

## 4. Outline of Load Cell Production Processes

### 1. Strain Gauge Production Process

- **Bonding backing materials**

A metallic foil is bonded to a backing material (base) using adhesive. There should be no trapped air bubbles or dust.

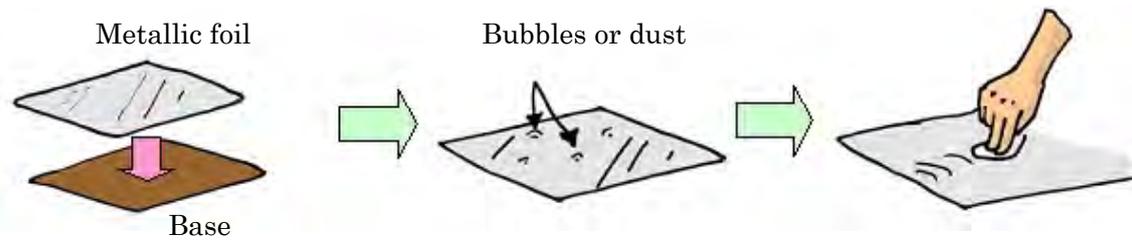


Figure 4.1

- **Curing**

A jig is used to apply pressure to metallic foil and backing material. The jig is placed in a high temperature oven to cure the adhesive.

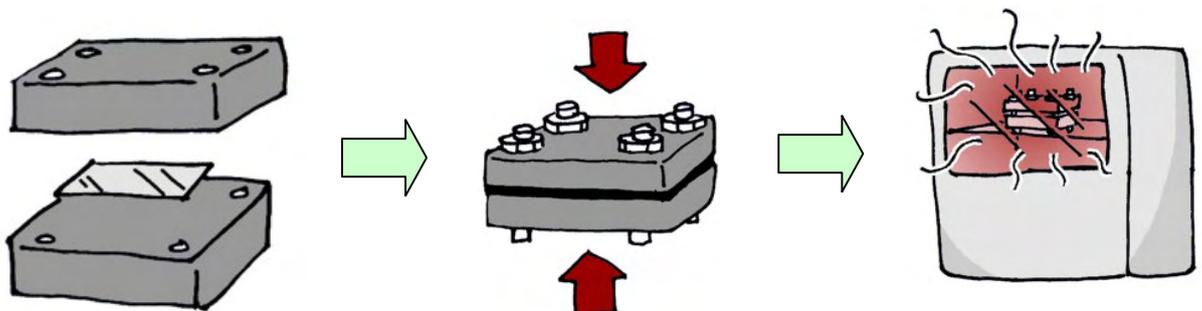


Figure 4.2

- **Pattern exposure**

The metallic foil is coated with a photosensitizing agent and shielded by a mask of the gauge pattern. When the foil is exposed to light, only the photosensitizing agent in the gauge pattern is cured.

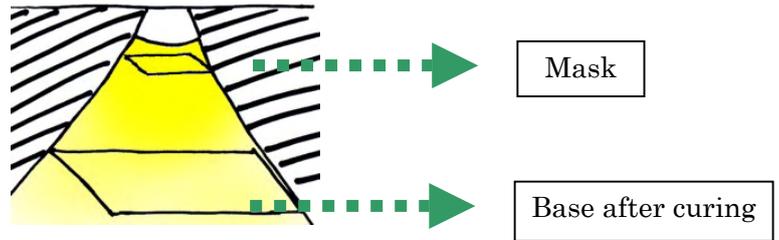


Figure 4.3

- **Etching**

The metallic foil outside the gauge pattern is dissolved using an etching liquid.

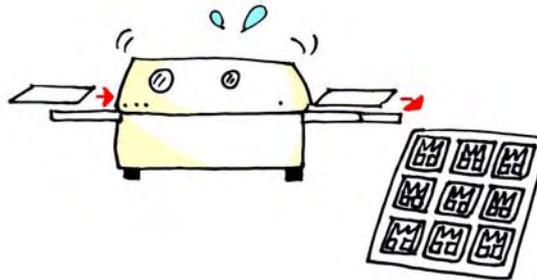


Figure 4.4

- **Trimming**

The resistance of the gauge is measured and adjusted using a diluted etching liquid. Once the adjustment is complete, a neutralizing liquid is added to end the etching.

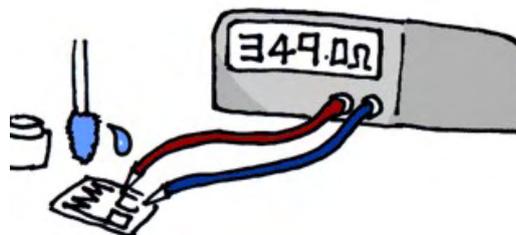


Figure 4.5

- **Visual inspection**

Visual inspection is performed to verify that there are no defects in the gauge pattern and the base.



**Figure 4.6**