Acoustic plaster and spray ceilings

Product guide
Acoplastr F1 ceiling
A solution to enable designers to explore favourable features such as open-plan layout, without having to consider the design impact of traditional absorption materials. Exceptional acoustic performance is achieved, and as the material is primarily used on ceilings, large areas can be covered to enable maximum control of reverberant noise.

Check the webpage for recent projects.
The most popular spray finish, DC3 offers excellent acoustic control with an even, coarse texture. Different thicknesses affect the acoustic performance and installation time, and the material can be coloured to suit the project.

### Key Features
- Fast installation
- Covers imperfections
- High sound absorption
- High recycled content
- Cost effective
- Can be patch repaired
- Colour matching
- Applies to uneven surfaces

### Fire performance
EN 13501-1:2007+A1:2009 B-s1.d0. European equivalent to BS 476: Part 6 & 7 Class O.

<table>
<thead>
<tr>
<th>Build up</th>
<th>α_v</th>
<th>NRC</th>
<th>Class</th>
<th>125Hz</th>
<th>250Hz</th>
<th>500Hz</th>
<th>1kHz</th>
<th>2kHz</th>
<th>4kHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>15mm</td>
<td>0.55</td>
<td>0.70</td>
<td>D</td>
<td>0.15</td>
<td>0.25</td>
<td>0.65</td>
<td>0.95</td>
<td>0.95</td>
<td>1.00</td>
</tr>
<tr>
<td>20mm</td>
<td>0.60</td>
<td>0.80</td>
<td>C</td>
<td>0.20</td>
<td>0.30</td>
<td>0.75</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>25mm</td>
<td>0.75</td>
<td>0.85</td>
<td>B</td>
<td>0.25</td>
<td>0.50</td>
<td>0.90</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>35mm</td>
<td>1.00</td>
<td>0.95</td>
<td>A</td>
<td>0.30</td>
<td>0.75</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>0.95</td>
</tr>
</tbody>
</table>
Acospray DC3 in black to corrugated metal ceiling.

Acospray DC3 ceiling, Cafe, London
DC2 is the least textured of the spray-only finishes. Typically used to create a homogenous texture to ceilings and add an extra ambience while also providing excellent acoustic control.

**Key Features**
- Fast installation
- Covers imperfections
- High sound absorption
- High recycled content
- Cost effective
- Can be patch repaired
- Colour matching
- Applies to uneven surfaces

**Fire performance**
EN 13501-1:2007+A1:2009 B-s1,d0. European equivalent to BS 476: Part 6 & 7 Class O.

<table>
<thead>
<tr>
<th>Build up</th>
<th>ɑ_w</th>
<th>NRC</th>
<th>Class</th>
<th>125Hz</th>
<th>250Hz</th>
<th>500Hz</th>
<th>1kHz</th>
<th>2kHz</th>
<th>4kHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>15mm*</td>
<td>0,55</td>
<td>0,70</td>
<td>D</td>
<td>0,15</td>
<td>0,25</td>
<td>0,65</td>
<td>0,95</td>
<td>0,95</td>
<td>1,00</td>
</tr>
<tr>
<td>32mm*</td>
<td>0,60</td>
<td>0,80</td>
<td>C</td>
<td>0,20</td>
<td>0,30</td>
<td>0,75</td>
<td>1,00</td>
<td>1,00</td>
<td>1,00</td>
</tr>
<tr>
<td>42mm*</td>
<td>0,75</td>
<td>0,85</td>
<td>B</td>
<td>0,25</td>
<td>0,50</td>
<td>0,90</td>
<td>1,00</td>
<td>1,00</td>
<td>1,00</td>
</tr>
</tbody>
</table>

*Improved absorption data soon to be published
One coat followed by a trowel finish.

1.3 Acospray DC2 2.0 datasheet

DC2 2.0 is the same as DC2, but the finish is trowelled smooth when still wet. The finish is doesn’t provide as fine a texture as DC1 or Acoplaster, but offers fast installation and reduced costs.

**Key Features**

- Fast installation
- Smoothed finish
- High sound absorption
- High recycled content
- Cost effective
- Can be patch repaired
- Colour matching

**Fire performance**

EN 13501-1:2007+A1:2009 B-s1.d0. European equivalent to BS 476: Part 6 & 7 Class O.

