ASTM E3157
ASTM Firestop Installation Guide provides wealth of expertise in a concise document

INTERNATIONAL FIRESTOP COUNCIL
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What is the ASTM E3157 firestopping guide, and why does it matter? How and why was it developed?

Through penetration and membrane penetration firestop systems are installed on thousands of construction sites each day. Most people would agree that they are installed incorrectly far too often.

Although it would be desirable for all firestopping to be installed by tenured firestop specialty contractors, in North America the majority of firestopping continues to be installed as a side responsibility by thousands of tradespeople, such as plumbers, electricians, insulators, drywallers, carpenters and others. Until the day arrives when specialty contractors do the vast majority of firestop installation, there is a need to provide ad-hoc firestop installers with increased knowledge so that a much larger percentage of the installed firestopping can be installed correctly,

Tradespeople who do not do firestopping full time are highly unlikely to dedicate the time needed to study and fully learn the 1000+ page "FCIA Firestop Manual of Practice", as FM and UL-accredited firestop specialty contractors would. A document has always been sorely needed that could go far beyond the 1-2 page Manufacturer's Installation Instructions for each product and the basic installation details within Listed firestop systems, but be far briefer than the specialty contractor manual, to meet the proverbial "80/20 rule". Those required to install firestopping as a minor portion of their trade work need the information and guidance to be able to prevent most known firestop installation errors, presented as concisely as possible. New ASTM document E3157, "Standard Guide for Understanding and Using Information Related to Installation of Firestop Systems" fills that knowledge gap.

The ASTM E3157 Guide is the result of an 7-year open and generous collaboration between the firestop industry's most seasoned experts. Participants in the ASTM E06 committee task group that developed the document typically had 5-25 years of experience in the firestopping industry, and included the heads of Engineering and of Technical Service from all of the major North American firestop manufacturers. From the task group's very first meeting, these individuals generously offered, discussed and debated their experiences and opinions, to arrive at the distilled advice that they would provide to someone asking: "*What should I know, and what should I do, to avoid the vast majority of firestopping installation errors*?"

During the Guide's development process, the draft document eventually stretched to 133 pages in length. Recognizing that this was far more than the average firestop installer might be willing to study, it was whittled down to the 22 pages of information and advice that were considered the most useful and vital. The task group consensus was that a very high fraction of installation errors are due to a lack of proper planning. The new ASTM Guide thus provides much guidance in that direction.

An example will help explain...

One common complaint from firestop installation contractors may go something like this:

> "*We seal the pipes on Monday and by Friday others have bumped into them, pushed/pulled on them, or even hung onto them for support, ruining the seals. Then we are supposed to fix them later on at our own expense*."

Many liquid-applied firestop sealants often take days to weeks to fully cure. If anyone disturbs a pipe firestopped with a sealant, the potential for such damage to the firestop installation definitely exists.

To help recognize and plan for this possibility, the Guide includes the following:

> 7.3.1 When significant relative motion between the penetrating item and the fire-separating element is expected during sealant cure, the following approaches can help reduce the risk of a movement-during-cure condition from occurring. They
> generally fall into three categories:
> 7.3.1.1 Accelerate sealant cure rate,
> 7.3.1.2 Reduce relative movement, or
> 7.3.1.3 Use of preformed firestop product.
> NOTE 11—There are preformed firestop products that can be used in lieu of a liquid-applied firestop sealant. In general, preformed firestop products can be installed in the opening under compression, friction fit, adhered in place, cast in place, or secured to with a mechanical attachment to the fire-separating element. Preformed firestop products have been used successfully to seal a firestop system in lieu of a liquid-applied firestop sealant that would experience detrimental movement-during-cure.

To summarize it, the Guide is at once an introduction to firestopping, a dictionary of useful firestop terms, a primer on the background codes and test standards that define modern firestopping, and a short book full of tips for the successful planning and installation of penetration firestopping. It is indispensable for any tradesperson who must install firestopping as part of their job responsibilities, and can help give an edge to those firestop specialty contractors wanting to avoid learning everything the hard (and often expensive) way.

The Guide does not specify who should be contractually responsible for each of the steps that will lead to a proper and reliable firestop installation, as it is a technical guidance document, not a business guidance document. Work scope and responsibilities should be dealt with in specifications and in contracts.

All tradespeople who are charged with installing some firestopping are encouraged to read and implement the information and advice contained in this guide. It will also be useful to those doing firestop work on a routine basis as a principal trade, to move closer to a zero-error installation goal.

The Guide can be purchased for instant download for $108 at https://www.astm.org/Standards/E3157.htm.