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Note: Verify that the structural gap and blockout dimensions are in conformance with submittal data. A secondary blockout or "undercut" is also required to accommodate +/- 100% movement. Check dimensions with submittal data before beginning installation. If this is a Fire Rated Assembly, the fire barrier must be installed before the Architectural Joint System. Refer to the fire barrier instructions for specific system installation. For installations subject to non-conditioned applications, a thermal gap is required between the end-to-end connections of the frames and covers. When installing in warm conditions (ie- 75F / 22C or greater), the covers can abut eachother directly, however during cooler weather installs (70F / 21C or less), the recommended gap width between frames and covers is 1/8" (3mm) min. Prior to installing the next frame in sequence, apply polyurethane sealant (By Others) to the end of the frame / cover before seating the next profile.

# Fig 1: Pre assembly





# Fig 2: Locating frames



#### Figure 1

1. Install the architectural joint system on a level surface. To determine blockout depth, deduct the thickness of the floor finish from the frame height. This may require adding epoxy based leveling compound to raise the tops of the frames.

2. Cut the aluminum components to the desired length.

3. Cut six, 3" [75mm] long pieces of compression seal material. Secure seals into the center pan and recessed frames to properly locate the frames.

4. With the expansion joint system centered over the expansion joint, mark the back edge of both frames

#### Figure 2

5. Remove the center pan and seals from the recessed frames. Remove the center pan from the frames and re-position the recessed frames in-line with the marked lines, and mark the hardware locations on the concrete.

6. Remove the frames from the concrete and drill the marked hole locations using a 1/8" [3mm] drill bit.

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# Fig 3: Securing frame



### Fig 4: Inserting centerbars



# Fig 5: Securing centerbar channel



#### Figure 3

7. Return frames to position and fasten in place using the supplied flat head concrete Anchor.

**Note:** For exterior applications, space the abutting frames 1/8" (3mm) apart from the previous to allow for thermal growth of the aluminum.

#### Figure 4

**Note:** For wider joint systems, the center bar receiving frames are separate.

8. Cut the provided center bar frames to appropriate length.

9. Position the center bar frames in the joint opening and use the pre-drilled holes to mark the hardware locations on the concrete.

10. Remove the frames and drill the marked hole locations using a 1/8" [3mm] drill bit

11. Assemble the center bar frames with seven centering bars per frame. With each centering bar diagonal, slide the ball ends of each bar into the channel on each frame.

12. Adhere (Adhesive supplied by others) the supplied bushing into the centering bar. Space the centering bars even along the length of the frames, keep the bars 6" [150mm] from each of the edges. Then 18" [450mm] on center.

#### Figure 5

13. Return the frame assembly to the joint opening and install the frames in place using the supplied flat head concrete anchors.

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### Fig 6: Pan hardware







# Fig 7: Installing seals

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#### Figure 6

14. Assemble the center bar hardware with the centerpan. Insert the hex head bolt through the pre-drilled hole in the center pan. Securely fasten the threaded metal post to the bolt.

15. Install the center pan. Align the posts with the thru bushings on the centering bars. And insert the posts into the through bushings (See Figure 6a).

### Figure 7

16. Heatweld all seal buttseams. Use light soapy water to easier install the santoprene seals on both sides of the expansion joint system.

**Note:** When preparing to install finishes into the pan, it may be necessary to place Lightgauge metal sheeting over thermal gaps between each pan to support the finishes. Secure these small strips in place using a flexible bed of silicone. (By Others).

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(See Fig.8a for example)

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# \*\* Nominal joint width of 2-8" (50-200mm)

### Fig 8: Mitering frames at corners



#### Figure 8 & 8a

17. At the inside and outside corners, miter the frames & cover plates in the field. Do not install centerbars within the last 6" zone of the mitered components.

17a. At corner conditions in an exterior, leave 3/16" (4.5mm) spacing between mitered corners. Seal with polyurethane or mastic sealant.

\*\* NOTE: For projects that exceed 10" [250mm] in joint width with lateral shear requirements, contact your Local Rep for supplemental installation instructions regarding inside and outside corners.

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Fig 8a: <u>Mitering Pans</u>

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### Fig 9: Pan Infill Guidelines

18. Given the wide variety of finishes and conditions this system can accommodate, the pan infill and ultimate functionality of the finishes are the responsibility of others.

19. Guidelines:

- It is recommended not to use cement-based products within the pan. This is due to vibrations and potential deflection of the cover, which will fracture the infill. If choosing to use concrete, ensure welded wire fabric and appropriate concrete mix is specified through your local concrete supplier and engineer.
- It is recommended to use epoxy- based grout for the infill of pan-various colored aggregates and silica sand exist if a distinct color or finish is desired. Some grouts require a proper primer to prepare the aluminum pan to accept the infill. Coordinate with local supplier for details.
- A range of pre manufactured flooring systems can be installed into this pan system. A bed of epoxy grout is recommended to infill the pan and properly support the flooring. Verify requirements with flooring manufacturer.
- Welded wire fabric can also be used for pan reinforcement.

Ensure the finishes are coordinated to have caulk joints aligned with the pan butt seams when utilizing system in an interior and exterior application.



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# Fig 10:



# Fig 10: Final Installation

20. Backfill blockout at outside frames with epoxy grout. Ensure the top seals of the expansion joint are centered and protected from construction traffic, solvent-based cleaners and other chemicals.

### Fig 11: Protection Measures

21. Protect assembly from damage, overloading, and other Trades until project handoff. Mechanically fasten 3/4" (18mm) thick protection board on one side of the joint. Provide beveled edges to avoid trip hazards.

# Fig 11:



