wooden acoustic panel
80 year experience, proceeds on its way with ISUS1932 which took its name from 1932 which is the foundation year of it...
As a TURKISH company, Perfopan producing “Acoustic Wood Panel” for the first time in our country develops and designs 100% domestic-manufactured sound emission and sound isolation materials for the professional sound industry and renders service to the sector by manufacturing acoustic wall and ceiling panels, and acoustic sound isolation doors.

Since 1932, Perfopan has combined its wood production experiences with acoustic wood manufacturing within a self-developing, innovative approach in the sound sector and carries on its international studies with its experienced engineer and architect staff.

Our company caught up the technological innovation, produced its acoustic products by using the state-of-the-art technology and sensitive electronic machines, had its acoustic products subjected to resonance test in AMERICAN and EUROPEAN standards approved by DANAK at DELTA Dansk Electronic, Lys& Acoustic laboratories (EN ISO 354 method), and obtained accredited certificates for isolation door tests (EN ISO 140 – EN ISO 717 method).

In addition to our standard and special products within our product range, we perform the required tiling work before the manufacturing, provide comprehensive solutions for the needs, and apply the best performance to the most appropriate spaces.

The yearly production capacity of Perfopan is 200,000 m² for acoustic ceiling and wall panels and is 4500 pieces for sound isolation doors.

Being the trademark of AKTAN MOBILYA which was founded in 1932 and which is a family corporation, Perfopan carries on rendering wood service by sustaining the family tradition under the name of ISUS1932 company…
Our main company AKTAN FURNITURE FACTORY (Aktan Mobilya) has been established by our grandfather Mehmet Ismet AKTAN three generations ago in 1932.

At that time, the joinery and wood works of the first train station of Ankara which was built by the German companies in Ulus, Ankara were performed and the first step was taken to the wood sector. Also, the wood works of various ministry buildings, the newly built T.B.M.M. Building, the Medical Faculty and the special hospital in Ankara were accomplished in those years.

Aktan Mobilya has selected manufacturing as the main sector within the 80-year time interval since 1932. Aktan Mobilya operating as a family corporation started acoustic wood panel production in 2005 for the first time with its young and dynamic engineer and architect staff as well as its business experience, manufacturing experience and tendering experience.

In 2006, M. Ergin Aktan gave the trademark PERFOPAN to Aktan Mobilya.

We would like to express our gratitudes to our dear father M. Ergin AKTAN.

Our company performs the projects and productions which it took as concept and fulfills the obligations that it undertook by adopting the international customer satisfaction principle.

We have carried on our business experience that we gained in our country and in various countries of the world and our solid structure that has occurred within the years by adhering to our traditions descending from father to son for 80 years.

Our Missions

- Quality
- Security
- Comfortable Acoustics
- Unusual Designs
- Delivery from Manufacturing to Installation
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An acoustics of a space may disrupt pleasant music or sound and make it wuthering, incomprehensible due to the irregular reflections.

While many things are expected from sound regulators, loudspeakers or any sound-related system, the result may be disappointment.

At this point, it is revealed that the main problem is the space acoustics.

It is the description of the materials that we produce to ensure the sound reaches to the audience in minimum reflection and maximum clarity with the accurate material selected.
ACOUSTIC WALL PANELS

Grooved Wall Panels
Perforated Wall Panels
Reflected Panels
Acoustic Fabric Panels
Elite Acoustic Series
Micro Perforated Panels
Installation Details
DESCRIPTION
Grooved wall panels are the panels improved by Perifopan engineers to provide best sound emission in a decorative way. Acoustic wood panels have grooves in the front and have holes at the back.

USES
All multi-purpose halls, auditoriums, offices, meeting rooms, hotels, theatres, discos, cinemas, restaurants, public buildings, gymnasiums.

TECHNICAL PROPERTIES
Maximum panel dimension: 102.4cmx280cm, 140cmx340cm
Ideal dimensions: 60cmx120cm, 67cmx139cm, 102.4cmx139cm
Melamine Panel: 18mm thickness, weight 13.5kg/m²
Wood Veneered Panel: 18mm thickness, weight 14kg/m²
Consult with Perifopan technical office for wood grain direction of the panels.

FIREPROOF SPECIFICATIONS
A) 18mm melamine DIN 4102 – B2
B) 18mm wood veneered combustion delay polish applied – A1

ACOUSTIC EMISSION SPECIFICATIONS
We can produce different type of wall panels for different acoustic performances according to the projects.
### CODE NO. 3 F 13A-PR 13 % DS 4000

The groove distance is 3.2mm in front of the panel. The distance between each Groove is 13mm. There are 4000 holes/m² at the back of this model. The diameter of each hole is 10mm.

