



## CEILING SYSTEMS

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# SERPENTINA® Vault Cutting Instructions

## 1. GENERAL

### 1.1. Product Description

Serpentina Vault is a collection of metal ceiling panels marketed by Armstrong World Industries, Inc. The collection consists of steel and aluminum ceiling panels. Cutting procedures will be similar regardless of panel material or edge configuration.

### 1.2. Cutting Options

**Four different types of equipment are recommended for cutting these metal panels. Each has its own set of advantages and limitations and will be presented in order of preference based on speed.**

#### CAUTION

Cut edges of metal parts can be extremely sharp! Handle metal carefully to avoid injury. Always wear safety glasses and gloves when working with metal.

#### 1.2.1. Band Saw

An electric band saw equipped with a fine-toothed blade (14-18 tpi) is the fastest method for cutting border panels. For 2' x 2' panels, the saw must have a throat depth of at least 12" to allow a cut anywhere on the face of the panel. Practicality for other size panels will depend on size and required direction of cut. Price is about \$700.00 for a 12" saw.

**1.2.1.1. Procedure** Mark the cut line on the face of the panel and feed through the saw face up. Shimming the back of hollow panels is not normally required.

**1.2.1.2. Disadvantages** Band saws are not part of the normal "tool kit" of an acoustical installer. Although readily available, they tend to be more expensive than the other options listed here. Band saws are less portable than the other options and will require that the panels be moved to the saw, cut, and then moved back to the installation site. This distance may not be great, but labeling of the panels may be necessary to ensure that they return to the correct location.

#### 1.2.2. Electric Shears

These electric shears resemble a drill motor attached to a pair of scissors blades. There are actually three blades; one movable centered between two stationary. When used, the tool removes a strip of material about 1/4" wide. They produce a clean cut, and are more portable than the band saw. Price is about \$200.00.

**1.2.2.1. Procedure** Mark the cut line on the face of the panel. Use aviation snips to remove a section of the edge material on the waste side of the cut line. This step is required to provide access to the face for the shears. Cut the panels face up.

**NOTE:** To prevent scratching the face of the panel, observe the direction that the 1/4" band of waste material takes as it coils up in front of the cut. Position successive panels so that this coil moves across the scrap portion of the panel.

**1.2.2.2. Disadvantages** Shears are not quite as fast as the band saw. Cordless models are not yet available, so the typical headaches and safety issues associated with corded tools apply.

#### 1.2.3. Duct Snips

The duct snip is essentially a manual version of the electric shears, and sells for about \$18.00.

**1.2.3.1. Procedure** Follow the procedures described in section 1.2.2.1.

**1.2.3.2. Disadvantages** The duct snip is extremely slow and laborious. It is the tool of last choice, and is listed here for consideration only when other options are not available and only for a very limited number of cuts.

#### 1.1.2. Aviation Snips

Both left cut and right cut aviation snips will be required for notching operations and for cutting holes for penetrations through the panel face. Standard aviation snips cost about \$12.00 a pair.

**1.1.2.1. Procedure—Notching** Snips are used as needed to cut through the edge detailing on panels to provide clearance for shears or to ease corners. Application will vary depending on edge detail.

**1.1.2.2. Procedure—Penetrations** Cutouts in the center of the panel are created by first drilling or punching a hole near the center and then cutting in a spiral pattern to the finished size and shape. Exercise caution during this procedure as the hand will be in close proximity to the cut edge of the panel.