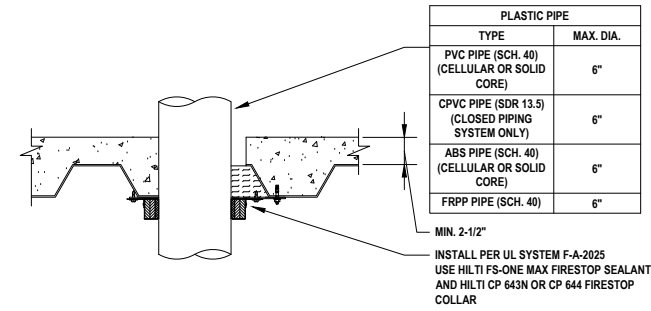
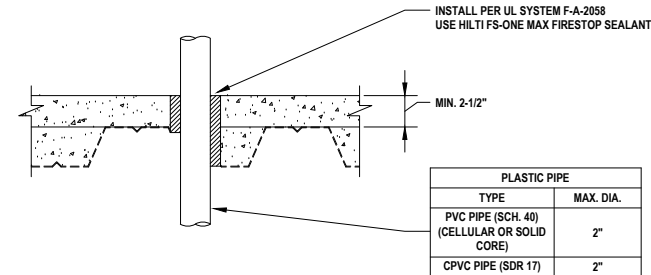


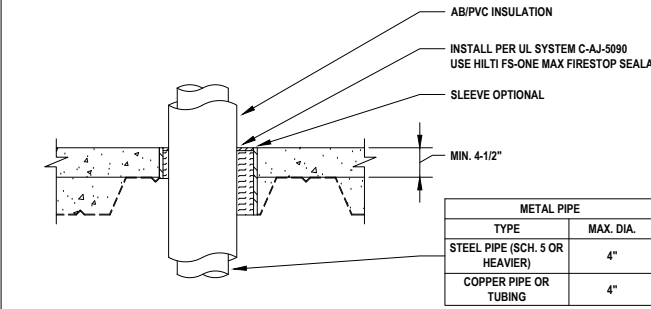
1 METAL PIPE THROUGH CONCRETE OVER METAL DECKING (2-HR.)
M.3.1 NOT TO SCALE



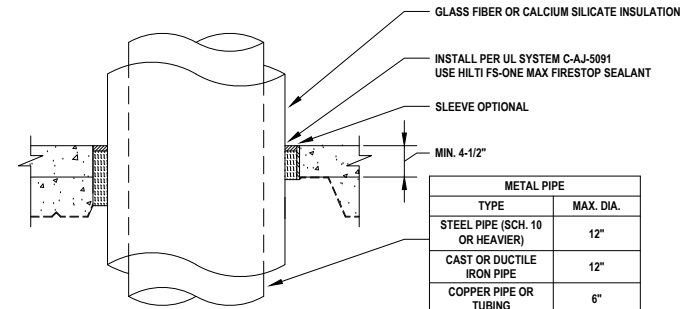
2 PLASTIC PIPE THROUGH CONCRETE OVER METAL DECKING (2-HR.)
M.3.1 NOT TO SCALE



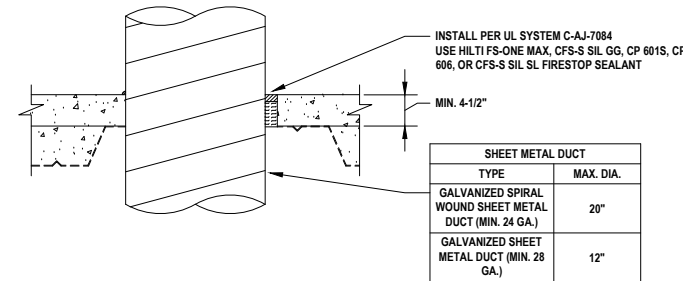
3 PLASTIC PIPE THROUGH CONCRETE OVER METAL DECKING (2-HR.)
M.3.1 NOT TO SCALE



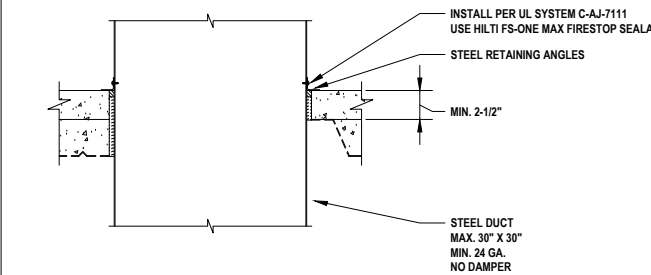
4 METAL PIPE WITH AB/PVC INSULATION THROUGH CONCRETE OVER METAL DECKING (2-HR.)
M.3.1 NOT TO SCALE



