

Oregon
Interpretive Ruling No. 93-44
20-MINUTE FIRE DOOR SELF-CLOSING OPERATION

Requested By: PPPI MANUAL REVIEW COMMITTEE

QUESTION

When testing the closing operation of a 20-minute self-closing fire door, is there a minimum distance for releasing the door to determine its ability to effectively latch in the closed position?

APPLICABLE CODE SECTIONS

1993 Oregon Structural Specialty Code (OSSC), Sections 3109 (i) 9 and 4306(b), Definition of Fire Assembly, Self-Closing and Section 4306 (f) 3, Latch.

Section 3109 (i) 9 says:

9. Opening force. The opening force of doors along an accessible route shall be as follows:

- A. Exterior doors: 8 1/2 pounds.
- B. Interior doors: 5 pounds.
- C. Stairway doors at pressurized stair enclosures: 15 pounds. At exterior doors, where environmental conditions require greater closing pressure, power-operated doors shall be used within the accessible route.

Section 4306 (b) says in part:

FIRE ASSEMBLY, SELF-CLOSING, is a fire assembly which is kept in a normally closed position and is equipped with an approved device to ensure closing and latching after having been opened for use.

Section 4306 (f) 3 says:

3. Latch. Unless otherwise specifically permitted, all single doors and both leaves of pairs of side-hinged swinging doors shall be provided with an automatic latch which will secure the door when it is closed.

BACKGROUND

Most inspectors interpret the last sentence of Section 4306(b) to mean that the closing device will close and latch the door when released after a person has walked through the door opening. This would mean a normal three-foot door would be at least three-fourths open when released.

However, some inspectors read the code as meaning a self-closing device will close the door from any position, even if the door is released while touching the strike jamb.

The problem has occurred with spring-loaded hinges. The tension is adjustable, but is limited by requirements for disabled access as provided in Section 3109(i)9. The door closing device needs momentum, created by releasing the door from a position. UL Standard 228, Door Closers-Holders, prescribes the closing force required at 1/2 inch from closing and 3 inches from closing. These forces are to assure latching. The force is determined by the door weight. For a 100-pound door it is 3 pounds, 150-pound door - 8 pounds and for a 200 pound door - 11 pounds.

FINDINGS

This interpretation is authorized by ORS 455.060, Rulings on Acceptability of Materials, Designs or Methods of Construction and Attorney General's Opinion OP-5208 issued October 1, 1981, which advised the statute permits authoritative interpretations of existing code requirements.

CONCLUSION

For test purposes, the release point for a 20-minute door shall be as provide in Underwriter Laboratory Standard 228. When the door is required to be accessible, by Chapter 31, the pulling force shall not exceed that required by Section 3109 (i) 9.

Interpretive Ruling 93-44 replaces PPPI-4063.

(signed November 17, 1993)

John Talbott, Chairman
Structural Code Advisory Board

The recommendations and findings of the Structural Code Advisory Board are accepted and the conclusions are adopted.

(signed November 19, 1993)

Gary J. Wicks, Administrator
Building Codes Division