

# Ball Burst Test in Accordance with ASTM D 6797

## Application Report

### Introduction

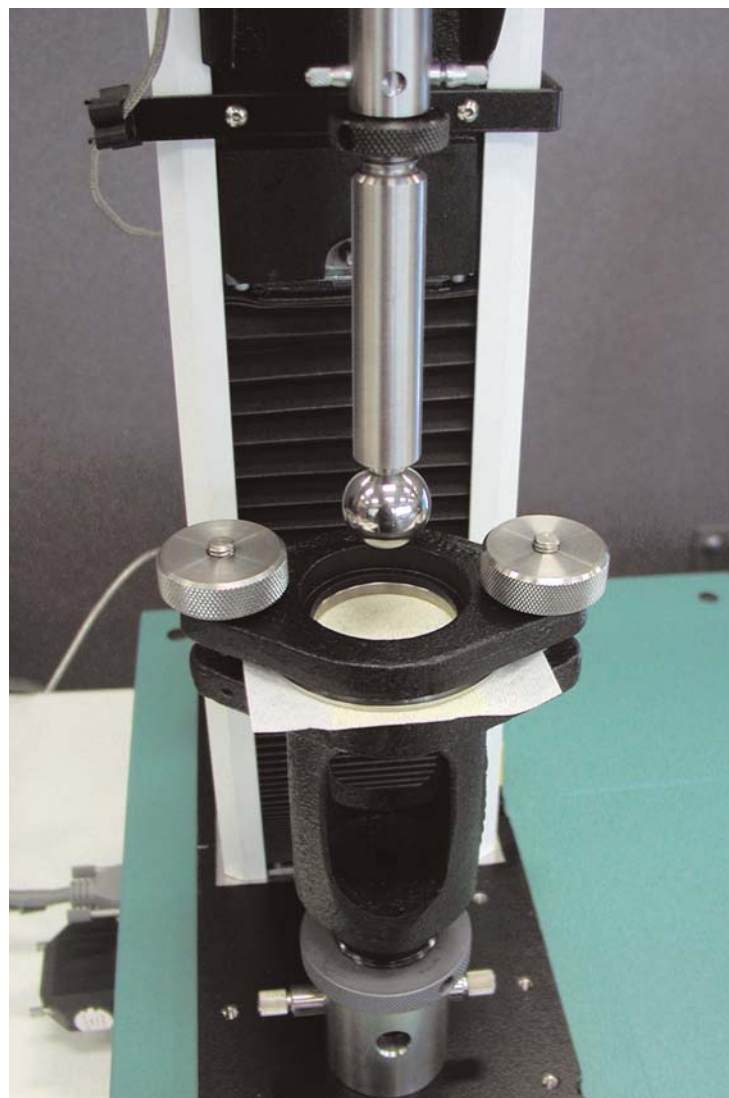
Four different fabric samples were tested in accordance with ASTM D 6797 to measure the burst strength of each and compare values between samples. The test was used to investigate the effect of different chemical treatments on the mechanical properties of the fabric.

### Test Configuration

The ball burst test was conducted using a 3345 universal testing system with a 100 lb load cell and the Instron® ball burst fixture. This test configuration is shown in Figure 1. The fabric specimen was loaded and fixed into the lower circular clamping device. The upper ball shaped probe was lowered at a speed of 12 in/min until failure occurred. The test was stopped, the probe returned to its starting position and the maximum load to fabric failure (burst strength) was recorded. Mean and standard deviation results were provided in each of four samples.

### Results

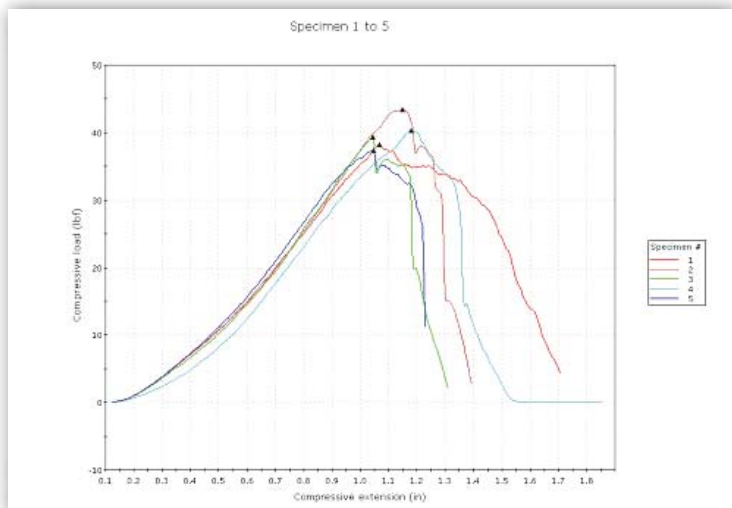
It can be seen from these results that the Instron® test configuration was successfully able to measure burst strength in all four samples. Further, differentiation between samples is possible through burst strength measurement.