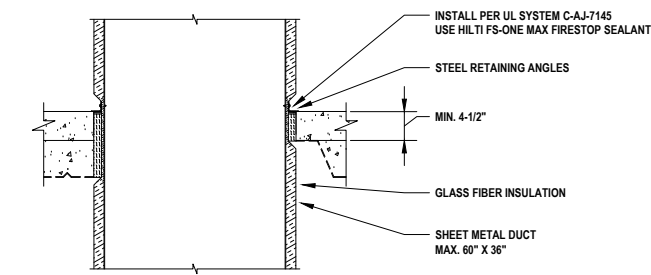
5 METAL PIPE WITH GLASS FIBER OR CALCIUM SILICATE INSULATION THROUGH CONCRETE OVER METAL DECKING (2-HR.)
M.3.1 NOT TO SCALE



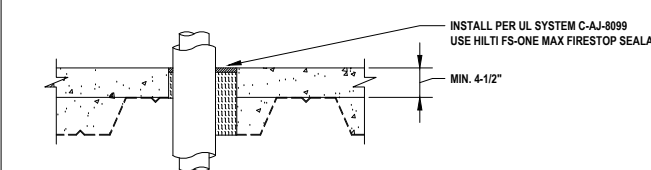
6 ROUND SHEET METAL DUCT THROUGH CONCRETE OVER METAL DECKING (2-HR.)
M.3.1 NOT TO SCALE



7 METAL DUCT (WITHOUT DAMPER) THROUGH CONCRETE OVER METAL DECKING (2-HR.)
M.3.1 NOT TO SCALE



8 SHEET METAL DUCT WITH GLASS FIBER INSULATION THROUGH CONCRETE OVER METAL DECKING (2-HR.)
M.3.1 NOT TO SCALE



9 MULTIPLE PENETRATIONS THROUGH CONCRETE OVER METAL DECKING (2-HR.)
M.3.1 NOT TO SCALE

Notes:

- Refer to the following specifications for firestopping.
 - 07 84 00 Firestopping
 - 07 84 13 Penetration Firestopping
 - 22 00 00 Plumbing
 - 23 00 00 HVAC
 - 26 00 00 Electrical
 - 27 06 37 Communication

For Quality Control requirements, refer to the Quality Control portion of the specification.

- Details shown are typical details, containing general information only. Always refer to the full UL system detail for complete system requirements. If field conditions do not match requirements of details, approved alternate details shall be utilized. Design requirements, field conditions and dimensions need to be verified for compliance with the details, including but not limited to the following:
 - * Fire Rating (F-Rating)
 - * Temperature Rating (T-Rating)
 - * Leakage Rating (L-Rating)
 - * Water Rating (W-Rating)
 - * Annular Space
 - * Percent Fill
 - * Movement
 - * Type and thickness of fire-rated construction.

- If alternate details matching the field conditions are not available, manufacturer's engineering judgment drawings are acceptable. Contact Hilti Inc. for alternative systems or Engineering Judgment (800-879-8000) Drawings shall follow the International Firestop Council (IFC) Guidelines for Evaluating Firestop Systems Engineering Judgments.

4. References:

- * 2013 Underwriter's Laboratories Fire Resistance Directory, Volumes 1 & 2
 - * NFPA 101 Life Safety Code
 - * NFPA 70 - National Electric Code
 - * All governing local and regional building codes
- Firestop System installation must meet requirements of ASTM E-814 (UL 1479) tested assemblies that provide a fire rating equal to that of construction being penetrated.
 - All rated through-penetration assemblies shall be prominently labeled with a Hilti Firestop Label equipped with a QR code with the following information:
 - * Warning! - Do Not Disturb
 - * Through Penetration Firestop System
 - * UL System # * Product(s) used
 - * Hourly Rating (F-Rating)
 - * Installation Date
 - * Contractor's Name
 - For outlet boxes requiring protection, use only Wall Opening Protective Materials, category CLIV as classified by Underwriter's Laboratories, Fire Resistance Directory (Volume 1.)