**Perforation Ratio:** 13 %  
**Frequency Type:** This model provides high acoustic absorption at medium frequency.

<table>
<thead>
<tr>
<th>FREQUENCY (Hz)</th>
<th>100</th>
<th>125</th>
<th>160</th>
<th>200</th>
<th>250</th>
<th>315</th>
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<th>500</th>
<th>630</th>
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<th>1600</th>
<th>2000</th>
<th>2500</th>
<th>3150</th>
<th>4000</th>
<th>5000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SOUND ABSORPTION COEFFICIENT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gap of 20cm</td>
<td>35</td>
<td>50</td>
<td>53</td>
<td>60</td>
<td>71</td>
<td>76</td>
<td>82</td>
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<td>78</td>
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<td>82</td>
</tr>
<tr>
<td>Rock wool of 4.5cm</td>
<td>28</td>
<td>30</td>
<td>41</td>
<td>55</td>
<td>69</td>
<td>79</td>
<td>93</td>
<td>95</td>
<td>94</td>
<td>93</td>
<td>89</td>
<td>88</td>
<td>82</td>
<td>78</td>
<td>79</td>
<td>83</td>
<td>88</td>
<td>84</td>
</tr>
</tbody>
</table>

### CODE NO. 3F 5A - PR 15 % - DS 4000

The groove distance is 3.2mm in front of the panel. The distance between each groove is 4.8mm. There are 4000 holes/m² at the back of this model. The diameter of each hole is 12mm.

**Perforation Ratio:** 15 %  
**Frequency Type:** This model provides high acoustic absorption at medium and high frequencies.

| FREQUENCY (Hz) | 100 | 125 | 160 | 200 | 250 | 315 | 400 | 500 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 2500 | 3150 | 4000 | 5000 |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| **SOUND ABSORPTION COEFFICIENT** |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Gap of 20cm    | 0.29 | 0.47 | 0.50 | 0.60 | 0.71 | 0.77 | 0.86 | 0.92 | 0.88 | 0.80 | 0.69 | 0.74 | 0.74 | 0.73 | 0.76 | 0.78 | 0.83 | 0.82 |
| Rock wool of 4.5cm | 0.26 | 0.28 | 0.29 | 0.54 | 0.67 | 0.76 | 0.93 | 0.94 | 0.92 | 0.95 | 0.91 | 0.87 | 0.83 | 0.81 | 0.79 | 0.84 | 0.88 | 0.91 |
ACOUSTIC WALL PANELS

Grooved Wall Panels

CODE NO. 3F 13A – PR 6% DS 2000

The groove distance is 3.2mm in front of the panel. The distance between each groove is 13mm. There are 2000 holes/m² at the back of this model. The diameter of each hole is 10mm.

**Perforation Ratio:** 6 %  
**Frequency Type:** This model provides high acoustic absorption at low and mid frequencies.

![Graph](image1.png)

**FREQUENCY (HZ)** 100 125 160 200 250 315 400 500 630 800 1000 1250 1600 2000 2500 3150 4000 5000

**SOUND ABSORPTION COEFFICIENT**

<table>
<thead>
<tr>
<th>Gap of 20cm</th>
<th>0.28</th>
<th>0.46</th>
<th>0.45</th>
<th>0.51</th>
<th>0.60</th>
<th>0.61</th>
<th>0.66</th>
<th>0.69</th>
<th>0.63</th>
<th>0.62</th>
<th>0.52</th>
<th>0.55</th>
<th>0.53</th>
<th>0.53</th>
<th>0.52</th>
<th>0.52</th>
<th>0.56</th>
<th>0.60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rock wool of 4.5cm</td>
<td>0.31</td>
<td>0.37</td>
<td>0.45</td>
<td>0.56</td>
<td>0.63</td>
<td>0.68</td>
<td>0.72</td>
<td>0.75</td>
<td>0.74</td>
<td>0.68</td>
<td>0.65</td>
<td>0.61</td>
<td>0.54</td>
<td>0.51</td>
<td>0.49</td>
<td>0.53</td>
<td>0.56</td>
<td>0.61</td>
</tr>
</tbody>
</table>

CODE NO. 4F28A-PR-8% DS 2000

The groove distance is 4mm in front of the panel. The distance between each groove is 28mm. There are 2000 holes/m² at the back of this model. The diameter of each hole is 10mm.

**Perforation Ratio:** 8 %  
**Frequency Type:** This model provides high acoustic absorption at low and mid frequencies.

![Graph](image2.png)

**FREQUENCY (HZ)** 100 125 160 200 250 315 400 500 630 800 1000 1250 1600 2000 2500 3150 4000 5000

**SOUND ABSORPTION COEFFICIENT**

<table>
<thead>
<tr>
<th>Gap of 20cm</th>
<th>0.30</th>
<th>0.41</th>
<th>0.42</th>
<th>0.51</th>
<th>0.56</th>
<th>0.57</th>
<th>0.59</th>
<th>0.65</th>
<th>0.63</th>
<th>0.61</th>
<th>0.54</th>
<th>0.54</th>
<th>0.52</th>
<th>0.50</th>
<th>0.49</th>
<th>0.53</th>
<th>0.61</th>
<th>0.62</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rock wool of 4.5cm</td>
<td>0.32</td>
<td>0.34</td>
<td>0.42</td>
<td>0.56</td>
<td>0.63</td>
<td>0.66</td>
<td>0.72</td>
<td>0.76</td>
<td>0.73</td>
<td>0.70</td>
<td>0.65</td>
<td>0.61</td>
<td>0.53</td>
<td>0.52</td>
<td>0.52</td>
<td>0.51</td>
<td>0.56</td>
<td>0.64</td>
</tr>
</tbody>
</table>
ACOUSTIC WALL PANELS

**Grooved Wall Panels**

**CODE NO. DK 32x32 PR 6% DS 1000**

The diameter of each hole is 10 mm. There are 1000 holes/m² at the back of the panel. The distance between the holes are 32 mm. There are horizontal and vertical grooves at the back. Thicknesses are 3.2 mm. These grooves intersect at the center of the holes.

