1 SCOPE
The aim of this method is to expose insulation materials to accelerated ageing due to increased temperature and heat.

2 FIELD OF APPLICATION
The method is applicable to all insulation materials manufactured as insulation boards. The method is not predictive i.e. it is not intended for assessment of the service life, but it is a precondition for a satisfactory performance that ageing due to this method does not cause major changes in the properties of the materials under investigation.

3 REFERENCES
Reference should be made to EN or prEN numbers of the test methods for:
- Tensile strength perpendicular to the faces
- Dimensional stability

4 DEFINITIONS
None.

5 SAMPLING
Test should be carried out on fresh, unaged material unless otherwise specified. At least three individual tests should be performed.

6 METHOD OF TEST
6.1 Principle
The test specimen is exposed to increased temperature and humidity. The effect of the ageing process is evaluated by means of the change in dimensions and/or tensile strength.

6.2 Apparatus
The following is used for the test:
- a climate box where the temperature and humidity conditions can be maintained at 70 ± 2 °C and 95 ± 5 %RH.

Note: The above mentioned temperature and humidity conditions may be achieved by placing a tray with demineralised water in the box during heating.

- a displacement transducer eg. a comparator to measure the linear dimensions of a test piece to an accuracy of 0.5 mm.

- a tensile test machine with an accuracy better than 2 % of the expected tensile strength.

6.3 Preparation of test samples
The test specimens are cut from boards taken from the normal production. The size of the test specimen shall be at least 300 x 300 mm. For each type at least 3 and preferably 5 individual tests shall be performed.

6.4 Procedure
The test specimens are placed in an environment at a uniform temperature of 23 ± 2 °C and 50 ± 5 %RH for at least 24 hours and are supported by a plate which allows free movement. The dimensions (length and width) are measured with an accuracy of 0.5 mm. The measurements are performed on the surface of the boards.

The specimens are placed in the climate box at 70 ± 2 °C and 95 ± 5 %RH and are kept there for 168 hours.

The specimens are again placed at 23 °C and 50 %RH for at least 24 hours and the measurements of the dimensions are repeated.

Test specimens for tensile testing are prepared and the tensile test performed in accordance with the procedures in the used test method.
6.5 Expression of results
The results of all the individual measurements are given. The averages of the following are calculated as a result of the test:
- changes in dimensions in % due to the ageing - if necessary both along and perpendicular to the direction of fabrication
- changes in tensile strength in % due to the ageing for the 3 (5) individual test specimens.

6.6 Accuracy
No comments.

6.7 Test report
The test report shall include the following information:

a) Name and address of the testing laboratory
b) Identification number of the test report
c) Name and address of the organisation or the person who ordered the test
d) Purpose of the test
e) Name and address of manufacturer or supplier of the tested object
f) Method of sampling and other circumstances (date and person responsible for the sampling)
g) Name or other identification marks of the tested object
h) Description of the tested object
i) Date of supply of the tested object
j) Date of the test
k) Test methods for tests of dimensional stability tensile strength
l) Conditioning of the test specimens, environmental data during the test (temperature, pressure, RH, etc.)
m) Identification of the test equipment and instruments used
n) Any deviations from the test method
o) Test results (use SI units)
p) Inaccuracy or uncertainty of the test result
q) Date and signature