Kingspan Insulated Panels, Inc.
Design No. KIP/MRP 120-01
Ceiling Assembly
K-ROC Fire Rated Panels
ASTM E119 and CAN/ULC-S101
Rating: 2 Hour
Superimposed Load: None

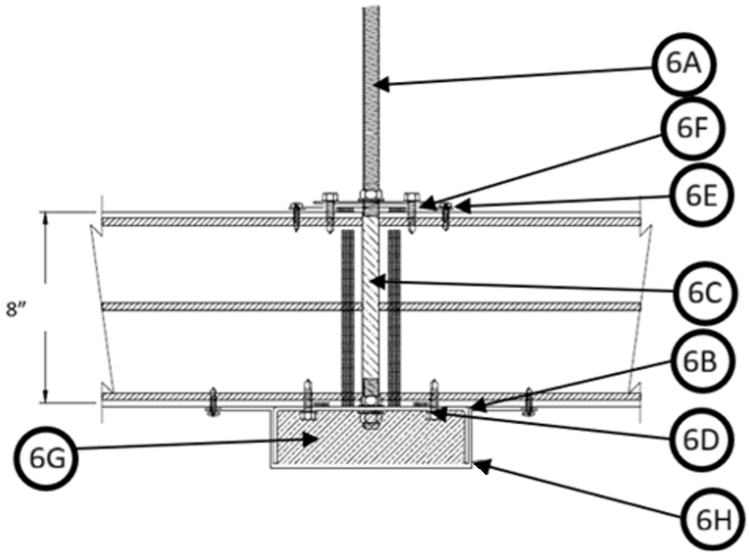


Figure 1. Butt Joint W/Hanger

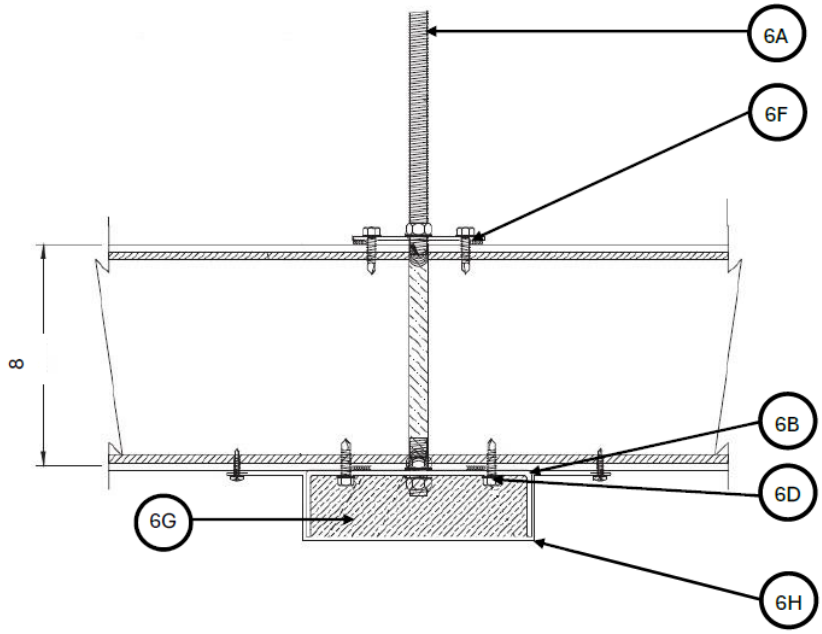


Figure 2. Mid-Panel W/Hanger

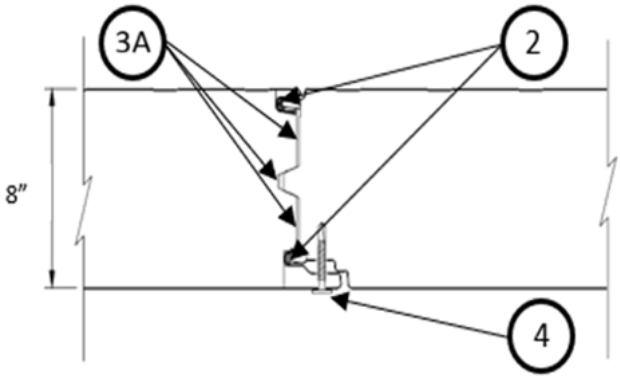


Figure 3. Interlocking Panel Joint W/Safire

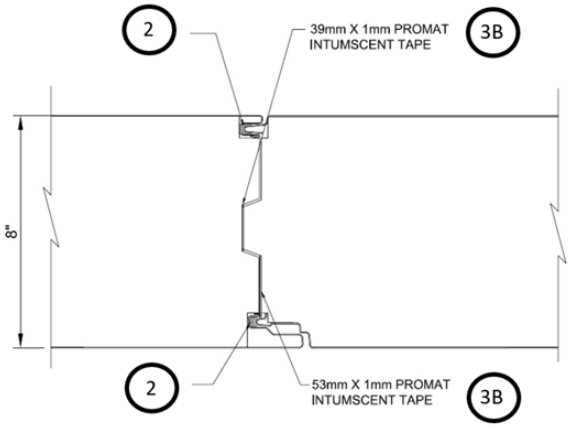


Figure 4. Interlocking Joint W/Intumescent Tape

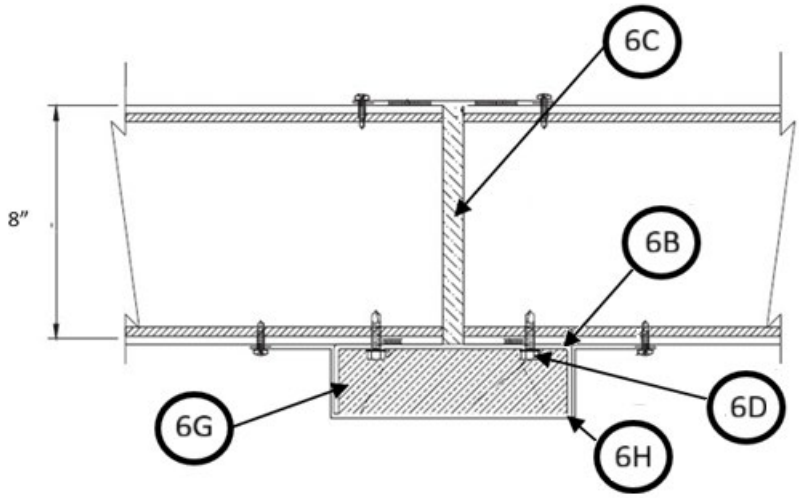


Figure 5. Butt Joint W/No Hanger

1. **INSULATED METAL PANEL:**

   CERTIFIED PRODUCT: Kingspan Insulated Panels, Inc., K-ROC Fire Rated Insulated Metal Panels

   Install nominal 8 in. thick x 42 in. wide Kingspan K-ROC Panels w/min. 24/26 GA (ext/int) steel skins horizontally, using the mounting attachments (Item 6). The max. span between mounting attachments is 5 ft.

   Refer to **Figures 1 and 5** for butt joints, and **Figures 3 and 4** for interlocking joints.

2. **SEALANT:** Apply a bead of Kingspan's non-skinning butyl sealant at the top and bottom joints of the butt joints or interlocking edges of the insulated metal panels.

3. **INTUMESCENT:** Use one of the options listed below.

A. OPTION 1 – Refer to Figure 3. Apply three 20mm beads of Kingspan's Safire Intumescent Mastic in the interlocking joints of the mineral wool core.

B. OPTION 2 – Refer to Figure 4. Use Promat Promaseal®-LW intumescent tape with specified widths and locations.

4. **INTERLOCKING JOINT PANEL SCREWS:** Install No. 14-13 × 1-1/2 in. long pancake-head screws to the underside of the panels. Space screws 24 in. on center (oc) along the length of the interlocking joints of the insulated metal panels.

5. **BUTT JOINT PANEL SCREWS**: Install No. 10 × 3/4 in. long hex-head screws spaced at 12 in. oc at the end of the panels at the butt joints on the top (unexposed) surface of the panel joints.

6. **MOUNTING ATTACHMENTS:** Use the following items to secure the insulated metal panels:

A. THREADED ROD – Secure 3/8 in. diameter threaded rod, spaced a max. of 42 in. oc, to structural member (not shown). The max. hole diameter for the rod installation shall be 1/8 in. greater than the rod diameter. Threaded rod shall be installed between the panel butt joint as shown in **Figure 1**. Alternatively, the rod can be installed through the middle of the panel, as shown in **Figure 2**. For installation at mid-span locations, apply 3M Fire Barrier CP 25WB+ sealant at the penetration points at the top and bottom of the panels. Maintain a max. of 5 ft. oc ceiling channel spacing.