**Perforation Ratio:** 6 %

**Frequency Type:** This model provides high acoustic absorption at high frequency.

**CODE NO. GBM PR % 7 DS 3000**

In front of the panel, there are six grooves. The distance between each groove is 5 mm and the saw thicknesses are 43 mm. There are versatile 3000 holes/m² at the back. The diameter of each hole is 8 mm.

**Perforation Ratio:** 7 %

**Frequency Type:** This model provides high acoustic absorption at high frequency.

---

**FREQUENCY(HZ) 100 125 160 200 250 315 400 500 630 800 1000 1250 1600 2000 2500 3150 4000 5000**

<table>
<thead>
<tr>
<th>CODE NO.</th>
<th>DK 32x32 PR 6% DS 1000</th>
<th>GBM PR % 7 DS 3000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Type</td>
<td>This model provides high acoustic absorption at high frequency.</td>
<td>This model provides high acoustic absorption at high frequency.</td>
</tr>
</tbody>
</table>

**FREQUENCY(HZ) 100 125 160 200 250 315 400 500 630 800 1000 1250 1600 2000 2500 3150 4000 5000**

<table>
<thead>
<tr>
<th>Gap of 20cm</th>
<th>Frequency Type</th>
<th>This model provides high acoustic absorption at high frequency.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.37</td>
<td>0.14</td>
<td>0.42</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rock wool of 4.5cm</th>
<th>Frequency Type</th>
<th>This model provides high acoustic absorption at high frequency.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.37</td>
<td>0.14</td>
<td>0.42</td>
</tr>
</tbody>
</table>
The groove distance is 4 mm in front of the panel. The distance between each groove is 70 mm. There are slot rooms at the back of the grooves. These slots are at the length of 70 mm and the slot quantity is 270 piece/m². The perforation ratio varies according to the width of the grooves and the slot dimensions.

**Perforation Ratio:** 12%

**Frequency Type:** This model provides high acoustic absorption at low and mid frequencies.

---

The groove distance is 2 mm in front of the panel. The distance between each groove is 6 mm. There are 4000 holes/m² at the back of this model. The diameter of each hole is 8 mm.

**Perforation Ratio:** 10%

**Frequency Type:** This model provides high acoustic absorption at low and mid frequencies.

---

<table>
<thead>
<tr>
<th>FREQUENCY (HZ)</th>
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<th>125</th>
<th>160</th>
<th>200</th>
<th>250</th>
<th>315</th>
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<th>500</th>
<th>630</th>
<th>800</th>
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<th>1600</th>
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<th>2500</th>
<th>3150</th>
<th>4000</th>
<th>5000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Type</td>
<td>1.2</td>
<td>1.0</td>
<td>0.8</td>
<td>0.6</td>
<td>0.4</td>
<td>0.2</td>
<td>0.0</td>
<td>0.2</td>
<td>0.4</td>
<td>0.6</td>
<td>0.8</td>
<td>1.0</td>
<td>1.2</td>
<td>1.0</td>
<td>0.8</td>
<td>0.6</td>
<td>0.4</td>
<td>0.2</td>
</tr>
<tr>
<td>Perforation Ratio</td>
<td>12%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Frequency Type</td>
<td>1.2</td>
<td>1.0</td>
<td>0.8</td>
<td>0.6</td>
<td>0.4</td>
<td>0.2</td>
<td>0.0</td>
<td>0.2</td>
<td>0.4</td>
<td>0.6</td>
<td>0.8</td>
<td>1.0</td>
<td>1.2</td>
<td>1.0</td>
<td>0.8</td>
<td>0.6</td>
<td>0.4</td>
<td>0.2</td>
</tr>
<tr>
<td>Perforation Ratio</td>
<td>10%</td>
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<td></td>
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</tr>
</tbody>
</table>
ACOUSTIC WALL PANELS

Grooved Wall Panels

Acıbadem Hospital – Maslak
Conference Hall
Wall: Grooved Wall Panel
Model: 3F 13A DS4000

Mimar Sinan University
Cinema Saloon in Istanbul
Wall: Grooved Wall Panel & Acoustic Fabric Panel
Model: 2F 6A - PR % 10 DS4000
ACOUSTIC WALL PANELS

Grooved Wall Panels

2F 30A - PR % 3.5 DS 2000

The groove distance is 2mm in front of the panel. The distance between each groove is 30 mm. There are 2000 holes/m² at the back of this model. The diameter of each hole is 8mm.

Perforation Ratio: 3.5 %

Frequency Type: This model provides high acoustic absorption at low frequency.