<table>
<thead>
<tr>
<th>Build up</th>
<th>$\alpha_W$</th>
<th>NRC</th>
<th>Class</th>
<th>125Hz</th>
<th>250Hz</th>
<th>500Hz</th>
<th>1kHz</th>
<th>2kHz</th>
<th>4kHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>15mm*</td>
<td>0.55</td>
<td>0.70</td>
<td>D</td>
<td>0.15</td>
<td>0.25</td>
<td>0.65</td>
<td>0.95</td>
<td>0.95</td>
<td>1.00</td>
</tr>
<tr>
<td>32mm*</td>
<td>0.60</td>
<td>0.80</td>
<td>C</td>
<td>0.20</td>
<td>0.30</td>
<td>0.75</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>42mm*</td>
<td>0.75</td>
<td>0.85</td>
<td>B</td>
<td>0.25</td>
<td>0.50</td>
<td>0.90</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

*Improved absorption data soon to be published

*Can be mounted on Acoboard for increased absorption
DC3 ceiling.

DC3 in bespoke colour directly applied to uneven surface.
There are a range of standard colours as detailed below. Bespoke colours are also possible. For less heavily pigmented bespoke colours, such as off-whites, pigments are added to the adhesive at the time of spraying. For stronger colours, the fibres themselves are pigmented during production. Minimum quantities apply for this.

**Green Line**

Green Line colours are based on Post Consumer Recycled Content which is carefully sorted and no substances are added that do not fall within the scope of the Cradle to Cradle certification scheme.
Our acoustic plaster finishes enable the designer to effectively control reverberant noise, without worrying about selecting an absorber which compliments the design, visually. We offer two finishes - DC1, with a lightly textured surface; an F1, with a very smooth finish. Both provide Class A acoustic performance, fire retardance, and a repairable finish.

Check the webpage for recent acoustic plaster projects.
2.1 Acoplast DC1 datasheet

**Key Features**

- 15-35mm thickness, depending on acoustic requirements
- Can form to curved shapes
- High recycled content
- Can be patch repaired
- Excellent acoustic performance
- Hides wires and tubes
- Light weight

**Fire performance**

EN 13501-1:2007+A1:2009 B-s1.d0. European equivalent to BS 476: Part 6 & 7 Class O.

**Environmental factors**

Primarily recycled natural cellulose fibers and mineral fibre board.
Well within the EU standards of 5% Borates, making it safe for both contractors and customers.
Water based polymer binders

**Maintenance and warranty**

Easily cleaned with a soft brushed vacuum cleaner and damaged areas can be patch repaired. Comes with 5 year warranty.

---

### Build up

<table>
<thead>
<tr>
<th>Build up</th>
<th>$\alpha_p$</th>
<th>NRC</th>
<th>Class</th>
<th>125Hz</th>
<th>250Hz</th>
<th>500Hz</th>
<th>1kHz</th>
<th>2kHz</th>
<th>4kHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>30mm board + 5mm spray</td>
<td>1,00</td>
<td>0,95</td>
<td>A</td>
<td>0,20</td>
<td>0,80</td>
<td>1,00</td>
<td>1,00</td>
<td>1,00</td>
<td>0,95</td>
</tr>
</tbody>
</table>

---

**Acospray DC1 35mm absorption (354: 2003)**
The smoothest acoustical plaster finish.

2.2 Acoplaster F1 datasheet

Key Features

12-32mm thickness, depending on acoustic requirements
Can form to curved shapes
High recycled content
Can be patch repaired
Excellent acoustic performance
Hides wires and tubes
Light weight

Fire performance

EN 13501-1:2007+A1:2009 B-s1,d0. European equivalent to BS 476: Part 6 & 7 Class O.

Environmental factors

Primarily recycled natural cellulose fibers and mineral fibre board. Well within the EU standards of 5% Borates, making it safe for both contractors and customers. Water based polymer binders

Maintenance and warranty

Easily cleaned with a soft brushed vacuum cleaner and damaged areas can be patch repaired. Comes with 5 year warranty.

Absorption data for Acoplaster F1 (EN 354: 2003)

<table>
<thead>
<tr>
<th>Build up</th>
<th>$\alpha_p$</th>
<th>Class</th>
<th>125Hz</th>
<th>250Hz</th>
<th>500Hz</th>
<th>1kHz</th>
<th>2kHz</th>
<th>4kHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>30mm Acoboard + 2mm finish</td>
<td>0,90</td>
<td>A</td>
<td>0,30</td>
<td>0,75</td>
<td>1,00</td>
<td>0,95</td>
<td>0,90</td>
<td>0,90</td>
</tr>
</tbody>
</table>
Acoplastic F1 ceiling, Wimbledon. By Nice Brew Design.

Acoplastic F1
## Quick reference

<table>
<thead>
<tr>
<th></th>
<th>Acospray</th>
<th>Acospray</th>
<th>Acospray</th>
<th>Acoplasrer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DC5</td>
<td>DC3</td>
<td>DC2</td>
<td>DC2 2.0</td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>Budget spray work. Coarse finish</td>
<td>The most popular finish - finer than DC5, sprayed direct</td>
<td>The finest spray-only finish</td>
<td>DC2 with trowel smoothing after spraying</td>
</tr>
<tr>
<td><strong>Acoustics</strong></td>
<td>Class A ($\alpha_w$ 0,95) at 35mm</td>
<td>Class A ($\alpha_w$ 1,00) at 35mm</td>
<td>Class B ($\alpha_w$ 0,85) at 42mm</td>
<td>Class B ($\alpha_w$ 0,85) at 42mm</td>
</tr>
<tr>
<td><strong>Smoothness</strong></td>
<td>●</td>
<td>● ●</td>
<td>● ● ●</td>
<td>● ● ● ●</td>
</tr>
<tr>
<td><strong>Build up</strong></td>
<td>Spray only</td>
<td>Spray only</td>
<td>Spray only</td>
<td>Spray then trowel</td>
</tr>
<tr>
<td><strong>Installation</strong></td>
<td>One coat</td>
<td>One coat</td>
<td>One coat</td>
<td>One coat then trowel</td>
</tr>
<tr>
<td><strong>Rapid installation</strong></td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td><strong>Mounting on suspended gypsum</strong></td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td><strong>Direct to soffit</strong></td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td><strong>Curved surfaces</strong></td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td><strong>White</strong></td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td><strong>Colour match</strong></td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>
Installation

All installations are carried out by Stil Acoustics approved installers due to the highly technical nature of the systems, and the specialist equipment required.

Substrates

Acospray and Acoplaster can be applied directly to either concrete, plasterboard, or metal deck ceilings. Plasterboard should have the moisture resistant surface which is readily available. If this isn’t used, the boards should be primed first. Acospray (apart from DC2.0) can also be applied to corrugated ceilings and to cover services. Please consult us before specifying Acoplaster on curved surfaces. Any threaded rods for service applied before application.

Example procedure - Acoplanster

1. Substrate is checked for defects
2. Primer applied if required
3. Edge profiles applied if required
4. Boards adhered to the ceiling
5. Seams of boards filled
6. Perimeter is masked off before spraying
7. First layer spray applied
8. Second layer spray applied
9. Finish is troweled smooth
10. Finish is left to dry
11. (F1 only) Finish is sanded

Example procedure - Acospray

1. Substrate is checked for defects
2. Primer applied if required
3. Edge profiles applied if required
4. Perimeter of the room and any sensitive surfaces are masked
5. Perimeter of the room and any sensitive surfaces are masked
6. (DC2 2.0 only) Trowelling performed
7. Edges trimmed
8. Masking removed

Edges

When working up to a wall, no finishing detail is required. If the material needs to break, an L-profile is commonly used. Please contact us if you require additional information on access hatches, light surrounds, and corner details.
Typical details

Typical circular light detail for Acoplaster F1 detail (38mm for DC1)

Typical edge Acoplaster F1 detail (38mm for DC1)
Typical details

Typical Acoplastic F1 light detail (38mm for DC1)

Typical Acospray detail
**M22 SPRAYED MONOLITHIC COATINGS**

**120 SPRAYED COATING SOUND ABSORBING COATING**
Spray applied one cost system for reverberation control

Coating material:
- Drawing references: aaaa
- Supplier: Stil Acoustics, Email: info@stil-acoustics.co.uk Web: www.stil-acoustics.co.uk
- Product reference: Acospray DC3/DC2/DC2 2.0
- Thickness: 35mm (see datasheets as thickness dictates acoustic performance)
- Acoustic performance: $\alpha_{w} - 1.00$; EN 11654 - Class A
- Product description: Spray applied acoustic coating made from naturally safe recycled cellulose fibre and water based adhesives to create a seamless acoustic absorber. Dispose of as non-hazardous waste.
- Quality assurance: Materials, equipment and labour to be provided only by an Stil Acoustics approved installer.
- No substitution may be made to any components of the system.
- Boric Acid: Less than 5% in line with EU standards
- Colour: See from published information or suggest bespoke

Preparation:
- Services: Services can be covered by spray unless otherwise specified. Electrical conduits should be at least 10mm thinner than the finished thickness of the Acospray.
- Preparation general: Any clips, threaded rods or other attachments should be installed AFTER application. Examine surfaces to ensure that there are no areas such as untreated wood, oxidised metal or other condition which could result in migratory staining/damage of the Acospray.
- It may be beneficial to install threaded rods prior to spraying. Consult Stil Acoustics or approved installer beforehand
- Soffit - plasterboard: Moisture resistant plasterboard should be used where possible (if not, primed). Substrate should be airtight
- Soffit - Metal deck: Assuming a new metal deck is airtight, clean and galvanised, spray directly. If not, priming may be required. Underlying shape will be visible once sprayed.
- Soffit - concrete: Given that conditions above are met, sprayed directly to the substrate
- Masking: materials used for masking can damage surface finishes such as paint. It is recommended that these are applied after.
- Acospray perimeters require an L-profile finishing detail, to the same thickness as the spray, where it is not possible to finish against a wall or other partition.
- Plastic profiles can be used or powder coated Aluminium.
- Drying conditions: min 15°C and recommended 8 air changes per hour
**Acoplastr DC1 / F1**

**Specification example**

M22 SPRAYED MONOLITHIC COATINGS

120 SPRAYED COATING SOUND ABSORBING COATING

Spray applied one cost system for reverberation control

Coating material:

* Drawing references: aaaa
* Supplier: Stil Acoustics, Email: info@stil-acoustics.co.uk Web: www.stil-acoustics.co.uk
* Product reference: Acoplastr DC1/F1
* Thickness: 35mm (DC1) / 32mm(F1)
* Acoustic performance: $\alpha_w=1.00$; 11654 - Class A (DC1) / $\alpha_w=0.90$; 11654 - Class A (F1)
* Product description: Spray applied acoustic coating made from recycled cellulose and water based adhesives applied to mineral fibre board to create a seamless acoustic absorber.
* Quality assurance: Materials, equipment and labour to be provided only by an Stil Acoustics approved installer.
* No substitution may be made to any components of the system.
* Boric Acid: Less than 5% in line with EU standards
* Colour: See from published information or suggest bespoke

Preparation:

* Preparation general: Any clips, threaded rods or other attachments should be installed AFTER application. Examine surfaces to ensure that there are no areas such as untreated wood, oxidised metal or other condition which could result in migratory staining/damage of the Acoplaster.
* It may be beneficial to install threaded rods prior to spraying. Consult Stil Acoustics or approved installer beforehand
* Soffit - plasterboard: Moisture resistant plasterboard should be used where possible (if not, primed). Substrate should be airtight
* Soffit - concrete: Given that conditions above are met, sprayed directly to the substrate
* Masking: materials used for masking can damage surface finishes such as paint. It is recommended that these are applied after.
* Acoplaster perimeters require an L- profile finishing detail where it is not possible to finish against a wall or other partition.
* Plastic profiles can be used or powder coated Aluminium.
* Perimeter profile thickness: depth of the system plus 3mm to compensate for board adhesive
* Drying conditions: min 15°C and recommended 8 air changes per hour
# Installation / site checklist - acoustic spray / plaster

**Project** ....................................................

## Checklist - To be completed by the contractor prior to application

<table>
<thead>
<tr>
<th>Item</th>
<th>Action Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum or plastic profiles need to be placed to end the spraywork when it is not possible to end against a wall or window frame. This should be applied in advance if not included in the quotation. <em>Please contact Stil Acoustics for size of the profile.</em></td>
<td>Aluminum or plastic profiles need to be placed to end the spraywork when it is not possible to end against a wall or window frame. This should be applied in advance if not included in the quotation. <em>Please contact Stil Acoustics for size of the profile.</em></td>
</tr>
<tr>
<td>Area should be free from obstructions and other trades</td>
<td>Area should be free from obstructions and other trades</td>
</tr>
<tr>
<td>220V power supply available</td>
<td>220V power supply available</td>
</tr>
<tr>
<td>Substrate needs to be clean, dry and free of oil and dust</td>
<td>Substrate needs to be clean, dry and free of oil and dust</td>
</tr>
<tr>
<td>Loose parts need to be removed</td>
<td>Loose parts need to be removed</td>
</tr>
<tr>
<td>Holes and cracks in substrate need to be closed air tight</td>
<td>Holes and cracks in substrate need to be closed air tight</td>
</tr>
<tr>
<td>Unevenness must be smoothed (unless desired, i.e corrugated surface)</td>
<td>Unevenness must be smoothed (unless desired, i.e corrugated surface)</td>
</tr>
<tr>
<td>Electricity pipes and cables that have to be out of sight, need to be placed directly on the substrate so that they can be hidden in the spraywork (average 30% extra labour)</td>
<td>Electricity pipes and cables that have to be out of sight, need to be placed directly on the substrate so that they can be hidden in the spraywork (average 30% extra labour)</td>
</tr>
<tr>
<td>Electricity boxes need to be extended in the thickness of the spraywork</td>
<td>Electricity boxes need to be extended in the thickness of the spraywork</td>
</tr>
<tr>
<td>Fixtures in the ceiling need to have an edge to work up against at the thickness of the applied acoustical render (plus 3mm Acpolaster)</td>
<td>Fixtures in the ceiling need to have an edge to work up against at the thickness of the applied acoustical render (plus 3mm Acpolaster)</td>
</tr>
<tr>
<td>Metal parts need to be treated to prevent rust</td>
<td>Metal parts need to be treated to prevent rust</td>
</tr>
<tr>
<td>Distance between air ventilation ducts need to be at least the width of the channel</td>
<td>Distance between air ventilation ducts need to be at least the width of the channel</td>
</tr>
<tr>
<td>For renovation projects, the substrate need to be treaded with Acpolaster to prevent bleedings</td>
<td>For renovation projects, the substrate need to be treaded with Acpolaster to prevent bleedings</td>
</tr>
<tr>
<td>Masking the walls can cause damage to paintwork. Make sure delicate finishes are applied after the application of the acoustical spray</td>
<td>Masking the walls can cause damage to paintwork. Make sure delicate finishes are applied after the application of the acoustical spray</td>
</tr>
<tr>
<td>When gypsum boards are used make sure the water resistant type (green color) is used, otherwise apply water resistant primer</td>
<td>When gypsum boards are used make sure the water resistant type (green color) is used, otherwise apply water resistant primer</td>
</tr>
<tr>
<td>Power near to the working space</td>
<td>Power near to the working space</td>
</tr>
<tr>
<td>Clean water near to working space</td>
<td>Clean water near to working space</td>
</tr>
<tr>
<td>Space between air duct or any other installation part needs to be big enough to spray in between</td>
<td>Space between air duct or any other installation part needs to be big enough to spray in between</td>
</tr>
<tr>
<td>Accessibility to get the machine in place must be provided. Drums can weigh 200kg</td>
<td>Accessibility to get the machine in place must be provided. Drums can weigh 200kg</td>
</tr>
<tr>
<td>Damages done by third parties are only repaired when there is a order in writing</td>
<td>Damages done by third parties are only repaired when there is a order in writing</td>
</tr>
<tr>
<td>Be efficient with where to put the machine when you spray multiple corridors on multiple levels. Moving the machine causes set backs in your time frame</td>
<td>Be efficient with where to put the machine when you spray multiple corridors on multiple levels. Moving the machine causes set backs in your time frame</td>
</tr>
<tr>
<td>Are there enough possibilities for ventilation during the curing time?</td>
<td>Are there enough possibilities for ventilation during the curing time?</td>
</tr>
<tr>
<td>A minimum temperature of 10°C is require for the spray/plaster to dry</td>
<td>A minimum temperature of 10°C is require for the spray/plaster to dry</td>
</tr>
<tr>
<td>Preferable succeeding order of workflow, 1) put up steel rods for technical installation purposes 2) finish plastering the walls 3) spray ceiling 4) finish technical installation 5) paint the walls or other finish</td>
<td>Preferable succeeding order of workflow, 1) put up steel rods for technical installation purposes 2) finish plastering the walls 3) spray ceiling 4) finish technical installation 5) paint the walls or other finish</td>
</tr>
<tr>
<td>&lt; 3,2m sprayable form the floor</td>
<td>&lt; 3,2m sprayable form the floor</td>
</tr>
<tr>
<td>&lt;4m sprayable from the floor with extension (include if not quoted for)</td>
<td>&lt;4m sprayable from the floor with extension (include if not quoted for)</td>
</tr>
<tr>
<td>&gt;4m need scaffolding or moving platform (include if not quoted for)</td>
<td>&gt;4m need scaffolding or moving platform (include if not quoted for)</td>
</tr>
</tbody>
</table>

Completed by ............................................ On behalf of ............................................ Date ........................................................