

Letter from John Debenkolb to J. R. Beyreis from UL



J. R. Beyreis
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Dear Jim:

A problem involving the UL listing of fire-rated glass has been brought to my attention as Chairman of NFPA 80. I am not writing on be-half of that Committee because we have no proposed meeting this year at which it could be discussed.

It seems that UL is listing a glass—probably a ceramic material—as having a 60-minutes listing by UL. The problem is no building code with which I am familiar, has a requirement for 1-hour glass but rather 45-minutes based on the capability of wired glass.

Some years ago the Consumer Products Safety Commission proposed a ban against wired glass when it would be located in a place where impact by a pedestrian was possible. I wrote the CPSC, as Chairman of NFPA 80, stating that there was no satisfactory replacement for wired glass in fire doors and, if its use was prohibited, an increase in the number of injuries could be anticipated. This was in reference to fire-rated wired glass as opposed to architectural wired glass. Since that time new glazing materials have been developed such as Fire Lite, Pyro Swiss and Contraflam. None uses wire and the last name as a clear fire resistive intumescent interlayer between 2 layers of tempered glass. Incidentally, the CPSC did not invoke the ban on wired glass for use in fire doors.

Apparently a glass (other than Contraflam) has been tested successfully by UL for 60-minutes. As you are fully aware, neither the door nor window tests standard addresses temperature rise or radiant heat over the fire duration period. Enforcement officials and architects are being advised that, with 1-hour glass available for installation in a 1-hour wall, why settle for $\frac{3}{4}$ -hour glass? Further, where the Uniform Building Code limits the amount of glazing in a wall to 25% of the area involved, why not accept 40-50- or 60 percent since it is 1-hour glass? There are obvious answers as to why not but all building and fire officials are not that knowledgeable.

Another situation concerns just the code required 45-minute wired glass. The official is asked why accept 45-minute glass when he can require UL listed 1-hour non-wired glass? If 45-minutes is a minimum code requirement, why not require 60-minutes?

As a member of the NFPA Fire Council you may recall a question before the council as to the authority of NFPA 80 to impose limitations on the transmission of radiant heat through the glass. Whether this concern should originate with the Life Safety Code or NFPA 80 remains to be resolved.

To me, it borders on the ridiculous to require that a 1-hour corridor wall be limited to a temperature rise of 250°F above the ambient and then permit 25% of the wall area to have glazing with no limitation on the amount of heat coming through it. Some years ago I conducted tests to determine at what temperature the heat transmitted through a stairway door would cause the use of a unit of exit width (22 inches) to be lost. It was determined that when there was a temperature rise of 450°F above the ambient, that unit of exit width adjacent the door could no longer be used. That requirement is in the model codes. On that basis, plus the danger of transmitted heat igniting materials on the other side of the wall, it seems to me that allowing an additional 15-minute of heat transference is improper.

This matter was discussed at the office of the Nevada State Fire Marshal and is the reason for this letter. The prevailing opinion seems to be that if UL lists the glass for 60-minutes, it may be good, and better, than the minimum code requirements. I don't agree. I think that UL should re-examine it's listing and add some additional wording on the label or some other method to avoid the misuse of a product.

Respectfully,