2F 30A - PR % 3.5 - DS 2000

1.2
1.0
0.8
0.6
0.4
0.2
0.0
125 250 500 1000 2000 4000 Hz

α S

α w

Total thickness up to the wall (including air space) to be 20 cm
Total thickness up to the wall to be 4.5 cm

α w | Euro | NRC
--- | --- | ---
0.55 LM | D | 0.68
0.50 LM | D | 0.72

2F 14A - PR % 8.5 DS 4000

The groove distance is 2mm in front of the panel. The distance between each groove is 14 mm. There are 4000 holes/m² at the back of this model. The diameter of each hole is 8mm.

Perforation Ratio: 8.5 %

Frequency Type: This model provides high acoustic absorption at low frequency.

2F 14A - PR % 8.5 - DS 4000

1.2
1.0
0.8
0.6
0.4
0.2
0.0
125 250 500 1000 2000 4000 Hz

α S

α w

Total thickness up to the wall (including air space) to be 20 cm
Total thickness up to the wall to be 4.5 cm

α w | Euro | NRC
--- | --- | ---
0.80 M | B | 0.88
0.75 M | C | 0.87
Ankara University Medical Faculty
Morphology Conference Hall

Wall: Grooved Wall Panel
Model: 4F 28A

Ceiling: Perforated Ceiling Tile
Model: TD 32 x 32 x 8mmØ
DESCRIPTION
Perforated wall panels are the panels improved by Perfopan engineers to provide best sound emission in a decorative way. Perforated panels have two types as full holed and stepwised. Full holed models are perforated as thick as the panels. Stepwised models are perforated from both sides and holes become double roomy panels.

USES
All multi-purpose halls, auditoriums, offices, meeting rooms, hotels, theatres, discos, cinemas, restaurants, public buildings, gymnasiums.

TECHNICAL PROPERTIES
Maximum panel dimension: 102.4cmx280cm, 140cmx340cm
Ideal dimensions: 60cmx120cm, 67cmx139cm, 102.4cmx139cm
Melamine Panel: 18mm thickness, weight 13.5kg/m²
Wood Veneered Panel: 18mm thickness, weight 14kg/m²
Consult with Perfopan technical office for wood grain direction of the panels.

FIREPROOF SPECIFICATIONS
A) 18mm melamine DIN 4102 – B2
B) 18mm wood veneered combustion delay polish applied – A1

ACOUSTIC EMISSION SPECIFICATIONS
We can produce different type of wall panels for different acoustic performances according to the projects.
This panel is Ø 8mm full holed model. There are 4000 full holes/m² in this model. The distance between the holes is 16mm.

**Frequency Type:** This model provides high acoustic absorption at medium and high frequencies.

**Perforation Ratios:** Ø 8mm Perforation 20% Ø 6mm Perforation 11.5% Ø 5mm Perforation 8% Ø 4mm Perforation 5% Ø 3mm Perforation 3%

---

This panel is Ø 8mm full holed model. There are 1000 full holes/m² in this model. The distance between the holes is 32mm.

**Frequency Type:** This model provides high acoustic absorption at medium and low frequencies.

**Perforation Ratio:** Ø 6mm perforation 5%

---

### TD 16x16x8mm Ø PR %20-DS 4000

<table>
<thead>
<tr>
<th>FREQUENCY(HZ)</th>
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<th>150</th>
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<tbody>
<tr>
<td>Gap of 20cm</td>
<td>0.30</td>
<td>0.47</td>
<td>0.49</td>
<td>0.59</td>
<td>0.71</td>
<td>0.75</td>
<td>0.85</td>
<td>0.92</td>
<td>0.85</td>
<td>0.78</td>
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<td>0.70</td>
<td>0.71</td>
<td>0.73</td>
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<tr>
<td>Rock wool of 4.5cm</td>
<td>0.26</td>
<td>0.29</td>
<td>0.44</td>
<td>0.56</td>
<td>0.70</td>
<td>0.77</td>
<td>0.95</td>
<td>0.95</td>
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<td>0.81</td>
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### TD 32x32x8mm Ø PR %5-DS 1000

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<th>3150</th>
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<tbody>
<tr>
<td>Gap of 20cm</td>
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<td>0.37</td>
<td>0.36</td>
<td>0.36</td>
<td>0.39</td>
<td>0.40</td>
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<td>0.41</td>
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<tr>
<td>Rock wool of 4.5cm</td>
<td>0.35</td>
<td>0.38</td>
<td>0.38</td>
<td>0.42</td>
<td>0.43</td>
<td>0.46</td>
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<td>0.45</td>
<td>0.44</td>
<td>0.39</td>
<td>0.35</td>
<td>0.33</td>
<td>0.31</td>
<td>0.30</td>
<td>0.31</td>
<td>0.37</td>
<td>0.41</td>
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</table>
**Perforated Wall Panels**

**TD 16x16x6mm Ø PR %23-DS 8000**

This panel is Ø 6mm full holed model. There are 8000 full holes/m² perforated as crossed in this model. The distance between the holes is 16mm.

**Frequency Type:** This model provides high acoustic absorption at high frequency.

**Perforation Ratio:** Ø 6mm perforation 23%

**TD 32x32x8mm Ø PR %10-DS 2000**

This panel is Ø 8mm full holed model. There are 2000 full holes/m² perforated as crossed in this model. The distance between the holes is 32mm.

