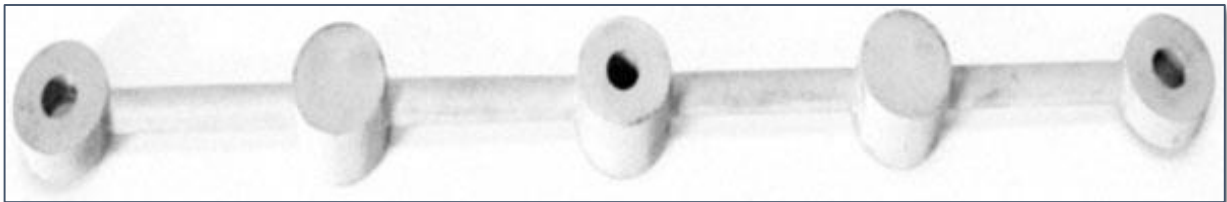




## Product Testing

### Strength Testing of the AR®Lightweight Spacer Damper

In 2010 the AR®Lightweight Spacer Damper was tested for strength in a series of tests including torque. Tests were completed in the independent testing laboratory at Helical Line Products Co., 659 Miller Road, Avon Lake, OH 44012. The series completed a **total of 10 tests**.



#### Subject

Two cast AR spacer units and two heat treated AR spacer units. The AR spacer unit is the stabilizer bar connecting two articulating AR®Clamps to make the AR®Lightweight Spacer.

#### Purpose

To determine if the test samples will develop 2,500 lbs. in compression.

#### Testing

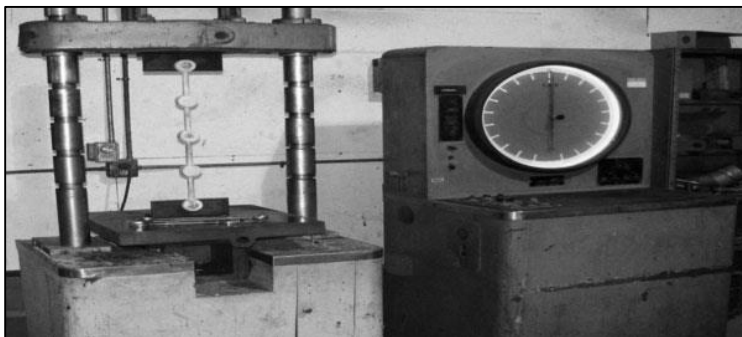
Compression test samples were terminated with the recommended hardware, 5/8 steel rod or cap screws. The compression tests were conducted with the AR spacer unit fitting positioned at a 90° angle to the plate fixture. Test ran at 1 inch per min. until the AR spacers breaks, testing stop at max of load of 2,500 lbs.

#### Equipment

50,000 lb. Baldwin, Torque Wrench 1/2" drive, 10-150 ft.-lbs. torque.

#### Results

Compression test indicates AR spacers started to bend at 2200 lbs. for heat-treated and non-treated.