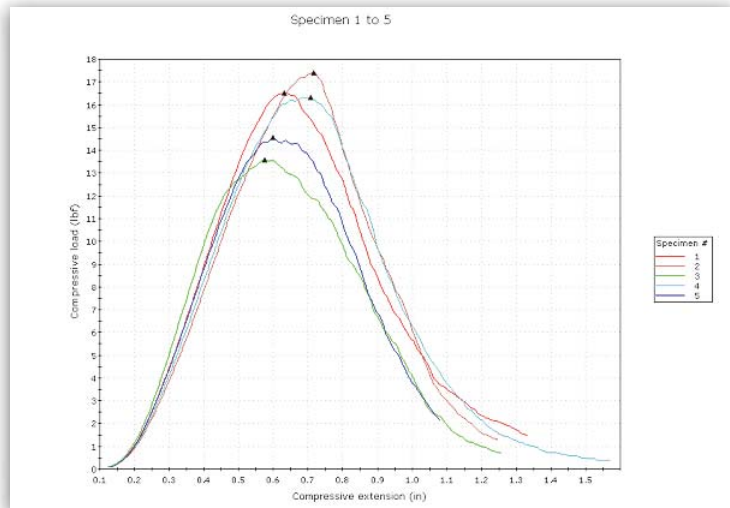
▲  
Figure 1:  
Ball burst fixture with fabric specimen before test.

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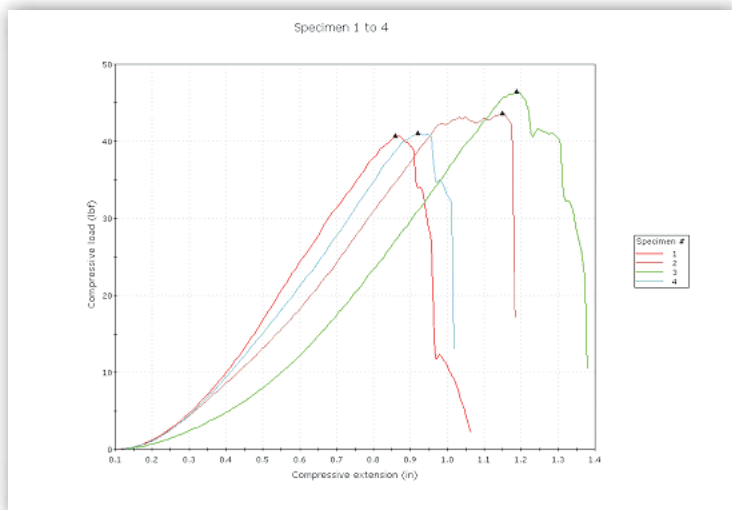
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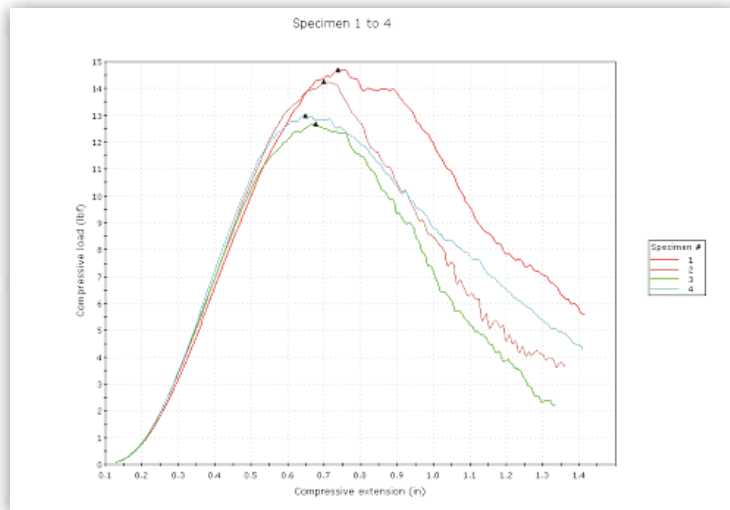
▲ **Figure 2:**  
Compressive load versus compressive extension for Sample #1.



▲ **Figure 4:**  
Compressive load versus compressive extension results for Sample #3.



▲ **Figure 3:**  
Compressive load versus compressive extension results for Sample #2.



▲ **Figure 5:**  
Compressive strength versus compressive load for Sample #4.

Specimen #	Sample #1	Sample #2	Sample #3	Sample #4
1	38.193	40.719	16.513	14.696
2	43.369	43.628	17.406	14.247
3	39.279	46.497	13.574	12.68
4	40.325	41.058	16.319	12.987
5	37.342	-	14.572	-
<b>Mean</b>	39.702	42.976	15.677	13.653
<b>S.D.</b>	2.338	2.683	1.561	0.971

**Table 1:**  
Summary of test results between four different fabric samples.



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