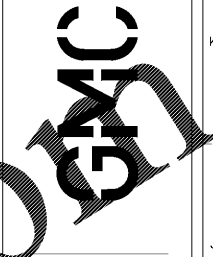


**GENERAL THRU-PENETRATION NOTES**

- GENERAL
  - ALL THROUGH-PENETRATION FIRESTOP WORK SHALL COMPLY WITH THE REQUIREMENTS OF SECTION 07841 - THROUGH PENETRATION FIRESTOP SYSTEMS. THE DETAILS SHOWN HEREIN ILLUSTRATE FREQUENTLY ENCOUNTERED THROUGH-PENETRATION FIRESTOP CONDITIONS. THEY ARE GENERIC REPRESENTATIONS OF SYSTEMS AVAILABLE FROM SEVERAL MANUFACTURERS. SELECTION OF APPROPRIATE SYSTEMS SHALL BE THE RESPONSIBILITY OF THE FIRESTOP CONTRACTOR, AND MUST BE SUBMITTED FOR ARCHITECT'S APPROVAL.
  - EACH SELECTION SHALL BE APPROPRIATE FOR THE PENETRATING ITEM AND SUBSTRATE, AND SHALL COMPLY WITH THE SPECIFIC REQUIREMENTS OF A UL LISTED SYSTEM DESIGN.
  - WHERE NO APPLICABLE UL DESIGN IS AVAILABLE FOR A PARTICULAR FIRESTOP CONFIGURATION, SUBMIT AN ENGINEERING JUDGMENT (EJ), OR EQUIVALENT FIRE RESISTANCE RATED ASSEMBLY (FRRRA), PREPARED BY THE FIRESTOP MANUFACTURER.
- APPLICABILITY
  - PROVIDE THROUGH-PENETRATION FIRESTOP SYSTEMS FOR ALL PENETRATIONS (INCLUDING SINGLE-SIDED MEMBRANE PENETRATIONS) OF FIRE RESISTANCE RATED CONSTRUCTION, WHETHER OR NOT SPECIFICALLY DETAILED IN THE DRAWINGS (APPLICABLE TO BOTH EMPTY OPENINGS AND OPENINGS CONTAINING PENETRATING ITEMS).
  - ALL PIPING AND DUCTWORK SUBJECT TO THIS REQUIREMENT SHALL BE PROVIDED WITH FLEXIBLE FIRE RATED SEALANT. THE SEALANT SHALL BE INSTALLED TO THE FULL DEPTH OF THE OPENING TO EXTEND THAT APPROPRIATE DESIGN ARE AVAILABLE FOR SUBSTRATE REQUIRED, UNLESS FOLLOWING APPROACH TO SELECTION OF SYSTEMS:
    - FOR SINGLE PENETRATIONS, SINGLE-PART FIRESTOP SEALANT.
    - FOR COMPLEX PENETRATIONS, MULTI-PART FIRESTOP SEALANT.
  - FOR INSULATED METAL PIPE, INTUMESCENT WRAP STRIP AND ONE-SIDED FIRESTOP FOR DUCT OR VENT, AND INTUMESCENT WRAP STRIP FOR CABLE TRAY OR RACEWAYS.
- SLEEVES
  - THE FOLLOWING PENETRATIONS MUST BE SLEEVED:
    - SINGLE ROUND PENETRATIONS IN RATED CMU WALLS
    - INSULATED PIPE PENETRATIONS IN RATED GYPSUM BOARD WALLS
    - BUNDLED CABLE PENETRATIONS IN RATED GYPSUM BOARD WALLS
    - ALL PENETRATIONS IN ELEVATED CONCRETE SLABS
  - ALL SLEEVES SHALL BE METAL. PLASTIC IS NOT PERMITTED. THE JUNCTION OF STEEL SLEEVES AND WALL SHALL BE SEALED WITH FLEXIBLE FIRE RATED SEALANT.
- QUALITY ASSURANCE
  - COMPLY WITH "INSTALLER QUALIFICATIONS" AND "ON-SITE RESPONSIBLE PARTY" PROVISIONS OF SPECIFICATION SECTION 07841 - THROUGH-PENETRATION FIRESTOP SYSTEMS.
  - OBTAIN THROUGH-PENETRATION FIRESTOP SYSTEMS THROUGH ONE SOURCE FROM A SINGLE MANUFACTURER.
  - COMMENCE FIRESTOPPING WORK ONLY AFTER SUBMITTALS (INCLUDING MOCKUPS WHERE APPLICABLE) ARE APPROVED, AND PRE-INSTALLATION CONFERENCE IS SUCCESSFULLY CONCLUDED.
- INSTALLATION - GENERAL
  - COMPLY WITH UL SYSTEM REQUIREMENTS AND FIRESTOPPING MANUFACTURERS' PRINTED INSTALLATION INSTRUCTIONS.
  - INSTALL FORMING, DAMMING, BACKING MATERIALS AND OTHER ACCESSORIES OF TYPES REQUIRED TO SUPPORT FILL MATERIALS DURING THEIR APPLICATION AND IN THE POSITION NEEDED TO PRODUCE CROSS-SECTIONAL SHAPES AND DEPTHS REQUIRED TO ACHIEVE FIRE RATINGS INDICATED.
  - INSTALL FILL MATERIALS BY PROVEN TECHNIQUES TO PRODUCE THE FOLLOWING RESULTS:
    - FILL VOIDS AND CAVITIES FORMED BY OPENINGS, FORMING MATERIALS, ACCESSORIES, AND PENETRATING ITEMS AS REQUIRED TO ACHIEVE FIRE RESISTANCE RATINGS INDICATED.
    - APPLY MATERIALS SO THEY CONTACT AND ADHERE TO SUBSTRATES FORMED BY OPENINGS AND PENETRATING ITEMS.
    - FOR FILL MATERIALS THAT WILL REMAIN EXPOSED AFTER COMPLETING WORK, FINISH TO PRODUCE SMOOTH UNIFORM SURFACES THAT ARE FLUSH WITH ADJOINING FINISHES.
  - REMOVE COMBUSTIBLE FORMING MATERIALS, AND OTHER ACCESSORIES, THAT ARE NOT INDICATED AS PERMANENT COMPONENTS OF FIRESTOP SYSTEMS. REMOVE EXCESS SEALANT FROM ADJOINING SURFACES.
  - IDENTIFY THROUGH PENETRATION FIRESTOP SYSTEMS WITH PERMANENTLY ATTACHED, PREPRINTED METAL OR PLASTIC LABELS, AS SPECIFIED.
  - INSPECT FILL MATERIALS AFTER 48 HOURS FOR COMPLETE ADHESION AND SEAL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. CORRECT DEFICIENCIES AND RE-INSPECT.



