

**NC Department of Insurance
Office of the State Fire Marshal - Engineering Division
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Rated Shaft Enclosure Structural Continuity

Code: 2012 Building Code
Section: 708.5, 712.4

Date: September 1, 2011

All of these questions are related to unprotected (0-hour rated) type structures.

Question #1:

If a structural beam runs parallel to and inside of a rated shaft wall and supports the wall is the beam required to be rated to the column that supports the beam, and is the column and/or other structure supporting the beam required to be rated?

Answer #1:

Yes. The beam is required to be rated all the way to the column that supports it and the column and/or other structure that supports the beam must be rated all the way to the foundation.

Question #2:

If a structural beam runs parallel to a rated shaft wall and supports the floor slab that in turn supports a rated shaft wall is the beam required to be rated to the column that supports the beam, and is the column required to be rated?

Answer #2:

Yes. The beam or girder that immediately supports the slab is required to be rated. The girders and columns that provide the direct load path to the ground are also required to be rated. The concrete slab floor that extends into the rated shaft enclosure and supports the shaft wall provides sufficient rating to consider the shaft rating continuous.

Question #3:

If a rated shaft wall is stabilized by tying it to a floor slab or structural beam is the beam (including the beam that supports the floor slab) required to be rated to the column that supports the beam, and is the column required to be rated?

Answer #3:

No. The beam is not required to be rated. The structure supporting the beam does not, of course, require rating either.

Keywords:

Elevator, stair, stairway, vertical, egress, exit