wire potentiometer, Pot.: refers to potentiometer and Opt./Marker: refers to optical acquisition. Please note that moving towards higher intensities of shaking WP measurements were replaced with those obtained from a 3D optical (Opt./Marker) acquisition system.
### Table 4
CL-000-RF data organisation.

| Col. | Instr. | Description | Offline Location | Associated Mass |
|------|--------|-------------|------------------|-----------------|
|      |        |             | X [mm] Z [mm]    | 1st [kg] 2nd [kg] |
| 1    | –      | ‘Time [s]’  | –                | –               |
| 2    | Acc.   | ‘Shake Table Acc. [g]’ | –                | –               |
| 3    | Acc.   | ‘Foundation Acc. [g]’   | –                | –               |
| 4    | Acc.   | ‘Frame Acc. [g]’        | 23               | –               |
| 5    | Acc.   | ‘Side A Ret. Wall Acc. [g]’ | –                | 445 141 |
| 6    | Acc.   | ‘Top Beam Acc. [g]’     | –                | 108 98          |
| 7    | Acc.   | ‘Side C Ret. Wall Acc. [g]’ | –                | 108 98          |
| 8    | Acc.   | ‘1/4 B Wall Acc. [g]’   | –                | 2065 755 319 455 |
| 9    | Acc.   | ‘1/2 A Wall Acc. [g]’   | 650              | 1415 241 333   |
| 10   | Acc.   | ‘1/2 B Wall Acc. [g]’   | 2065             | 1415 176 177   |
| 11   | Acc.   | ‘1/2 C Wall Acc. [g]’   | 3265             | 1415 241 333   |
| 12   | Acc.   | ‘4/4 B Wall Acc. [g]’   | –                | 2065 2555 284 284 |
| 13   | Pot.   | ‘Shake Table Disp. [mm]’| –                | –               |
| 14   | Opt.   | ‘1/4 A Wall Disp. [mm]’ | 1, 9, 19, 22     | 1195 755 –     |
| 15   | WP/Opt.| ‘1/4 B Wall Disp. [mm]’ | 1, 9, 19, 22     | 2065 755 –     |
| 16   | Opt.   | ‘1/4 C Wall Disp. [mm]’ | 1, 9, 19, 22     | 2940 755 –     |
| 17   | Opt.   | ‘1/2 A Wall Disp. [mm]’ | 1, 9, 19, 22     | 1195 1415 –    |
| 18   | WP/Opt.| ‘1/2 B Wall Disp. [mm]’ | 1, 9, 19, 22     | 2065 1415 –    |
| 19   | Opt.   | ‘1/2 C Wall Disp. [mm]’ | 1, 9, 19, 22     | 2940 1415 –    |
| 20   | Opt.   | ‘3/4 A Wall Disp. [mm]’ | 1, 9, 19, 22     | 1195 2075 –    |
| 21   | WP/Opt.| ‘3/4 B Wall Disp. [mm]’ | 1, 9, 19, 22     | 2065 2075 –    |
| 22   | Opt.   | ‘3/4 C Wall Disp. [mm]’ | 1, 9, 19, 22     | 2940 2075 –    |
| 23   | Opt.   | ‘4/4 A Wall Disp. [mm]’ | 1, 9, 19, 22     | 2940 2735 –    |
| 24   | Pot.   | ‘4/4 B Wall Disp. [mm]’ | 1, 9, 19, 22     | 2940 2735 –    |
| 25   | Opt.   | ‘4/4 C Wall Disp. [mm]’ | 1, 9, 19, 22     | 2940 2735 –    |
| 26   | Pot./Opt.| ‘1/2 Side A OOP Detachment [mm]’ | 1, 9, 19, 22 | 155 1535 –  |
| 27   | Pot./Opt.| ‘4/4 Side A OOP Detachment [mm]’ | 1, 9, 19, 22 | 3865 2555 –  |
| 28   | Pot./Opt.| ‘1/2 Side C OOP Detachment [mm]’ | 1, 9, 19, 22 | 155 1535 –  |
| 29   | Pot./Opt.| ‘4/4 Side C OOP Detachment [mm]’ | 1, 9, 19, 22 | 3865 2555 –  |
| 30   | –      | ‘Inertial Force [kN]’       | 1, 9, 19, 22   | –               |
| 31   | –      | All Tests               | –                | –               |
| 32   | –      | All Tests               | –                | –               |
| 33   | Acc.   | ‘3/4 B Wall Acc. [g]’   | –                | 2065 2075 257 257 |
| 34   | –      | All Tests               | –                | –               |
| 35   | Opt.   | ‘1/8 A Wall Disp. [mm]’ | 1, 9, 19, 22     | 1195 395 –     |
| 36   | Opt.   | ‘1/8 B Wall Disp. [mm]’ | 1, 9, 19, 22     | 2065 395 –     |
| 37   | Opt.   | ‘1/8 C Wall Disp. [mm]’ | 1, 9, 19, 22     | 2940 395 –     |
| 38   | –      | All Tests               | –                | –               |
| 39   | –      | All Tests               | –                | –               |

