

CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES

SECTION 704.3 2012 Edition IBC Interpretation 41-14 Issued 1-6-2015 BU_12_41_14

704.3 Protection of the primary structural frame other than columns. Members of the primary structural frame other than columns that are required to have protection to achieve a fire-resistance rating and support more than two floors or one floor and roof, or support a load-bearing wall or a nonload-bearing wall more than two stories high, shall be provided individual encasement protection by protecting them on all sides for the full length, including connections to other structural members, with materials having the required fire-resistance rating.

Exception: Individual encasement protection on all sides shall be permitted on all exposed sides provided the extent of protection is in accordance with the required *fire-resistance rating*, as determined in Section 703.

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Q: Does the exception apply to all sides of the beam, i.e. top, bottom, and sides?

A: Yes.

This section is only applicable to the protection of the primary structural frame members that meet the parameters of the section and does not include columns. Even though the text states that the encasement must be on all four sides of the beam, the exception will allow tested assemblies that have the encasement on only the “exposed” sides of the beam. The assumption would be that the “exposed” side is the fire side.

Even though the usual application is a steel floor beam under a metal deck with a concrete slab, the exception does not limit its application to this scenario.

Therefore, regardless of whether it is the top, the bottom, or the side; and regardless of what type of building system is on the “unexposed” side, the “unexposed” side is not required to be encased.
