

Date :	26.10.06	Sign: pj
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Fire rating of TSS and RVK

General

The stairway is normally the escape route in case of fire, and is not supposed to have high temperatures when people are there. The principle of the codes and regulation are to protect people. Consequently, fire rating is low, and there should be no fire rating problems for the RVK/TSS – connections.

However, - we do meet customers that requires a certain fire rating, and we experience that some countries requires a minimum fire rating for the materials in a stairway. Normally the requirement is 30 minutes. The reasoning behind this seems to be that they want to give a certain fire rating to protect the firemen doing work in the building after the fire. Hence a 30 minutes rating is normally required, as this is the minimum requirement possibly to be used.

Another reason for having a fire rating in the stairway, is that the stairway is used as a stabilizing part of the structure to take horizontal loads (wind loads).

The following question and answer to the problem, - was given in the PCI-Journal , May-June 2000, and might be valid in some countries;

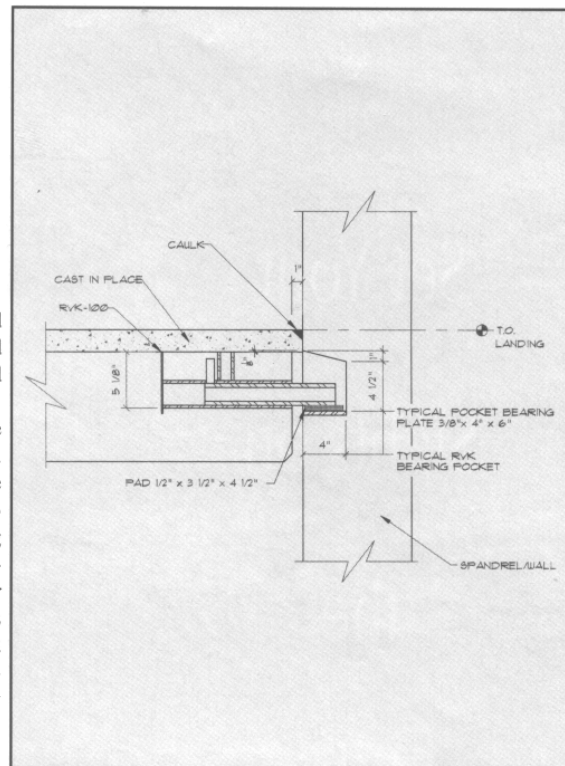
Q2: With reference to the stair connection detail shown on the right-hand page, does the slight exposure of the steel element making the connection have to be fire rated?

A2: The illustration shows how the landing is connected to the wall of a stair shaft. Notice that there is a slight gap between the landing and the wall. Assume that this is a two-hour shaft.

The answer to the question is that the steel element does not have to be fire rated. When a stair shaft is fire rated, it

fire outside the shaft. The walls of the shaft must be rated for two hours in this case, but nothing inside the shaft need be. The situation is analogous to walking up an unprotected steel stairway inside a stair shaft.

To further reinforce this concept, take a look at the Uniform Building Code (UBC), Chapter 6, of Volume 1. For Types I and II construction (this is for non-combustible construction), look at Section 602 (Type I) and Section 603 (Type II), and specifically those subsections addressing stairway construction. The provisions plainly state that stairway construction shall be "...of reinforced concrete, iron or steel with treads and risers of concrete, iron or steel." That's it! Non-combustible construction, but having no required fire rating. In Type III construction and beyond, the stairway construction may be of "...any material permitted by this code."



Typical "RVK" detail. (Courtesy: JVI, Inc.).

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Recommended fire protection

We recommend that the joint between the recess in the wall and landing to be filled with mortar. But just around the unit, either in the same area as the vertical flange covers, see memo 41 or 5 cm around on all sides of RVK / TSS.

See memo and video on our website under the technical manual, stair connections and manufacturing/assembly.