### Table 5
CAV-000-RF data organisation.

| Col. | Instr. | Description | Offline Location | Associated Mass |
|------|--------|-------------|------------------|-----------------|
|      |        |             | X [mm] Z [mm]    | 1st [kg]        |
| 1    | –      | ‘Time [s]’  | –                | –               |
| 2    | Acc.   | ‘Shake Table Acc. [g]’ | –                | –               |
| 3    | Acc.   | ‘Foundation Acc. [g]’   | –                | –               |
| 4    | Acc.   | ‘Frame Acc. [g]’        | –                | –               |
| 5    | Acc.   | ‘Side A CS Ret. Wall Acc. [g]’ | –                | 460 + 530 |
| 6    | Acc.   | ‘Top Beam Acc. [g]’     | All Tests        | –               |
| 7    | Acc.   | ‘Side C CS Ret. Wall Acc. [g]’ | –                | 128             |
| 8    | Acc.   | ‘1/4 B CS Wall Acc. [g]’ | –                | –               |
| 9    | Acc.   | ‘1/2 A CS Wall Acc. [g]’ | –                | 995 1340 255 255 |
| 10   | Acc.   | ‘1/2 B CS Wall Acc. [g]’ | –                | 2105 1340 126   |
| 11   | Acc.   | ‘1/2 C CS Wall Acc. [g]’ | –                | 2990 1340 242   |
| 12   | Acc.   | ‘4/4 B CS Wall Acc. [g]’ | –                | 2105 2640 223   |
| 13   | Acc.   | ‘Shake Table Disp. [mm]’ | –                | –               |
Table 5 (continued)

| Col. | Instr. | Description                        | Offline | Location          | Associated Mass |
|------|--------|------------------------------------|---------|-------------------|-----------------|
|      |        |                                    |         | X [mm]            | Z [mm]          | 1st [kg]       |
| 14   | WP     | '1/4 A CS Wall Disp. [mm]'         | 1, 9, 16| 995               | 695             |                |
| 15   | WP     | '1/4 B CS Wall Disp. [mm]'         | 1, 9, 16| 2105              | 695             |                |
| 16   | WP     | '1/4 C CS Wall Disp. [mm]'         | 1, 9, 16| 2990              | 695             |                |
| 17   | WP     | '1/2 A CS Wall Disp. [mm]'         | 1, 9, 16| 995               | 1340            |                |
| 18   | WP     | '1/2 B CS Wall Disp. [mm]'         | 1, 9, 16| 2105              | 1340            |                |
| 19   | WP     | '1/2 C CS Wall Disp. [mm]'         | 1, 9, 16| 2990              | 1340            |                |
| 20   | WP     | '3/4 A CS Wall Disp. [mm]'         | 1, 9, 16| 995               | 2070            |                |
| 21   | WP     | '3/4 B CS Wall Disp. [mm]'         | 1, 9, 16| 2105              | 2070            |                |
| 22   | WP     | '3/4 C CS Wall Disp. [mm]'         | 1, 9, 16| 2990              | 2070            |                |
| 23   | Pot.   | '4/4 A CS Wall Disp. [mm]'         | All Tests|                  |                 |                |
| 24   | Pot.   | '4/4 B CS Wall Disp. [mm]'         | 1, 9, 16| 1990              | 2720            |                |
| 25   | Pot.   | '4/4 C CS Wall Disp. [mm]'         | All Tests|                  |                 |                |
| 26   | Pot.   | '1/2 Side A OOP Detachment [mm]'   | 1, 9, 16| 220               | 1425            |                |
| 27   | Pot.   | '4/4 Side A OOP Detachment [mm]'   | 1, 9, 16| 220               | 2640            |                |
| 28   | Pot.   | '1/2 Side C OOP Detachment [mm]'   | 1, 9, 16| 3770              | 1425            |                |
| 29   | Pot.   | '4/4 Side C OOP Detachment [mm]'   | 1, 9, 16| 3770              | 2640            |                |
| 30   |       | 'Inertial Force [kN]'              | 1, 9, 16| 2105              | 2070            | 242            |
| 31   | Acc.   | '3/4 B CS Wall Acc. [g]'           | 1, 9, 16| 2105              | 695             | 307            |
| 32   | Acc.   | 'Side A CL Ret. Wall Acc. [g]'     | 1, 9, 16|                  |                 | 137            |
| 33   | Acc.   | 'Side C CL Ret. Wall Acc. [g]'     | 1, 9, 16|                  |                 | 154            |
| 34   | Acc.   | '1/4 B CL Wall Acc. [g]'           |          | 2175              | 695             | 286            |
| 35   | Acc.   | '1/2 A CL Wall Acc. [g]'           |          | 1085              | 1415            | 286            |
| 36   | Acc.   | '1/2 B CL Wall Acc. [g]'           |          | 2175              | 1415            | 149            |
| 37   | Acc.   | '1/2 C CL Wall Acc. [g]'           |          | 3265              | 1415            | 300            |
| 38   | Acc.   | '3/4 B CL Wall Acc. [g]'           |          | 2175              | 2075            | 271            |
| 39   | Acc.   | '4/4 B CL Wall Acc. [g]'           |          | 2175              | 2735            | 240            |
| 40   | Opt.   | '1/4 A CL Wall Disp. [mm]'         | 1, 9, 16| 1085              | 695             |                |
| 41   | Opt.   | '1/4 B CL Wall Disp. [mm]'         | 1, 9, 16| 2175              | 695             |                |
| 42   | Opt.   | '1/4 C CL Wall Disp. [mm]'         | 1, 9, 16| 3265              | 695             |                |
| 43   | Opt.   | '1/2 A CL Wall Disp. [mm]'         | 1, 9, 16| 1085              | 1415            |                |
| 44   | Opt.   | '1/2 B CL Wall Disp. [mm]'         | 1, 9, 16| 2175              | 1415            |                |
| 45   | Opt.   | '1/2 C CL Wall Disp. [mm]'         | 1, 9, 16| 3265              | 1415            |                |
| 46   | Opt.   | '3/4 A CL Wall Disp. [mm]'         | 1, 9, 16| 1085              | 2075            |                |
| 47   | Opt.   | '3/4 B CL Wall Disp. [mm]'         | 1, 9, 16| 2175              | 2075            |                |
| 48   | Opt.   | '3/4 C CL Wall Disp. [mm]'         | 1, 9, 16| 3265              | 2075            |                |
| 49   | Opt.   | '4/4 A CL Wall Disp. [mm]'         | 1, 9, 16| 1085              | 2735            |                |
| 50   | Opt.   | '4/4 B CL Wall Disp. [mm]'         | 1, 9, 16| 2175              | 2735            |                |
| 51   | Opt.   | '4/4 C CL Wall Disp. [mm]'         | 1, 9, 16| 3265              | 2735            |                |
| 52   | Pot.   | '4/4 B CL Wall Disp. [mm]'         | 1, 9, 16| 1960              | 2735            |                |

