Expanded Polypropylene (EPP) Foam

Multiple Cycle Impact

Sewer Ring Program
Black EPP; 120 g/l

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Summary

The following is a summary report of the evaluation of the Sewer Ring application utilizing Black ARPRO® Expanded Polypropylene (EPP) at a molded density of 120 g/l (7.5 pcf).

Properties evaluated are:

- Multi-Cycle Dynamic Compression

Results

Multi-Cycle Dynamic Impact

Multi-Cycle Dynamic Impact testing was performed on 3 samples using a load equivalent to produce an impact pressure of 22 psi. The test was performed for 1,000,000 cycles at a frequency of 1 Hz. The results are shown on the chart in Figure 1 below:

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Pre-test Thickness (mm)</th>
<th>Post-test Thickness (mm)</th>
<th>Loss (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>51.68</td>
<td>51.43</td>
<td>0.48%</td>
</tr>
<tr>
<td>B</td>
<td>52.21</td>
<td>51.98</td>
<td>0.44%</td>
</tr>
<tr>
<td>C</td>
<td>51.47</td>
<td>51.09</td>
<td>0.74%</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td></td>
<td>0.55%</td>
</tr>
</tbody>
</table>

The results indicate an overall loss in thickness of 0.55%. Pictures of the Pre-test and Post-test thickness results are shown below for reference. No significant change in material state was noted, nor was any significant damage or deterioration noted.

See Figure 2 below for details:
FIGURE 2

Pre-Test Multiple Cycle Samples

Post-Test Multiple Cycle Samples