**Frequency Type:** This model provides high acoustic absorption at medium and low frequency.

**Perforation Ratio:** Ø 8mm perforation 10%
This panel is Ø 2mm full holed model. There are 16000 full holes/m² in this model. The distance between the holes is 8mm.

**Frequency Type:** This model provides high acoustic absorption at medium frequency.

**Perforation Ratios:**
- Ø 1mm Perforation 2%
- Ø 2mm Perforation 5%
- Ø 3mm Perforation 12%

This model is perforated from both sides. Front perforation of the panel is Ø 5mm. The distance between the holes is 16mm. Back perforation of the panel is Ø 10mm. There are 4000 holes/m² perforated as stepwised in this model.

**Frequency Type:** This model provides high acoustic absorption at low frequency.

**Perforation Ratio:** Ø 5mm perforation 8%

### TD 8x8x2mm Ø PR %5-DS 16000

<table>
<thead>
<tr>
<th>FREQUENCY(HZ)</th>
<th>100</th>
<th>125</th>
<th>160</th>
<th>200</th>
<th>250</th>
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### KD 16x16x3/12mm Ø PR %8-DS 4000

This model is perforated from both sides. Front perforation of the panel is Ø 5mm. The distance between the holes is 16mm. Back perforation of the panel is Ø 10mm. There are 4000 holes/m² perforated as stepwised in this model.

**Frequency Type:** This model provides high acoustic absorption at low frequency.

**Perforation Ratio:** Ø 5mm perforation 8%
This model is perforated from both sides. Front perforation of the panel is Ø 6mm. The distance between the holes is 32mm. Back perforation of the panel is Ø 12mm. There are 1000 holes/m² perforated as stepwised in this model.

**Frequency Type:** This model provides high acoustic absorption at low frequency.

**Perforation Ratio:** Ø 6mm perforation 3%

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**FREQUENCY (HZ) 100 125 160 200 250 315 400 500 630 800 1000 1250 1600 2000 2500 3150 4000 5000**

| SOUND ABSORPTION COEFFICIENT | 100 | 125 | 160 | 200 | 250 | 315 | 400 | 500 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 2500 | 3150 | 4000 | 5000 |
|------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| Gap of 20cm                  | 31  | 37  | 35  | 37  | 39  | 41  | 41  | 44  | 41  | 42  | 38   | 41   | 38   | 35   | 35   | 38   | 43   | 48   | 48   |
| Rock wool of 4.5cm           | 32  | 40  | 42  | 42  | 44  | 43  | 45  | 48  | 43  | 44  | 42   | 39   | 36   | 36   | 36   | 36   | 39   | 40   | 48   |

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Cermodern Art Center,  
Main Conference Hall - Ankara  
Wall: Perforated Wall Panel  
Model: TD 32 x 32 x 8mm Ø – DS 2000
Conference Hall
Corner Junction Wall Detail

Wall: Perforated Wall Panel
Model: TD 32 x 32 x 8mm Ø - DS 2000
ACOUSTIC WALL PANELS

Reflected Panels

DESCRIPTION
The reflected panels produced in order to direct the required sounds and to reinforce by diffusing the ways of the sound in volume. In the reflected panels, the process is applied only on the front surface. The reflected models are divided into two groups as grooved and perforated. The panels do not absorb the sound as there is no hole at the back of the panels. The panels absorb some amount of the sound and ensure that the sound is reflected with quality to the accurate direction.

CODE NO. YST – KNL / 3 x 5

In this panel, the thickness of the grooves is 3.2mm and the width between the grooves is 5mm. The depth of the grooves is 4-5mm. The depth of the grooves is adjusted according to the need of acoustic calculations.

The grooves are on the hall side. There is no groove in the back. This model has 125rm/m² grooves.
Reflected Panels

CODE NO. YST - KNL / 3 x 13

In this panel, the thickness of the grooves is 3.2mm and the width between the grooves is 13mm.

The depth of the grooves is 4-5mm. The depth of the grooves is adjusted according to the need of acoustic calculations.

The grooves are on the hall side. There is no groove in the back. This model has 62.5rm/m² grooves.

CODE NO. YST - DLK / 32 x 32

This panel is perforated from the front and the depths are 4-5mm. The distance between the holes and axes are 16mm, 20mm or 32mm.

Hole diameters: Ø 3mm, Ø 4mm, Ø 5mm, Ø 6mm or Ø 8 mm.

The holes are on the hall side and there is no hole at the back of the panel.
DESCRIPTION

ACOUSTIC FABRIC: The acoustic fabrics used in front of the panels are woven from the materials resistant to corrosion, discoloration and fire. According to the request, we can cover any color you prefer. For model and color options, consult with Perfopan technical office. In the acoustic fabric panels, internationally certified fabrics are used.
Micro perforated wall panels are the most decorative and high level standard models of our product range. There are two types of micro perforated panels as full holed and stepwised. Full holed models are perforated as thick as the panel. Stepwised models are perforated from both sides and the holes become double roomy panels. Micro perforated hole diameters are Ø 1mm, Ø 2mm and Ø 3mm.

USES
All multi-purpose halls, auditoriums, offices, meeting rooms, hotels, theatres, discos, cinemas, restaurants, public buildings, gymnasiums.

