

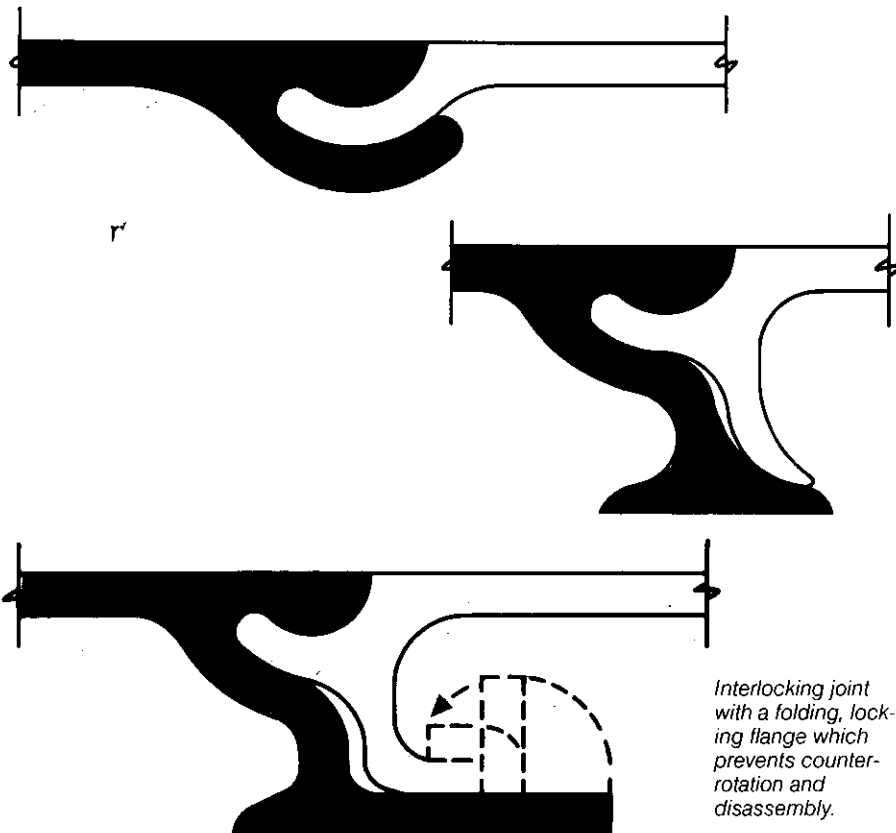
Interlocking Joints

The interlocking joint is, in effect, a modified tongue-and-groove. But instead of being straight, the two mating elements are curved and so cannot be assembled or (more to the point) disassembled by simple straight-line motion. They are assembled by a rotating motion and will not separate without a corresponding counter-rotation. As long as the parts are held in their assembled position, they strongly resist separation and misalignment in both the horizontal and the vertical directions.

The amount of rotation required for interlocking assembly depends on the geometry of the design. It can be made more or less than 45 degrees, as long as the design allows enough clearance for the required rotation.

Interlocking joints can be secured after assembly in at least five ways, all based on preventing counter-rotation:

- Fastening the elements to structural cross-members.
- Restraining the assembly within a rigid frame.
- Restraining the assembly with channel end-closures.
- Fastening the joint with rivets, welds, adhesives or other devices.
- Providing a folding, locking flange as shown at right.

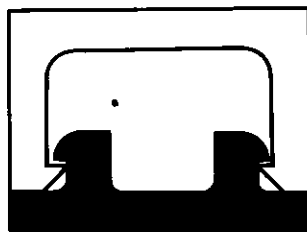


Interlocking joint with a folding, locking flange which prevents counter-rotation and disassembly.

Snap-Fit Joints

A "snap-fit" or "snap-lock" joint is one which is self-locking and requires no additional fasteners to hold the joint together.

The mating parts of a snap-fit joint exert a cam action on each other, flexing until one part slips past a raised lip on the other part. Once past this lip, the flexed parts snap back to their normal shape and the lip prevents them from separating. After it is snapped together, this joint cannot be disassembled unintentionally.



The strength of this joint can be increased by applying adhesive to the mating surfaces before assembly. Even short lengths of an adhesively bonded snap-fit joint cannot be easily slid apart.

Precise dimensions are critical in a snap-fit joint. The dimensions of a



snap-fit joint should only be referenced on drawings. Experienced extrusion designers who are fully conversant with snap-fit production requirements can determine the precise final dimensions.