

An assembly view of the wafer-containing ring system appears in Figure 4. It can be seen here that the wafer thickness is slightly greater than the corresponding thickness of the containing ring, which prevents the anvils from making contact with the ring. Three equally spaced rubber tabs are placed on the upper and lower sides of the containing ring to keep it centered until the expanding wafer makes contact. Two SR-4 foil-type strain gages have been mounted at diametrically opposed positions on the outer surface of the containing ring such that an average circumferential strain can be recorded as a function of the applied force.

The complete assembly of anvils, wafer, and containing ring is shown in place on the ram in Figure 5. Since the ram moves at a maximum rate of 0.5 inches per minute, additional parallel cylindrical blocks were placed above the top anvil to reduce the ram travel required for contact. The large area of these blocks prevents the stress level from exceeding their elastic limit. The strain gage leads are connected to a switching circuit such that readings can be taken from both gages without having to reach under the press. The leads from the switching circuit are then placed across the terminals of a Baldwin static strain gage indicator. A temperature compensating strain gage is also employed in the usual fashion. In conducting compression tests on confined wafers, the ram load was increased in even increments, and the circumferential strain, as read on the Baldwin indicator, was recorded at each increment. In the unconfined wafer