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April 28, 2003

International Firestop Council
Ms. Amal Tamin
25 North Broadway
Tarrytown, NY 10591

Subject: Annular Space Requirements in Through-Penetration Firestop Systems

Dear Ms. Tamin:

UL requests the opportunity to initiate a discussion at the May 5 through 7, 2003 meeting of the International Firestop Council (IFC) on the annular space requirements for through-penetration firestop systems which utilize nonmetallic penetrants.

There are a number of firestop systems in the UL Fire Resistance Directory which utilize nonmetallic penetrants offset in the opening and protected with a fill material in the annular space. These systems in most cases have resulted from a single fire test conducted on a specimen constructed with the penetrant offset. For example, a 2 in. diameter pipe may be installed in a 4 in. diameter opening with an annular space of 0 in. (point contact) on one side and 1-5/8 in. on the other side. When the system in this example is written for publication in the Directory, it is written to state the annular space “ shall be min 0 in. (point contact) to max 1-5/8 in.” At least when these systems were written, it was our intention that the overall diameter of the opening would be retained, although the penetrant could be positioned anywhere within the opening. This would allow for the installation of the necessary quantity of fill material in order to close off the opening during a fire event.

We now understand these systems are being misinterpreted to allow for the installation of the penetrant in an opening with the continuous 0 in. annular space (continuous contact). This was certainly not the intent. In order for these systems to perform, it is necessary that sufficient fill material be installed within the opening to close off the opening when the nonmetallic penetrant is consumed during a fire. As such, the performance of an assembly having a continuous contact would be questionable.



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Although we have not yet determined how to resolve this misunderstanding, one potential solution is to revise each such system to add a requirement that the diameter of the opening shall be ___ in. larger than the nominal diameter of the penetrant. This would then allow for installation of the penetrant anywhere within the opening. However, since the opening size would be specified, it would assure that space remained for the installation of the proper quantity of fill material.

It is obviously in the best interest of UL and the entire industry to find an immediate and reasonable solution to this issue.

Should you have any additional comments on this issue, please contact the writer.

Very truly yours,



RICHARD N. WALKE (Ext. 43084)
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Fire Protection Division