FIRE RATING

Design - Composition - Safety

SMALL-SCALE FIRE RESISTANCE TESTS ON MINERAL WOOL CORE BUILDING SYSTEM SAMPLE PATTERN

Sample Descriptions

A 650mm x 650mm panel without any joint was submitted in order to evaluate its small-scale fire resistance properties in terms of insulation only. The 110 mm thick panels were representative of a system intended for use in the building industry and consisted of a 100mm thick mineral wool core with a 12mm thick Supertec Board outer cladding and a 9mm thick Supertec Board inner cladding.

Test Method

The panel was tested in a small gas-fire furnace in order to assess the its fire resistance. The temperature in the furnace was controlled to follow the ISO standard time-temperature curve. This small-scale test should be seen as a screening test prior to performing a large scale fire resistance test and no Fire Resistance Rating (FRR) can therefore be awarded to a sample based on the small-scale test results.

Results

The temperatures recorded during the tests are depicted graphically below. No comment could be made in terms of integrity or stability based on these small-scale test results. The furnace was operated with the tolerable limits applicable to the ISO Time-Temperature Curve during the test. The test was performed on the 2009-03-25. The insulation criteria were upheld for a period of 60 minutes, at which point the test was terminated. No burn-through was noted during this test. No cracking of the inner board was noted either subsequent to removal of the panel from the furnace.

Conclusion

The small-scale test results indicate that the building system could potentially achieve a Fire Resistance Rating (FRR) of 60 minutes. The small-scale test does, however, show that fundamentally the fire resistance of the core of the system is such that it warrants further consideration.

Figure 1: Temperatures Recorded during test on small-scale panel with mineral wool