



Technical Specification No.6

Determination of the class of insulating underlayers beneath screed or floating slab and under tiles

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1 Preamble

The mechanical performances of insulating underlayers are characterised and coded in accordance with the specifications in standard NF DTU 52.10 of June 2013. In this DTU, the class of insulating underlayers is defined in appendix A after testing conducted according to the methods described in appendix B, completed below if necessary.

2 Specific test conditions

2.1 Variation of thickness between 50 kPa and 2 kPa

The test is performed on 5 test specimens measuring 200×200 mm, in accordance with standard NF EN 12431 by determining the thicknesses under a load of 50 kPa (d_c) and after unloading *for 120 s* under 2 kPa (d_b). The variation in thickness is equal to $d_b - d_c$.

2.2 Pre-classification after 42 days

A first classification can be made by extrapolating the results obtained after 42 days to 123 days. This classification is recorded on the certificate.

After the 123 days of testing, the classification is reviewed according to the final results obtained.

2.3 Extension of a product to a new factory

In the case of a product extended to another factory, a 42-day creep test is performed. At the end of the 42-day tests, the deformation trend is compared to the results obtained at the 1st factory. The certificate can be extended if the classifications are identical. In this case the test is stopped after 42 days.



2.4 Classification by default

2.4.1 Classification granted without testing:

The certificate may be delivered with the classifications below without testing.

Product	maximum thickness	classification
EPS > 13 kg/m ³	100 mm	SC2a4
EPS > 24 kg/m ³	60 mm	SC1a2Ch
	100 mm	SC1a4Ch
Product	maximum thickness	classification
XPS	60 mm	SC1a2Ch
	100 mm	SC1a4Ch
PUR	60 mm	SC1a2Ch
	100 mm	SC1a4Ch

2.4.2 Classifications granted with subsequent verification

The certificate may be delivered with the classifications below. A verification test is systematically performed. At the end of the verification test, the classification is reviewed according to the results obtained.

Product	maximum thickness	classification
EPS > 13 kg/m ³	120 mm	SC2a4
EPS > 24 kg/m ³	120 mm	SC1a4Ch
XPS	120 mm	SC1a4Ch
PUR	120 mm	SC1a4Ch



3 Factory production control

For all the products, when the SC1 or SC2 class is certified, the following tests are performed according to the procedures in this Technical Specification:

- length and width, thickness, density¹: Once every 2 hours
- compression resistance (1 of the 4 possibilities² below): Once a day^{3,4}
 - measurement of the $d_B - d_C$ on 3 test specimens
 - measurement of the $d_L - d_B$ on 3 test specimens for SC2 products: Once a day^{5,6}
 - measurement of compressibility according to NF P 75-301⁷ on 3 test specimens
 - measurement of compression resistance according to NF EN 826⁸ on 3 test specimens measuring 100 x 100 mm minimum
- behaviour under point load on 3 test specimens. If $4 < x \leq 5$ mm and $8 \% < x \leq 10$ %: Once a week⁹
- tear resistance according to NF EN 12310: only if the results of type testing are less than 30 N: Once a week
- dynamic stiffness: simplified method derived from NF EN 29052-1 for products classed A: Once per day of manufacturing.
- ΔL_W according to NF EN ISO 140-8: random verification (frequency to be defined on a case by case basis at the initiative of the leader member according to the information in the dossier and the control results).

¹ The frequency for density only applies systematically if the density is used as an indirect test.

² A correlation must be established with regard to type tests on a case by case basis. The surfaces of the test specimens may be sanded or covered.

³ For products which are manufactured discontinuously, the frequency may be once per batch (maximum 250 m³)

⁴ The first thresholds at 250 Pa and 2 kPa (see) may be limited to 5 seconds.

⁵ For products which are manufactured discontinuously, the frequency may be once per batch (maximum 250 m³)

⁶ Thresholds 1 and 2 may be limited to 5 seconds

⁷ Test possible under a load of 40 kPa for 24 hours, on condition that the method is constant and can be reproduced. The test is performed either with test specimens measuring 300 x 300 mm (with edge effect) or 200 x 200 mm (without edge effect).

⁸ The test can be used in a range of 2 to 10% deformation or to breakage.

⁹ For products which are manufactured discontinuously, the frequency may be once per batch (maximum 250 m³).