Acoustic Solution with Batyline Aw
Rabbit In The Moon Restaurant - Johannesburg

**Problem**
The restaurant owner was experiencing issues with noise in the restaurant, especially when busy. Customers would struggle to hear conversations when dining and would generally lean forward to hear each other. Patrons would generally only have a starter or main meal then leave. The music which played through the restaurant sound system was also inaudible.

**Acoustic Report**
The construction of the restaurant is steel structure with glass partitions and sliding glass doors on all four sides. The floor is a ceramic tiled floor and the ceiling/roof is a gypsum board ceiling with a tin flat roof. There is a wooden bar with dining tables and chairs. The total % of reflective surface area is 75%, this is the cause of the excessive reverberation time that is creating an uncomfortable dining experience.

In order to improve the comfort of the restaurant we would need to install a material with a high absorption coefficient. We chose the Batyline AW Serge Ferrari membrane because of its high absorption coefficients and flexibility with design.

<table>
<thead>
<tr>
<th>125Hz</th>
<th>250Hz</th>
<th>500Hz</th>
<th>1Khz</th>
<th>2Khz</th>
<th>4Khz</th>
<th>RT60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without panels</td>
<td>1.48</td>
<td>2.20</td>
<td>4.14</td>
<td>4.83</td>
<td>3.92</td>
<td>3.62</td>
</tr>
<tr>
<td>With panels</td>
<td>1.47</td>
<td>1.61</td>
<td>1.58</td>
<td>1.53</td>
<td>1.73</td>
<td>1.68</td>
</tr>
<tr>
<td>Final Reduction Percentage (%)</td>
<td>-1%</td>
<td>-26%</td>
<td>-62%</td>
<td>-68%</td>
<td>-56%</td>
<td>-53%</td>
</tr>
</tbody>
</table>

**The Results**

For that room without acoustic panels, as acoustic measurement obtained through acoustic simulation. The reverb time (RT60) is 3.36 Sec(sabin)

Our proposal was to lower the reverberation time obtained in the simulation method to (RT60) 1.60 Sec(sabin) New reverb time

Covering 25% of the ceiling area with 16m2 of Batyline Aw membrane has resulted in a reduction in reverb time of RT60 - 44%. With the greatest reductions in reverb occurring between 500Hz - 4Khz.

**OWNERS REMARKS**
Patrons are now staying longer and enjoying a three course meal in a more enjoyable environment. Regular customers have mentioned that they can hear the difference. I have been asked if I have brought a new sound system as the music sound more audible.
Batyline AW creates acoustic comfort while blending seamlessly to the existing roof structure.

Area covered 16 m² / 25% coverage on the ceiling

Improvement 44%
Before - 3.36 Sec reverb time
After - 1.60 Sec reverb time.

Installation time three days.

Batyline AW acoustic membrane fitted to the existing structure using aluminum framing.