2. Load Cell Production Process

• Finishing the surface of the spring material

To enhance its adhesive strength, the surface of the spring material is sandblasted to a suitable level of roughness.

Figure 4.7

• Bonding

After the surface of the spring material is washed, the spring material and the gauge are coated with an adhesive. The gauge is then attached to the spring material.

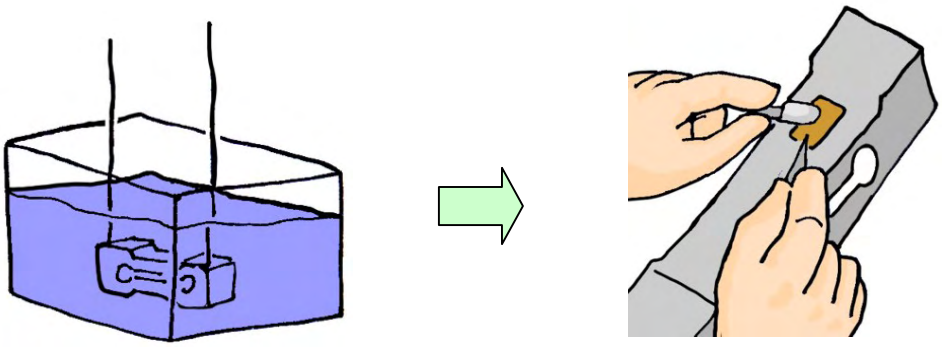

Figure 4.8

・Curing

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

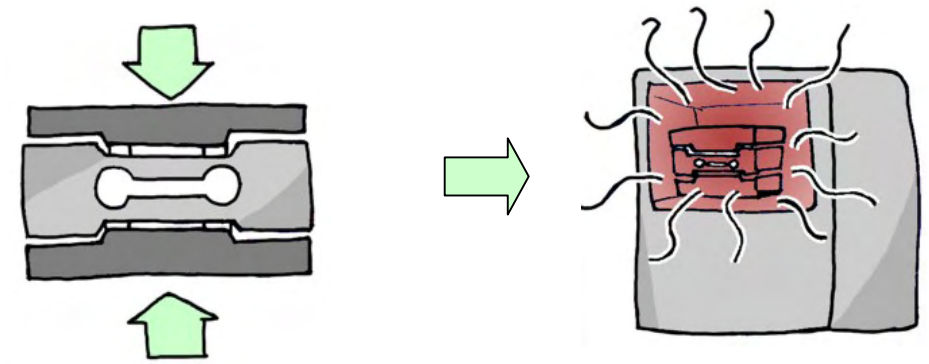

Figure 4.9

・Four-corner adjustment

A pan is attached to the load cell. The spring material is grinded and adjusted until the output is the same when a weight is placed on any corner.

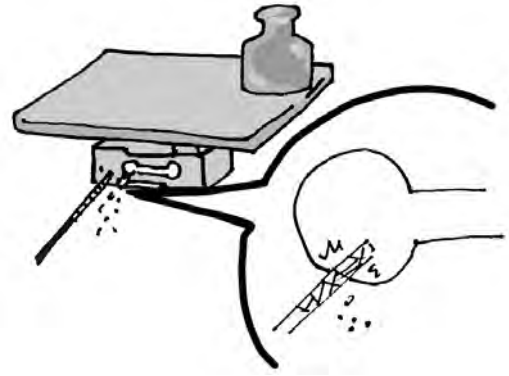

Figure 4.10

・Testing the temperature characteristics on zero balance

The load cell is placed in a thermostatic chamber, and its output voltages are measured at a low temperature and a high temperature. If the temperature characteristic specifications are not satisfied, a resistor with a high temperature coefficient is incorporated into the bridge circuit for adjustment.

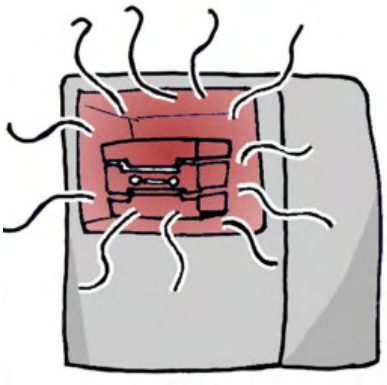

Figure 4.11

・Moisture-proof coating

A moisture-proof agent such as silicone is applied to the gauge and the circuit.

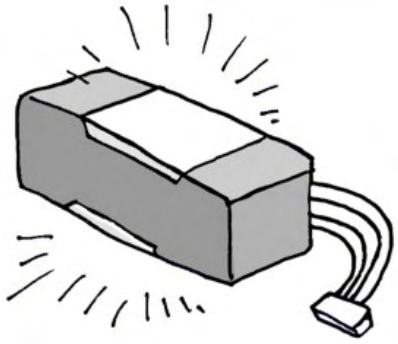

Figure 4.12

・Inspection

A power supply and a multimeter are connected to the load cell, and input and output resistance, insulation resistance, etc are inspected.

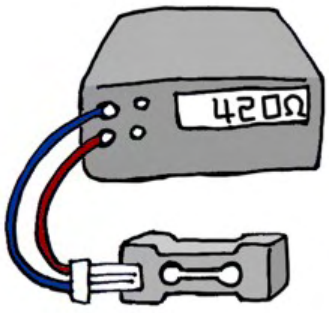

Figure 4.13