

# ABC Flex-Joints

ABC's "Easy Sheet" series on building extruded aluminum sign frames - 3/03

# 12

**ABC Flex-Joint parts are unique. They are designed to provide a way of joining two separate sections of flexible-faced signs with only a thin shadow line. Flex-Joints are another example of the attention ABC pays to the needs of sign manufacturers.**

The nature of flexible faces lends itself to be used in very large signs. When signs become so large that they must be built in sections to transport them, Flex-Joints are used to build each section complete with faces and lighting. The installer can then easily abutt each complete sign, Flex-Joint to Flex-Joint. When used properly, this produces no more shadow than a seam in the flexible face.

ABC provides three Flex-Joints: The **Large Flex-Joint**, the **Small Flex-Joint** and the **Hinge Frame Flex-Joint**. Any of these Flex-Joints take the place of the perimeter frame on the side of the sign cabinet which

is to be abutted to another section. All three have a dull knife-edge "lip" that the flexible face wraps around, with the tensioning hardware hidden on the inside of the sign. When the sign sections are bolted together, as illustrated below, the faces are held tightly together, and the light spills to the very edge of the lips of the Flex-Joints, leaving very little shadow.

## LARGE FLEX-JOINT

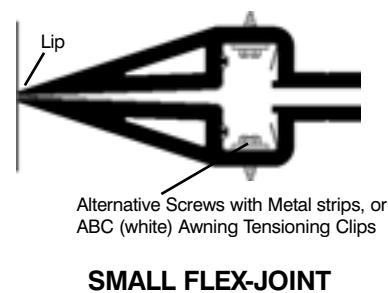
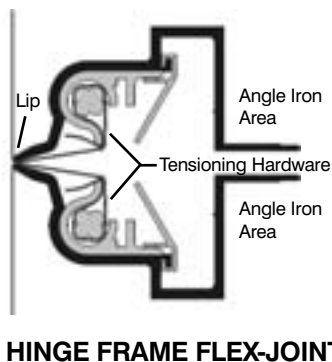
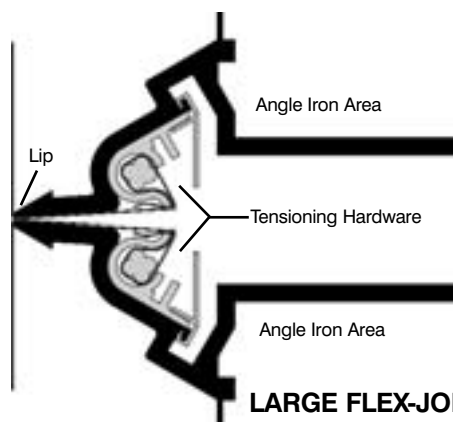
The Large Flex-Joint is usually used with ABC's Wide-Fab or Wide-Fab Bleed Frames, although it can also be used with the Large or Small A/Flexframe. The Large Flex-Joint is a very heavy, strong, extrusion, designed and engineered to span a maximum of five feet unsupported. The illustration below shows typical Wide-Fab construction. Struts, with knee braces are used every five feet or less, to reinforce the Flex-Joint, (see EASY SHEET #11). Steel or aluminum angle or square tube cross members should be welded or bolted to

the two parallel Flex-Joints about every 30" to prevent inward deflection under heavy wind-load.

A very slight outward bow, or chamber, can be made in the abutting Flex-Joints by placing a washer under the center-most strut and knee braces. This will ensure that the abutting sides of the sign will be drawn tightly together when the two sections are installed.

The ends of the Flex-Joints must be fitted to whatever frame is used where the two dissimilar parts meet. The Flex-Joint is notched or cut on a metal band saw as needed to make the hardware "saddles" meet properly, as though they were mitered.

Tension the flexible face as usual on the regular sides of the sign. The tensioners may be placed closer together on the Flex-Joint side. "Continuous Tensioner", which are 16" long pieces of ABC Tensioner



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The parts described on this page are covered by one or more of the following patents:

U.S. 4,007,552 4,265,039  
CANADIAN 1,021,565 1,149,159 1,170,048 1,170,049 1,170,050



# ABC Flex-Joints (cont.)

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extrusion, spaced only an inch apart, with Keepers at each end of each piece, will totally eliminate any tendency for the face to pucker or wrinkle along the Flex-Jointed seam.

If possible, bolt the two joints together after installation for the tightest fit.

The large sign illustrated below was 20'x 20', for Systems Parking in Los Angeles. Built in two 10'x 20' sections, it was installed about fifteen stories above ground. A person can enter the sign through a door in the wall, into the back of the sign, and climb service ladders built inside the sign.

## SMALL FLEX-JOINT

ABC's Small Flex-Joint was designed for joining fascia sign sections and for turning inside or outside corners. Use it with ABC's single face Access or Hinge Frames.

This part can be used for signs up to 4 feet high, and should be attached to internal struts every 4 feet. Attach struts to the frame as described in Easy Sheet #11.

Small Flex-Joints should be through-bolted where sections abut to avoid leaks. Notch the ends of the flex-joints where they meet the frame's saddle area.

Weld the Small Flex-Joint directly to the frame to eliminate hardware shadows since the joint creates a tight, virtually shadowless joint.

Use ABC's Awning clips for fastening the face in place, or use a continuous metal bar to screw or rivet the face in place. The CITICORP sign illustrated below is built with ABC's Small A/Flexframe with the Bleedface Saddle. Built in sections, it corners with no visible shadow.

## HINGE FRAME FLEX-JOINT

Providing virtually the same function as the other two flex-joints, the Hinge Frame Flex-Joint enables abutting sign sections to be hinged open for electrical access.

Naturally, this part works only with ABC's Hinge Frames, and allows flexible faces to easily hinge open with only a slight shadow where the two sections meet.

Another advantage is that it also allows each outer frame section to be independently opened and entirely removed from the main frame.

Typically used vertically in fascia signage, the Hinge Frame Flex-Joint can span up to 48" without bracing. Simply substitute this Flex-Joint for the F-Saddle on any abutting ends prior to mitering the frame pieces. Do not bolt the Hinge Frame Flex-Joint sections together as hinging each section independently will be impossible.

Use ABC's standard face tensioning hardware to attach faces. ABC's Continuous Tensioners provide the best appearance. When you are building large signs in abutting modular sections for transportation and installation convenience, or when building long, continuous fascia signs that may hinge in sections, turn inside or outside corners, use ABC's Flex-Joints.

They provide tight, straight, mechanical joints, virtually shadow-free from a normal viewing distance.