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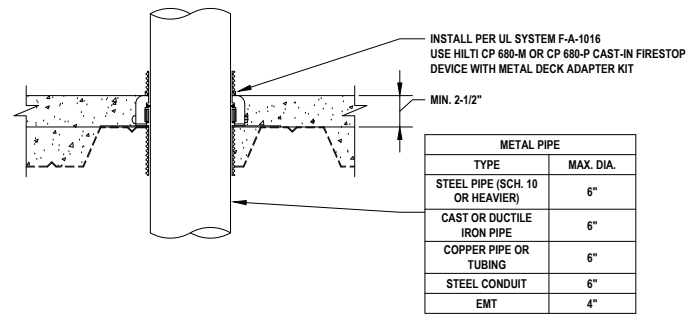
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MECHANICAL PENETRATIONS
CONCRETE OVER METAL DECK
2 HR.

SHEET NAME: _____

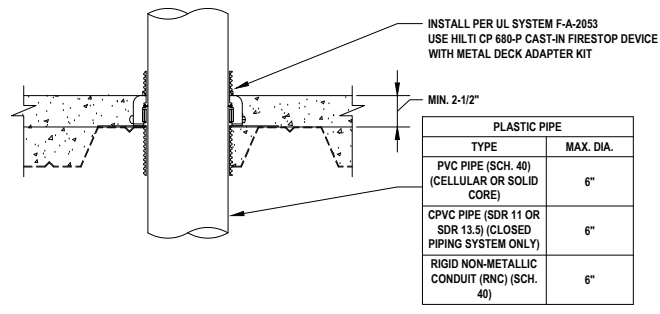
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SHEET NUMBER: _____



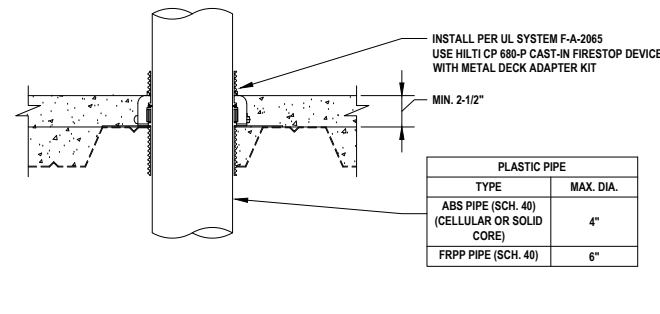
METAL PIPE	
TYPE	MAX. DIA.
STEEL PIPE (SCH. 10 OR HEAVIER)	6"
CAST OR DUCTILE IRON PIPE	6"
COPPER PIPE OR TUBING	6"
STEEL CONDUIT	6"
EMT	4"

1
M.3.2 METAL PIPE THROUGH CONCRETE OVER METAL DECKING (2-HR.)
NOT TO SCALE



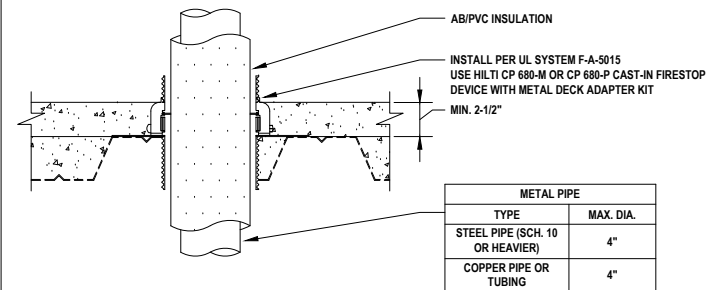
PLASTIC PIPE	
TYPE	MAX. DIA.
PVC PIPE (SCH. 40) (CELLULAR OR SOLID CORE)	6"
CPVC PIPE (SDR 11 OR SDR 13.5) (CLOSED PIPING SYSTEM ONLY)	6"
RIGID NON-METALLIC CONDUIT (RNC) (SCH. 40)	6"

2
M.3.2 PLASTIC PIPE THROUGH CONCRETE OVER METAL DECKING (2-HR.)
NOT TO SCALE



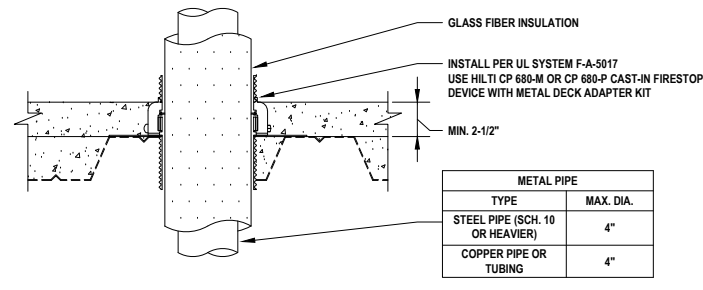
PLASTIC PIPE	
TYPE	MAX. DIA.
ABS PIPE (SCH. 40) (CELLULAR OR SOLID CORE)	4"
FRPP PIPE (SCH. 40)	6"

