Introduction

► The Neoprene corridor in the regulation does not match the GTR production specification (Dec 2008).
► This was due to a change in material and a difference in nominal thickness from 5 to 5.6 mm.
► Testing 12 various samples 6 old and 6 new, results were used to redefine the stress strain requirement for the regulation.
► Samples were compressed to 90% of their individual thickness.
Test set up with sample
## Sample height and force

<table>
<thead>
<tr>
<th>Sample</th>
<th>Test Num</th>
<th>Height (mm)</th>
<th>Cycle 1 Peak Force (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old #1</td>
<td>25008</td>
<td>5.85</td>
<td>5960</td>
</tr>
<tr>
<td>Old #2</td>
<td>25010</td>
<td>5.92</td>
<td>6156</td>
</tr>
<tr>
<td>Old #3</td>
<td>25012</td>
<td>5.96</td>
<td>5202</td>
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<tr>
<td>Old #4</td>
<td>25014</td>
<td>5.89</td>
<td>7615</td>
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<tr>
<td>Old #5</td>
<td>25016</td>
<td>5.94</td>
<td>5405</td>
</tr>
<tr>
<td>Old #6</td>
<td>25018</td>
<td>5.93</td>
<td>6249</td>
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<td>New #7</td>
<td>25009</td>
<td>5.77</td>
<td>7002</td>
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<td>5.91</td>
<td>5784</td>
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<td>New #9</td>
<td>25013</td>
<td>6.07</td>
<td>8734</td>
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<tr>
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<td>25015</td>
<td>5.96</td>
<td>7309</td>
</tr>
<tr>
<td>New #11</td>
<td>25017</td>
<td>6.17</td>
<td>6659</td>
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<tr>
<td>New #12</td>
<td>25019</td>
<td>5.98</td>
<td>6901</td>
</tr>
</tbody>
</table>

Old       Average  5.92  6098
Std Dev   0.0404  852.1
CV%       0.7     14.0

New       Average  5.97  7065
Std Dev   0.1367  967.6
CV%       2.3     13.7
Overlay force vs % compression
Compression % was converted to strain
The average of the 12 results were calculated
A corridor of ±40% on stress values was applied about the average
Comparison of current and proposed corridors with results

![Comparison diagram showing stress vs. strain for different samples and corridors.](image-url)
Proposed Neoprene Corridor

Neoprene Compression Corridor

- **UPPER LIMIT**
- **LOWER LIMIT**

**Stress (MPa)** vs **Strain**
Thank You