TECHNIC
Maximum panel dimension: 102.4cmx280cm, 140cmx340cm
Ideal dimensions: 60cmx120cm, 67cmx139cm, 102.4cmx139cm
Melamine Panel: 18mm thickness, weight 13.5kg/m²
Wood Veneered Panel: 18mm thickness, weight 14kg/m²
Consult with Perfopan technical office for wood grain direction of the panels.

FIREPROOF SP
A) 18mm melamine DIN 4102 – B2
B) 18mm wood veneered combustion delay polish applied – A1

ACOUSTIC EMISSION SPECIFICATIONS
We can produce different type of wall panels for different acoustic performances according to the projects.
DESCRIPTION
Elite series is the models developed by Perforan engineers and these models are produced for uncommon performances and appearance.

USES
Restaurants, special meeting rooms, Home-Cinema rooms, offices, special concert halls.

TECHNICAL PROPERTIES
Models have different modifications. Please contact with Perfopan technical office for the dimensions of the products.
**ACOUSTIC WALL PANELS**

**Installation Details**

**INSTALLATION DETAILS OF WALL PANEL - LEJANT**

A 18mm perforated acoustic panel
B Omega profile OMG-1 (Vertical)
C Omega profile OMG-2
D Hidden wood panel corner fixing profile KP-1
E Wood corner joint profile
F Rockwool holder mounting rosette
G Rockwool
H Wood frame

**PROFILE TYPES USED FOR PLANE PANEL INSTALLATION**

1 OMG-1 profile, used for vertical panel installation.
2 KP-1 profile, used for bottom panel fixation.
3 AL-1 profile, is an aluminium profile which is seen in outside as a stripe, used in vertical panel installation.
4 IBP profile, used for concave corner joint.
Installation Details

**CORNER JOINT PROFILE TYPES**

1. AF – 1 Aluminium grooved profile
2. DBP profile, convex profile used for outside rounds.
3. DBP profile, used for panel corner joint.
4. KT profile, used for wood corner joint.

**JOINT DETAILS**

5. Shaft cover, hinge detail for cabinet covers.
6. Floor detail-1, skirting detail which is the continuation of the panel.
7. Floor detail-2, skirting detail covering the top of the panel.
8. Floor detail-3, skirting detail getting under the bottom of the panel.
Loreta Central Building
Main Entrance Ceiling
Istanbul

Izka Cons. Central Building – Ankara
Main Entrance Special Ceiling Application
DESCRIPTION
Perforated ceiling panels are the panels improved by Perfopan engineers to provide best sound emission in a decorative way.

USES
All multi-purpose halls, auditoriums, offices, meeting rooms, hotels, theatres, discos, cinemas, restaurants, public buildings, gymnasiums.

TECHNICAL PROPERTIES
Standard dimensions: 600mmx600mm, 1200mmx600mm
Consult with Perfopan technical office for the special dimensions and wood grain direction of the panels.
Melamine Panel: 12mm thickness, weight 9kg/m²
Wood Veneered Panel: 13mm thickness, weight 9.5kg/m²

FIREPROOF SPECIFICATIONS
A) 12mm melamine DIN 4102 – B2
B) 13mm wood veneered combustion delay polish applied – A1

ACOUSTIC EMISSION SPECIFICATIONS
We can produce different type of ceiling panels for different acoustic performances according to the projects.

COMPATIBLE MODELS
ACOUSTIC CEILING PANELS

Perforated Ceiling Tiles

TKD 60 x 60 models

PLANE - 00
TKD - 01
TKD - 02
TKD - 03
TKD - 04
TKD - 05
TKD - 06
TKD - 07
TKD - 08
TKD - 09
TKD - 10
TKD - 11
Slotted ceiling panels are the panels improved by Perfopan engineers to provide best sound emission in a decorative way.

USES
All multi-purpose halls, auditoriums, offices, meeting rooms, hotels, theatres, discos, cinemas, restaurants, public buildings, gymnasiums.

TECHNICAL PROPERTIES
Standard dimensions: 600mmx600mm, 1200mmx600mm
Consult with Perfopan technical office for the special dimensions and wood grain direction of the panels.
Melamine Panel: 12mm thickness, weight 9kg/m²
Wood Veneered Panel: 13mm thickness, weight 9.5kg/m²

FIREPROOF SPECIFICATIONS
A) 12mm melamine DIN 4102 – B2
B) 13mm wood veneered combustion delay polish applied – A1

ACOUSTIC EMISSION SPECIFICATIONS
We can produce different type of ceiling panels for different acoustic performances according to the projects.

COMPATIBLE MODELS
ACOUSTIC CEILING PANELS

Slotted Ceiling Tiles

TKS 60 x 60 models

TKS - 01

TKS - 02

TKS - 03

TKS - 04

TKS - 05

TKS - 06

TKS - 07

TKS - 08

TKS - 09

TKS - 10
Feel what you hear!
Feel what you hear!

perfo pan®
“wooden acoustic panel”
DESCRIPTION
Plaque ceiling panels are the panels improved by Perfopan engineers to provide best sound emission in a decorative way.

USES
All multi-purpose halls, auditoriums, offices, meeting rooms, hotels, theatres, discos, cinemas, restaurants, public buildings, gymnasiums.

