



TEST REPORT

ON THE FIRE-RESISTANCE BEHAVIOUR OF CEMENT-BONDED PARTICLE BOARDS OF BETOPAN BRAND

(SUMMARY)

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TEST METHOD : TS1263, September 1983,
Fire Resistance Classes and Fire Resistance Test
Methods for the Elements of Building Construction,
as fully equivalent to
DIN 4102-Part 2, September 1977,
Fire Behaviour of Building Materials and Building
Components; definitions, requirements, and test methods
on building materials

SUBJECT

This test report is prepared for the assessment of fire resistance behaviour of cement-bonded particle boards manufactured by "TEPE Ağaç, Metal ve İnşaat Sanayii Anonim Şirketi", under the trade name of BETOPAN.

The fire behaviour of a building element is assessed in the abovementioned standards essentially by conformity to three criteria; namely the stability, integrity, and insulation.

The **stability** of a non-loadbearing element may be judged by the occurrence of collapse under the action of gravity, when the element is tested in the worst possible condition, in other words in the suspended ceiling configuration.

The **integrity** of a building element is the resistance, for a predetermined time period, to the occurrence of cracks and hence to the passage of combustible gases.

The **insulation** property of a building element in case of a fire test is judged by the surface temperature of the unexposed face, which in no case should be larger than a preset value for the desired time period.

The manufacturer of BETOPAN plates required the determination of final stability period, in minutes, of their products. The tests conducted allowed also the observation of the integrity and insulation criteria.

TESTS CONDUCTED

Six different types of test samples, differing only in their thicknesses were tested in duplicate experiments. The samples had the dimensions of 1250X2500 mm and 1250x3000 mm (WxL), with thicknesses of 8, 10, 12, 14, 16, and 18 mm.

RESULTS

The evaluation of the test results reveal the following:

- a) Samples do not burn under the effect of direct flames throughout the test periods.
- b) None of the samples fail in insulation property, since the unexposed surface temperature is well below the upper limit set for fail/pass criterion.
- c) There are no combustible gases escaping from the furnace even when cracks are formed due to heating.

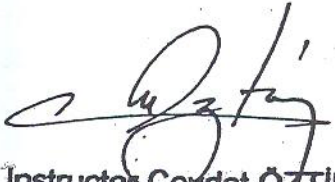
d) Complete collapse due to destruction from both the effect of heating and by the action of gravity for samples of different thickness occur at the time periods indicated below:

Thickness (mm)	8	10	12	14	16	18
Time (minutes)	31	32	34	35	37	39

The experimental results should be considered as accurate within +1 to +2 minutes, since the tests were terminated just before the complete collapse of samples.

This test report must be considered as valid for the sample boards tested, and may be generalized to other products of the same kind only if the samples are representative of the products.

With kind regards,


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