

## EGOLF RECOMMENDATION 064-2024

Subject of Recommendation (max. 65 characters)	<b>Additional supports and reinforcement to rigid standard supporting constructions</b>
Related test standard	EN 1363-1 and all associated test standards which use rigid standard supporting constructions
Date of issue	2024-10-07
Reference original query	<i>An additional question raised within the thread of helpdesk item 557</i>
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Keywords (max. 20)	
If Recommendation to be forwarded to CEN TC 127, please state WG and TG	TC127

### Problem

Questions have been raised on the definition and interpretation of 'rigid standard supporting construction' when testing linear joint seals to EN 1366-4 and other products such as but not limited to penetration seals tested to EN 1366-3. Typically Autoclaved Aerated Concrete (AAC) lintels, wall and floor slabs are used by fire resistance laboratories for rigid standard supporting constructions. When these are tested at relatively long unsupported spans and vertical lengths, they often distort in fire resistance tests (particularly in higher duration tests). The distortion characteristics may be different dependant on the unsupported span/length, cross sectional area, orientation of the lintel/slab and the type, size and location of the steel re-bar cast within. High density cast concrete lintels and slabs with steel re-bar are also used and may distort during tests. This variability in distortion characteristics of the 'rigid standard supporting construction' during the fire test will likely have an influence on the fire resistance results of the products under test.

Fire resistance laboratories often build up rigid standard supporting constructions in sections and typically add additional supports to join the sections together in the form of steel channels, mechanical fixings, and other methods.

The questions to be resolved by this recommendation:

Are 'rigid supporting constructions' intended to be rigid for the full duration in fire tests or are they intended to distort?

If they are intended to be rigid should additional support mechanisms be used to restrict distortion of the supporting construction?

### Recommendation

Fire resistance testing is typically carried out using AAC as the standard rigid supporting construction material for several reasons such as its relative low density allowing higher density concrete to be used via direct and extended field of application rules, its ease of material handling and its safe use for the purpose of fire resistance testing.

Fire resistance tests are normally set up to maximise the available space for testing specimens which can lead to small sections of rigid supporting construction and long unsupported spans which would not typically be found in real building practice. It is therefore recommended that additional supports and reinforcement may be used as the laboratory sees fit for any standard rigid supporting construction in order to maintain its structural integrity and restrict unintended distortion when used in a fire resistance test.