TECHNICAL PROPERTIES
Standard dimensions: 280mmx1200mm, 600mmx1200mm
Consult with Perfopan technical office for the special dimensions and wood grain direction of the panels.
Melamine Panel: 14mm thickness, weight 10.5kg/m²
Wood Veneered Panel: 15mm thickness, weight 11kg/m²

FIREPROOF SPECIFICATIONS
A) 14mm melamine DIN 4102 – B2
B) 15mm wood veneered combustion delay polish applied – A1

ACOUSTIC EMISSION SPECIFICATIONS
We can produce different type of ceiling panels for different acoustic performances according to the projects.

COMPATIBLE MODELS: TPT
According to your request, we can produce all plaque ceiling panel models as appropriate for wall panel application.
DESCRIPTION
Curved ceiling panels are improved by Perfopan engineers to provide best sound emission in a decorative way. These panels reflect sound clearly and qualified. These panels provide solutions for concave and convex ceiling requirements due to either the need of directing the acoustic reflections or its decorative appearance.

USES
All multi-purpose halls, auditoriums, offices, meeting rooms, hotels, theatres, discos, cinemas, restaurants, public buildings, gymnasiums.

TECHNICAL PROPERTIES
Curved ceiling panels have no standard dimension. Perfopan manufactures curved panels as custom made according to the projects.
Maximum dimension: 1400mmx3400mm
Consult with Perfopan technical office for the special dimensions and wood grain direction of the panels.
Melamine Panel: 8mm thickness, weight 6kg/m²
Wood Veneered Panel: 9mm thickness, weight 6.5kg/m²

FIREPROOF SPECIFICATIONS
A) 8mm melamine DIN 4102 – B2
B) 9mm wood veneered combustion delay polish applied – A1

ACOUSTIC EMISSION SPECIFICATIONS
We can produce different type of ceiling panels for different acoustic performances according to the projects.
Ceiling Carrier Systems

INSTALLATION DETAILS

For the standard wood tiles, the metal carrier systems given above are used. Wood tiles can be produced in different styles or different perforations. Easy assembly and disassembly tiles are the models which carry the ceiling tiles freely fitted. The metal carriers can be painted in wood patterned or plane RAL colors. All carrier systems are in the appearance of fuga. According to the demands, we have zero joint production.
Akyurt Municipality
Conference Hall
Wall: Plate Ceiling Panel
Model: TDP – 01
32 x 32 x 8mm Ø – DS 2000
When the entry and exit doors of the acoustic wood panel coated walls are made of plane panel material, it may cause echo and loss of sound quality.

Aesthetically, different type of doors on a acoustic panel coated wall cause architectural disorder.

We are producing acoustic doors according to demands of our customers. Door surface which is faced to the space is designed for acoustical needs.

All of our acoustic doors are applicable to wood sound isolation door models.

**Acoustic Door Models**

**Ak-1** Special soundproof mattress is used inside of the 50mm thick door frames. Door surface which is faced to the space is designed as perforated.

**Ak-2** Special soundproof mattress is used inside of the 50mm thick door frames. Door surface which is faced to the space is designed as vertically grooved.

**Ak-3** Special soundproof mattress is used inside of the 76mm thick door frames. Door surface which is faced to the space is designed as vertically grooved.

**Ak-4** Special soundproof mattress is used inside of the 64mm thick door frames. Door surface which is faced to the space is designed as horizontally grooved.
Perfopan acoustic windows provide professional solutions where transparency is desired. They are used because they prevent light reflections and have high quality soundproof.

Double independent framed windows are sealed with special gasket. According to proper wall thickness of buildings, if the distance between independent frames are approximately 200mm, Perfopan Acoustic Window reaches to 60dBA soundproof.

**Glass specifications:** 8mm, 10mm acoustic laminated glass.

**Uses:** Stadiums, TV studios, radio broadcasting rooms, sound and music recording studios, simultaneous translation room windows, dance and ballet studio windows and police interrogation room windows.
In the spaces where sound isolation is performed, another important element supplementing the isolation as much as the walls and ceilings is doors. Sound isolation doors prevent noise pollution. We have three types of sound isolation doors all models are applicable to any dimensions.

**Sound Isolation Models**

**ASY - KAP 1**

**DESCRIPTION:** They are designed as wood sound isolation door and are soundproof. Two types of different soundproof materials are used inside the massive frame of 50mm thickness. Sound isolation doors must be used together with threshold profile for sound absorption.

**USES:** Main doors of multi-purpose halls, doors of simultaneous translation rooms.

**TECHNICAL PROPERTIES:**
- Standard use for indoors are: 800mmx2000mm, 900mmx2000mm, 1000mmx2000mm.
- Standard use for main doors are: 970mmx2080mm, 1070mmx2080mm, 117mmx2080mm.
- All dimensions can be produced as double winged.

**Sound Isolation Value:** 22dB.

**Fire Resistance:** Fire-resistance durations are increased with fireproof laminated surface or special polish application.

**ASY - KAP 2**

**DESCRIPTION:** They are designed as wood sound isolation door and are soundproof. Three types of different soundproof materials are used inside the massive frame of 64mm thickness. Sound isolation doors must be used together with threshold profile for sound absorption.