Tables 1–5 indicate also the mass associated with each accelerometer for the calculation of the inertial force of the OOP panel (provided in the .txt files). This associated lumped mass distribution changed throughout the testing sequence with the development of cracks and the adopted distribution throughout the testing sequence can also be found in Figs. 2–6. More details about how the inertial force was calculated can be found in the reference article [1]. It is worth noticing as in the case of CS-000-RF specimen during the last stages of testing (Test 19–22), due to lower number of instruments recording, a linear acceleration amplification was assumed along its height and half of the relative acceleration recorded by accelerometer 12 (marked in grey in Fig. 3) was assigned to the centre of the cracked panel. This was done in order not to overestimate the inertial force associated with the specimen. Additionally, the column “Offline” in Tables 1–5 indicates test numbers (Table 4 of reference article [1]) when a particular instrument was not recording.

As an illustrative example, with reference to Table 2, column 3 of the file “Test6.txt” in the folder “CS-000-RF” corresponds to recordings of the ‘Foundation Acc.’ when specimen CS-000-RF was subjected to FEQ2-DS3 scaled at 50% i.e. T#6 in Table 4 of the reference article [1].
Fig. 2. CS-010/005-RR Instrumentation scheme and mass distribution evolution with associated Test#.

Fig. 3. CS-000-RF instrumentation scheme and mass distribution evolution with associated Test#.

Fig. 4. CSW-000-RF Instrumentation scheme and mass distribution evolution with associated Test#.
Acknowledgments

This paper describes an activity that is part of the “Study of the vulnerability of masonry buildings in Groningen” project at the EUCENTRE, undertaken within the framework of the research program for hazard and risk of induced seismicity in Groningen sponsored by the Nederlandse Aardolie Maatschappij BV. The authors would like to thank all the parties involved in this project, namely EUCENTRE and University of Pavia (DICAr) laboratories that performed the tests, Arup and TU Delft. The valuable

Fig. 5. CL-000-RF Instrumentation scheme and mass distribution evolution with associated Test#.

Fig. 6. CAV-000-RF Instrumentation scheme and mass distribution evolution with associated Test#.
advice of R. Pinho, G. Magenes, A. Penna and M. Griffith is gratefully acknowledged. Thanks go also to J. Uilenreef, F. Dacarro, S. Pelosi, M. Mandirola, A. Fragomelone, M. P. Scovenna and G. Sinopoli for the practical support.

Transparency document

Transparency document associated with this article can be found in the online version at https://doi.org/10.1016/j.dib.2019.103854.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.dib.2019.103854.

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