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**FIRESTOPPING - THRU-PENETRATION SYSTEMS**  
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<p><b>INSULATED METAL PIPE THRU GYPSUM PARTITION</b></p> <table border="1"> <tr><td>A</td><td>W-L-5040</td></tr> <tr><td>B</td><td>W-L-5029</td></tr> <tr><td>C</td><td>W-L-5014</td></tr> </table>	A	W-L-5040	B	W-L-5029	C	W-L-5014	<p><b>CABLE TRAY THRU GYPSUM PARTITION</b></p> <table border="1"> <tr><td>A</td><td>W-L-4037</td></tr> <tr><td>B</td><td>W-L-4011</td></tr> <tr><td>C</td><td>W-L-4008</td></tr> </table>	A	W-L-4037	B	W-L-4011	C	W-L-4008	<p><b>INSULATED METAL PIPE THRU CMU / CONC WALL OR CONC FLOOR</b></p> <table border="1"> <tr><td>A</td><td>C-AJ-5024</td></tr> <tr><td>B</td><td>C-AJ-5036</td></tr> <tr><td>C</td><td>C-AJ-5087</td></tr> </table>	A	C-AJ-5024	B	C-AJ-5036	C	C-AJ-5087	<p><b>INSULATED HVAC DUCT THRU CMU / CONC WALL OR CONC FLOOR</b></p> <table border="1"> <tr><td>A</td><td>C-AJ-7115</td></tr> <tr><td>B</td><td>W-L-7059</td></tr> <tr><td>C</td><td>C-AJ-7143</td></tr> </table>	A	C-AJ-7115	B	W-L-7059	C	C-AJ-7143	<p><b>INSULATED METAL PIPE THRU CONC OR CONC ON METAL DECK</b></p> <table border="1"> <tr><td>A</td><td>F-A-5029</td></tr> <tr><td>B</td><td>F-A-5015</td></tr> <tr><td>C</td><td>F-A-5041</td></tr> </table>	A	F-A-5029	B	F-A-5015	C	F-A-5041
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