

| Contents                                                        | Page |
|-----------------------------------------------------------------|------|
| Foreword .....                                                  | 4    |
| 1 Scope .....                                                   | 5    |
| 2 Normative references .....                                    | 5    |
| 3 Terms and definitions .....                                   | 6    |
| 4 Areas of application and types of earth building boards ..... | 6    |
| 4.1 General .....                                               | 6    |
| 4.2 Earth building boards for sheathing (A) .....               | 7    |
| 4.3 Earth building boards for cladding (B) .....                | 7    |
| 5 Constituents and production .....                             | 7    |
| 6 Requirements .....                                            | 8    |
| 6.1 General .....                                               | 8    |
| 6.2 Form, dimensions, and dimensional stability .....           | 9    |
| 6.3 Density .....                                               | 9    |
| 6.4 Mechanical properties .....                                 | 10   |
| 6.4.1 Surface hardness .....                                    | 10   |
| 6.4.2 Surface tensile strength .....                            | 10   |
| 6.4.3 Flexural strength .....                                   | 10   |
| 6.5 Physical properties .....                                   | 10   |
| 6.5.1 Dry mass .....                                            | 10   |
| 6.5.2 Water vapour diffusion resistance .....                   | 10   |
| 6.5.3 Moisture tolerance .....                                  | 10   |
| 6.5.4 Thermal conductivity .....                                | 11   |
| 6.5.5 Heat retention capacity .....                             | 11   |
| 6.5.6 Fire behaviour .....                                      | 11   |
| 6.6 Content of harmful salts .....                              | 11   |
| 7 Designation .....                                             | 11   |
| 8 Labelling .....                                               | 12   |
| 9 Test methods .....                                            | 12   |
| 9.1 General .....                                               | 12   |
| 9.2 Form, dimensions, and dimensional stability .....           | 12   |
| 9.2.1 Squareness .....                                          | 13   |
| 9.2.2 Length and width .....                                    | 13   |
| 9.2.3 Thickness .....                                           | 14   |
| 9.2.4 Flatness .....                                            | 14   |
| 9.3 Density .....                                               | 15   |
| 9.3.1 Apparatus .....                                           | 15   |
| 9.3.2 Procedure .....                                           | 15   |
| 9.3.3 Evaluation and expression of results .....                | 15   |
| 9.4 Mechanical properties .....                                 | 15   |
| 9.4.1 Surface hardness .....                                    | 15   |
| 9.4.2 Surface tensile strength .....                            | 16   |
| 9.4.3 Flexural strength .....                                   | 16   |
| 9.5 Physical properties .....                                   | 18   |

|                                                                              |                                                                                  |    |
|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|----|
| 9.5.1                                                                        | Water vapour diffusion resistance .....                                          | 18 |
| 9.5.2                                                                        | Thermal conductivity .....                                                       | 18 |
| 9.5.3                                                                        | Heat retention capacity .....                                                    | 18 |
| 9.5.4                                                                        | Fire behaviour/building material class .....                                     | 18 |
| 9.6                                                                          | Content of harmful salts .....                                                   | 18 |
| 9.7                                                                          | Additional tests .....                                                           | 19 |
| 10                                                                           | Delivery ticket .....                                                            | 19 |
| 11                                                                           | Product data sheet .....                                                         | 19 |
| Annex A (informative) Additional testing of earth building boards .....      |                                                                                  | 21 |
| A.1                                                                          | Moisture tolerance .....                                                         | 21 |
| A.1.1                                                                        | General .....                                                                    | 21 |
| A.1.2                                                                        | Testing .....                                                                    | 21 |
| A.2                                                                          | Water vapour adsorption .....                                                    | 23 |
| A.2.1                                                                        | General .....                                                                    | 23 |
| A.2.2                                                                        | Testing .....                                                                    | 23 |
| A.2.3                                                                        | Labelling .....                                                                  | 24 |
| A.3                                                                          | Life cycle assessment .....                                                      | 24 |
| A.3.1                                                                        | General .....                                                                    | 24 |
| A.3.2                                                                        | Environmental product declaration for earth building boards .....                | 24 |
| A.3.3                                                                        | Recycling .....                                                                  | 24 |
| A.4                                                                          | Naturally occurring radionuclide activity and activity concentration index ..... | 25 |
| A.4.1                                                                        | General .....                                                                    | 25 |
| A.4.2                                                                        | Procedure .....                                                                  | 25 |
| A.4.3                                                                        | Evaluation .....                                                                 | 25 |
| A.4.4                                                                        | Expression of results .....                                                      | 26 |
| Annex B (informative) Earth building boards in systems .....                 |                                                                                  | 27 |
| B.1                                                                          | System components .....                                                          | 27 |
| B.1.1                                                                        | General .....                                                                    | 27 |
| B.1.2                                                                        | Sheathing .....                                                                  | 27 |
| B.1.3                                                                        | Cladding .....                                                                   | 27 |
| Bibliography .....                                                           |                                                                                  | 29 |
| Figure 1 -- Obtaining test specimens from perforated boards .....            |                                                                                  | 17 |
| Table 1 -- Dimensional stability classes of earth building boards .....      |                                                                                  | 9  |
| Table 2 -- Density classes of earth building boards .....                    |                                                                                  | 9  |
| Table A.1 -- Moisture tolerance classes for earth building boards .....      |                                                                                  | 21 |
| Table A.2 -- Water vapour adsorption classes for earth building boards ..... |                                                                                  | 23 |