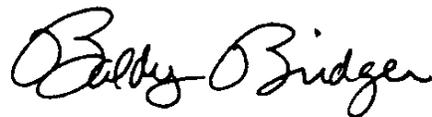

Wire Fill in Seal Fittings

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NEC requirements for wire fill in seal fittings are different from the wire fill requirements in conduit. In conduits enclosing 3 or more conductors (except for lead-covered conductors), conductors may occupy 40% of the area of the conduit. See Table 1 of Chapter 9. The fill tables in Chapter 9 of the NEC, which give the number of conductors of specific types and sizes allowed in various sizes of conduit, are based on this 40% fill.

For seal fittings, the fill may not exceed 25%. This is not specifically stated in the code, but is backed into by the requirement that listed items be used in accordance with their listing, and UL lists seal fittings for 25% fill. This is not unreasonable, as the packing material used in a seal fitting must be packed around each wire, separating them so that the poured sealing compound will effectively seal each wire. The UL requirements are found in UL Standard 886, *Outlet Boxes and Fittings for use in Hazardous (Classified) Locations*.

When installing seal fittings, be sure that the 25% fill is not exceeded. A table of permissible fills by wire size and seal fitting size is found in UL 886, Table 35.1. UL also requires manufacturers of listed seal fittings to include the 25% fill requirement in their installation instruction. In some cases, this may mean using a seal fitting a size or two larger than the conduit size, with reducers to allow the conduit to fit. Any reducer or other fitting used must also comply with the listing requirements for use in a classified area. For very short runs of conduit, it may be easier to use an oversized conduit so that the seal fitting is not overloaded.



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Note: Thanks to Crouse-Hinds for the information calling industry attention to this situation.