3
M.3.2 PLASTIC PIPE THROUGH CONCRETE OVER METAL DECKING (2-HR.)
NOT TO SCALE



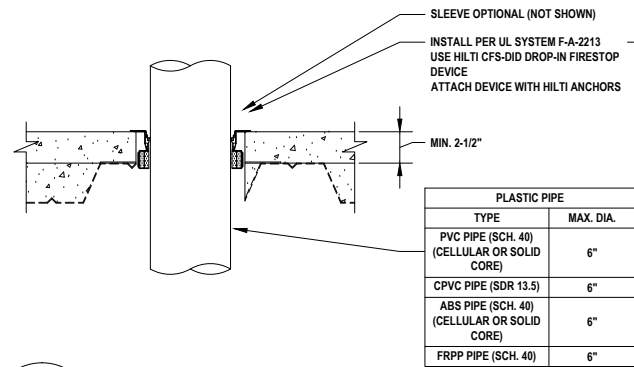
METAL PIPE	
TYPE	MAX. DIA.
STEEL PIPE (SCH. 10 OR HEAVIER)	4"
COPPER PIPE OR TUBING	4"

4
M.3.2 METAL PIPE WITH AB/PVC INSULATION THROUGH CONCRETE OVER METAL DECKING (2-HR.)
NOT TO SCALE



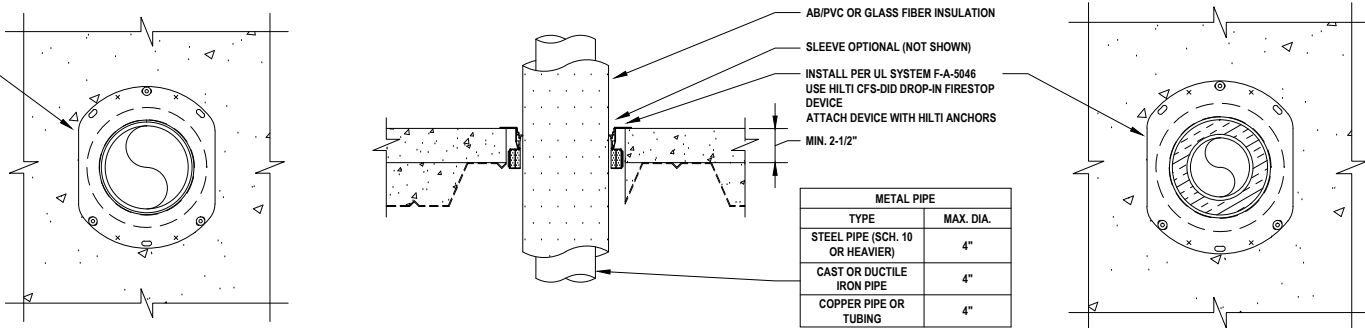
METAL PIPE	
TYPE	MAX. DIA.
STEEL PIPE (SCH. 10 OR HEAVIER)	4"
COPPER PIPE OR TUBING	4"

5
M.3.2 METAL PIPE WITH GLASS FIBER INSULATION THROUGH CONCRETE OVER METAL DECKING (2-HR.)
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PLASTIC PIPE	
TYPE	MAX. DIA.
PVC PIPE (SCH. 40) (CELLULAR OR SOLID CORE)	6"
CPVC PIPE (SDR 13.5)	6"
ABS PIPE (SCH. 40) (CELLULAR OR SOLID CORE)	6"
FRPP PIPE (SCH. 40)	6"

6
M.3.2 PLASTIC PIPE THROUGH CONCRETE OVER METAL DECKING (2-HR.)
NOT TO SCALE



METAL PIPE	
TYPE	MAX. DIA.
STEEL PIPE (SCH. 10 OR HEAVIER)	4"
CAST OR DUCTILE IRON PIPE	4"
COPPER PIPE OR TUBING	4"

7
M.3.2 METAL PIPE WITH AB/PVC OR GLASS FIBER INSULATION THROUGH CONCRETE OVER METAL DECKING (2-HR.)
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MECHANICAL PENETRATIONS
CONCRETE OVER METAL DECK
2 HR.

SHEET NAME: _____

M.3.2

SHEET NUMBER: _____