

experimental stress-strain curves are documented in the following table.

Material	σ_0 -psi	b-psi	n
303 Stainless Steel	38,000	340,000	1
2S Aluminum	10,500	11,000	0.377
6061 Aluminum	15,000	33,000	1
Armco Iron	30,000	150,000	1

The two hollow wafers appearing in Figure 3 serve to illustrate the possible reduction in cavity volume as referred to earlier. These two annealed, 303 stainless steel wafers were initially the same size (1.500" O.D., 0.375" I.D., 0.466" ht.), but after being subjected to a 0.5 million pound load, in the ring assembly, the wafer on the right assumed the form as shown (1.525" O.D., 0.264" I.D., 0.436" ht.). This change in the hole diameter represents a 50% reduction in cavity volume, which is sufficiently large to create extremely high pressures in the cavity fluid.

(2) Wedges - The purpose of the wedges is to transmit, in an elastic manner, the high-intensity restraining pressure existing at the external wafer surface, to a low-intensity pressure level at the larger inner surface of the steel containing ring. This intensification is inversely proportional to the radial position. Since the wedges are not joined to one another, no hoop stresses are developed, and