B. CEILING CHANNEL – Install 12 GA galvanized steel ceiling channel to the underside of the insulated metal panel butt joint and in line with mounting attachment threaded rod locations. Apply two continuous beads of Kingspan's non-skinning butyl sealant on the topside of the butt joint channel to set panel edges onto. When applicable, secure 12 GA galvanized steel ceiling channel to threaded rod using 3/8 in. hex nuts and lock washers.

C. CEILING PACKING MATERIAL – Install 1/2 in. thick × 8 in. wide nominal 8 pcf density strips of mineral wool at the end (butt) joints of the panels prior to fastening the ceiling channel to panels.

D. CEILING CHANNEL FASTENERS – Compress panel ends against packing material (when applicable) and secure ceiling channel to the underside of the insulated metal panels using 1/4 in. -14 × 1 in. long hex-head fasteners spaced 12 in. oc.

E. COVER TRIM – Apply two continuous beads of Kingspan's non-skinning butyl sealant, one on the topside of each panel, then install 4 in. wide, 26 GA cover trim spanning the topside surface of the butt joint. Fasten cover trim to panels using No. 10 × 3/4 in. hex washer-head Tek fasteners on each side of the butt joint, spaced 12 in. oc along the length of the cover trim.

F. SQUARE CEILING PLATES – Install 12 GA galvanized steel, 4 in. square ceiling plates through the threaded rod. For installation at butt joint locations, fasten square ceiling plates through cover trim into panels using four 1/4 in. -14 × 1 in. long hex-head Stitch Tek fasteners at each ceiling plate. For installation at interlocking joint locations or mid-span locations, apply a continuous bead of Kingspan's non-skinning butyl sealant on the underside of the ceiling plate along its perimeter.

Fasten square ceiling plates through into panels using four 1/4 in. -14 × 1 in. long hex-head Stitch Tek fasteners at each ceiling plate.

G. CHANNEL PACKING MATERIAL – Install nominal 1-1/2 in. × 6 in. wide strips of min. 8 pcf density mineral wool on the underside of the butt joint channel prior to installing the butt joint trim.

H. BUTT JOINT TRIM – After installing the ceiling channel packing material, install 26 GA butt joint trim pieces over the channel packing material and ceiling channel. Overlap joints min. 3 in. and secure using No. 10 × 3/4 in. long hex-head Stitch Tek fasteners spaced 12 in. oc.

Consult the listing report on the Directory of Building Products (https://bpdirectory.intertek.com) for the edition of the standard(s) evaluated.

Compliance of the assembly described in this Design Listing with the referenced standard relies on verification that the assembly constructed in the field is consistent with that described herein. Intertek certified products may be verified by the approved Intertek label; other products must be verified by the Authority Having Jurisdiction as meeting the specifications stated herein.