

related test method	EN 1363-1: 1999 Fire resistance tests – General requirements
subject	Clarification of when to perform the cotton pad test
reference of original query	EGOLF TC2 Round Robin (RR TC2 09-1)

Problem

From the EGOLF TC2 Round Robin (RR TC2 09-1) the reproducibility value R on integrity failure was calculated to 18 minutes making the integrity criteria the criteria with the highest spread. The results from the RR have shown that the cotton pad was used in 93% of the tests to determine failure of integrity.

An analyse of the results revealed that there is a difference in how often and when each laboratory uses the cotton pad and that these difference has a influence on the result.

The purpose with this EGOLF recommendation is to harmonize when the cotton pad is used during the tests in this way reducing the reproducibility value R on integrity failure

Recommendation:

The cotton pad should be applied whenever there is a suspicion of leakage that could lead to glowing or flaming of the cotton.

If an operator waits with performing the cotton pad until he/she is certain that it will fail the test specimen then it will be applied too late.

If in doubt apply the cotton pad test.

Critical spots on the test specimen should be followed by applying the cotton pad with decreasing interval as the discoloration of the cotton increases.

The time between the last cotton pad test that did not result in glowing or flaming of the cotton and the cotton pad test that failed the test specimen represents the time interval where failure could have occurred. The shorter this interval is the better.

The results from the EGOLF TC2 Round Robin showed that labs that only applied the cotton pad 1 or 2 times during test had a higher spread on determination of failure of integrity and the average failure time was later.

Applying the cotton pad over the same spot again and again might by some clients be considered chasing them. And they might see it as having a negative effect on the test specimen due to the possibility of trapping the leaking gas (especially if the pad is applied over a corner). Applying a cotton pad with an interval of 2 to 3 minutes is **not** chasing.



Routinely performing a cotton pad when the test time gets close to the aimed classification time in order to verify that the integrity is still intact when the classification time is reached is use full but..

It should lead to a relaxing attitude in the minutes after the classification time ("the test specimen has passed now I can wait until I know that it will fail"). This attitude is wrong because the aim with the test is to determine the failure time as accurate as possible. In addition it is wrong because the overrun time that a given test specimen get is often used in EXAPs and national assessments etc. A too high overrun time therefore leads to an incorrect safety margin.