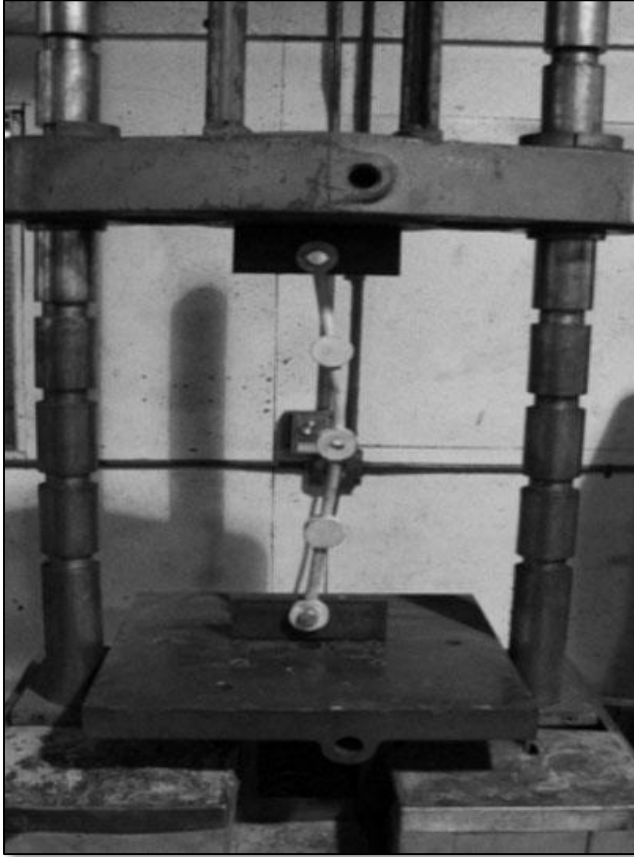


#### Test Set Up

Helical Line Products Co.  
Testing Laboratory

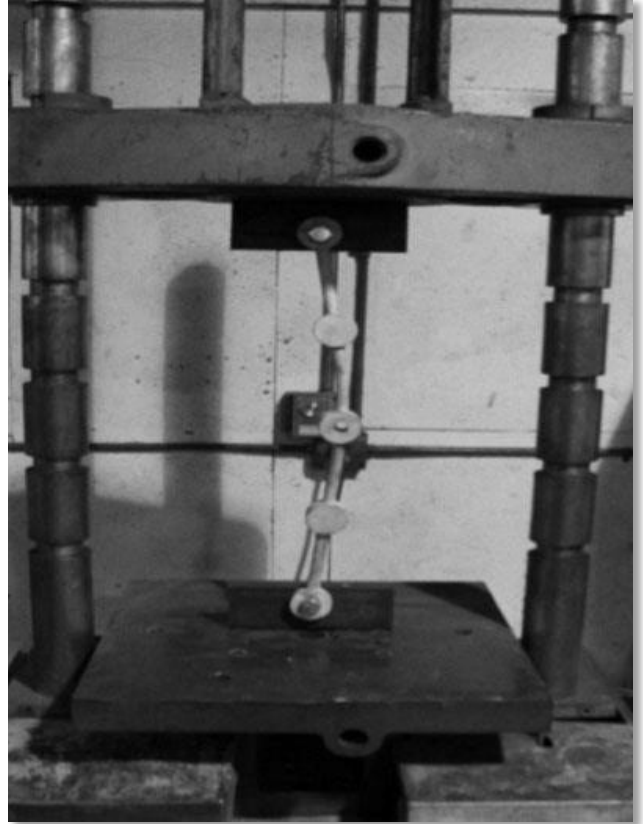
**Heat Treated**

**2200 lbs.**



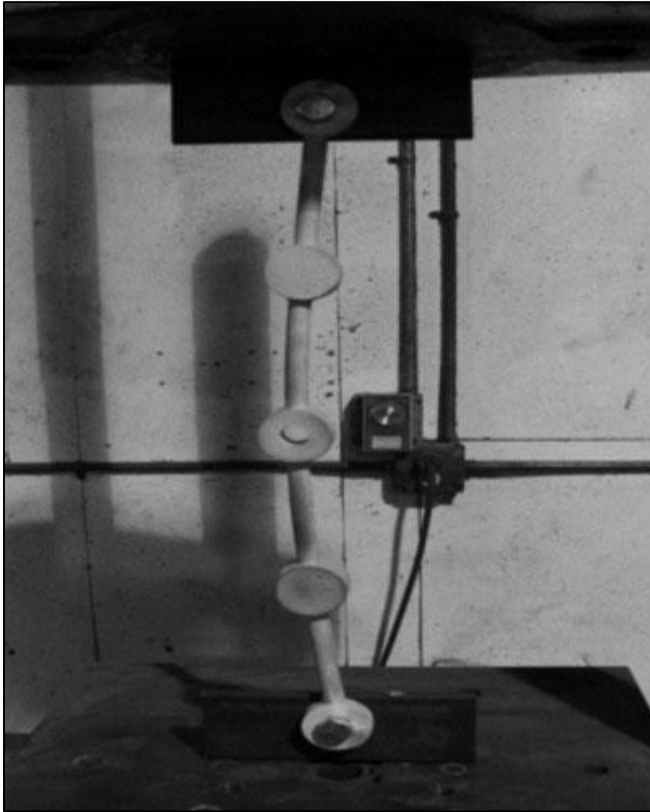
**Heat Treated & Torque**

**2440 lbs.**



**Non-Heat Treated**

**3130 lbs.**



**Non-Heat Treated & Torque**

**3780 lbs.**

