E.2.2

**ELECTRICAL PENETRATIONS**

**CONCRETE/BLOCK WALL**

1. **2 HR.**
   - **NOT TO SCALE**
   - **MULTIPLE PENETRATIONS THROUGH CONCRETE WALL (2-HR.)**
   - **INSTALL PER UL SYSTEM C-AJ-8143**
   - **USE HILTI FS-ONE MAX FIRESTOP SEALANT**

2. **ELECTRICAL BUSWAY THROUGH CONCRETE WALL (2-HR.)**
   - **INSTALL PER UL SYSTEM C-AJ-6017**
   - **USE HILTI FS-ONE MAX FIRESTOP SEALANT**
   - **ELECTRICAL BUSWAY**
   - **MAX. 26" X 6"**

3. **ELECTRICAL BUSWAY THROUGH CONCRETE WALL (2-HR.)**
   - **INSTALL PER UL SYSTEM C-AJ-6042**
   - **USE HILTI CFS-BL FIRESTOP BLOCK**
   - **ELECTRICAL BUSWAY**
   - **MAX. 23" X 4-1/2"**

**Notes:**

1. Refer to the following specifications for firestopping:
   - a. 07 84 00 Firestopping
   - b. 07 84 13 Penetration Firestopping
   - c. 22 00 00 Plumbing
   - d. 23 00 00 HVAC
   - e. 26 00 00 Electrical
   - f. 27 06 37 Communication

2. 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

3. Details shown are up to date as of February 2015. For additional information on the details, refer to the most current "Underwriter’s Laboratories Fire Resistance Directory (volume 2.)"

4. References:
   - 2013 Underwriter’s Laboratories Fire Resistance Directory
   - NFPA 70 National Electric Code
   - All governing local and regional building codes

5. Firestop System installation must meet requirements of ASTM E119 (UL 263) listed assemblies that provide a fire rating equal to the construction being penetrated. All through penetrations shall be prominently labeled with a UL 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*

7. For outlet boxes requiring protection, use only Wall Opening Protective Materials, category CLIV as classified by Underwriter's Laboratories, Fire Resistance Directory (Volume 1.)