**USES:** Outer room doors of hotels, doors of sound recording studios, main doors of multi-purpose halls, doors of simultaneous translation rooms.

**TECHNICAL PROPERTIES:**
- Standard use for indoors are: 800mmx2000mm, 900mmx2000mm, 1000mmx2000mm.
- Standard use for main doors are: 970mmx2080mm, 1070mmx2080mm, 117mmx2080mm.
- All dimensions can be produced as double winged.

**Sound Isolation Value:** 42dB.

**Fire Resistance:** Fire-resistance durations are increased with fireproof laminated surface or special polish application.

**ASY - KAP 3**

**DESCRIPTION:** They are designed as wood sound isolation door and are soundproof. Four types of different soundproof materials are used inside the massive frame of 76mm thickness. Sound isolation doors must be used together with threshold profile for sound absorption.

**USES:** Outer room doors of hotels, doors of sound recording studios, main doors of multi-purpose halls, doors of simultaneous translation rooms.

**TECHNICAL PROPERTIES:**
- Standard use for indoors are: 800mmx2000mm, 900mmx2000mm, 1000mmx2000mm.
- Standard use for main doors are: 970mmx2080mm, 1070mmx2080mm, 117mmx2080mm.
- All dimensions can be produced as double winged.

**Sound Isolation Value:** 56dB.

**Fire Resistance:** Fire-resistance durations are increased with fireproof laminated surface or special polish application.
Perpofan Products have Accreditation (appropriate for international criterions) DANAK certificates. In acoustic wood panel tests, each mode is subjected to two separate tests. The first test is performed without applying rockwool at the back of the acoustic wood panels and the second test is performed by applying rockwool at the back of the acoustic wood panels. The reports of the tests with rockwool and without rockwool indicate the absorption specifications of the material and determine the acoustical needs. The system that we recommend is to apply rockwool at the back of the panels in acoustic wood panel application. The values given in our reports are NRC-(Noise Reduction Coefficient), SAA (Sound Absorption Average) values in American standards and xw, absorption class values in European standards.

In the graphics given in the technical details, X axis shows the resonance frequency and the unit is Hertz (Hz), and Y axis shows the value of sound absorption coefficient and the unit is called as Sabin (as).
There is noise in every environment we live in. Isolation or regulation of noise provides better communication among people. It is a comfort to hear the sounds clearly. Our products are the materials that purify the hearing quality from noise and ensure the sounds are clear. Wood has a warmer appearance than other metal panels, plasterboard and rockwool panels which are cold materials. Other materials do not provide the visual quality which is provided by wood in decoration.

**Areas of Use**

Our products are used in theater halls, concert halls, cinema halls, hotel lobbies, mosques, churches, airport and bus terminals, train stations, subway and train cars, subway stations, yachts and ship halls, music recording studios, entertainment centers, discos, hotels, bars, night clubs, big restaurants, libraries, classrooms, congress halls, wedding halls, big shopping malls, hotel meeting rooms, administration buildings, open offices, sport centers, indoor swimming pools, polygons, multi-purpose halls, wireless operating rooms, radio stations, sound recording studios, TV studios, film sets, university halls, law courts, and hearing courts.

**Why we should use acoustic wood panels?**

In order to increase the acoustic absorption quantity of the panels, a special thin felt made of composit material is used at the back of the panels.

One surface of this felt is adhesive and it is sticked on the panel by heat and pressure application method.

In Turkey, this felt is called Acoustic Fabric. Our company uses the first quality German made felt called SoundTex®. The thickness of this felt is 0.2mm, and the sound absorption quality is equal to the rockwool with thickness 4.00cm.

SoundTex® is a membrane which has diverse properties. A specific amount of sound coming from indoors and passing through the hole is absorbed. After such specific amount of sound passed through the hole and came back, the felt prevents the sound from reentering to indoors. This product is antibacterial and antiallergic.

Fireproof category is NORM DIN – B 1 Class.

We supply SoundTex® acoustic fabric to the market.
### ACOUSTIC PANEL DIMENSION TABLE

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<thead>
<tr>
<th>MATERIAL</th>
<th>210cm x 280cm MDF</th>
<th>183cm x 366cm MDF</th>
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<tr>
<td>MAX. DIMENSION</td>
<td>102.4cm x 280cm</td>
<td>140cm x 340cm</td>
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<td>IDEAL DIMENSIONS</td>
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</tr>
<tr>
<td>F</td>
<td>67.2cm x 278cm</td>
<td>140.8cm x 340cm</td>
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<tr>
<td>A</td>
<td>67.2cm x 139cm</td>
<td>57.6cm x 182cm</td>
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<tr>
<td>PR</td>
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<td>DK</td>
<td>89.6cm x 208cm</td>
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### MANUFACTURING CODES

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<td>PERFORATION RATIO</td>
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<tr>
<td>AK</td>
<td>ACOUSTIC WOOD DOOR</td>
</tr>
<tr>
<td>ASY - KAP</td>
<td>WOOD SOUND ISOLATION DOOR</td>
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</table>
Being the trademark of AKTAN MOBILYA which was founded in 1932 and which is a family corporation, Perfopan carries on rendering wood service by sustaining the family tradition under the name of ISUS1932 company…