Introduction
Gyproc Airtite Plaster has been developed specifically to achieve very high levels of airtightness in modern dwellings. Gyproc Airtite is specially formulated to reduce air permeability and specifically designed for use on concrete block backgrounds and should not be applied to plasterboard. It is envisaged that air permeability performance levels are going to reduce further over the next few years, driven through regulation.

Reaction to Fire
The plasters are non-combustible when tested in accordance with BS 476: Part 4 1970 (Amended 1984). For the purpose of the Building Regulations 1997, (Technical Guidance Document B) gypsum plasters are designated non-combustible materials. Gypsum plasters also satisfy the requirements for Class O surfaces.

Effect of temperature
It is recommended that the background temperature should be at least 5°C and that the plaster should not be subjected to temperatures below 5°C before it has set. Dry bagged plasters is not affected by low temperature.

The plaster is not suitable for use in situations where the temperature exceeds 43°C.

Storage
The plaster should be stored dry, as the absorption of moisture by any gypsum plaster shortens the setting time and may reduce the strength of the set plaster. Where storage areas have concrete floors, timber platforms should be laid and the plaster stored on these. The shelf life of Gyproc Airtite is 12 weeks.

Mixing
Gyproc Airtite is premixed with aggregate and only clean water need be added to prepare it for use. No admixtures should be used. Mix to a normal plastering consistency. Cleanliness is essential, set plaster left in a receptacle from a previous mixing will shorten the setting time. This can reduce the strength of the plaster when set. Mixing trays and buckets must be washed thoroughly after each mix. Mechanical mixing maybe used, but care should be taken not to mix through the set.

Application
Dry blockwork should be well brushed down to remove any dust or loose particles of mortar, debris, etc. from the surface. Any metal objects such as nails, etc. should be removed from the face and blockwork should be well wetted to off-set excessive suction in the background. Gyproc Airtite can be applied directly to open textured medium or dense concrete blocks. Plaster of the correct consistency should be applied with firm pressure and the Gyproc Airtite brought to a true and level surface by means of a metal straight edge or darby.

The surface should be adequately flattened with a hand float. The most common applications over Gyproc Airtite are either the Gyproc GypLyner systems or the Gyproc DriLyner systems in which case the surface is not scratched. When using the Gyproc DriLyner system, one can apply Gyproc Compound to Gyproc Airtite plaster when the plaster is set but it is good practice to let it dry out before applying. Gyproc Finishing Coat Plasters such as Gyproc Skimcoat or Carlite Finish must not be applied directly to the Gyproc Airtite parge coat.

Gyproc Airtite should normally be applied to a thickness of 6mm but to a maximum of 11mm in one application. Smooth or low suction background areas such as concrete lintels or smooth faced engineered brick, particularly window or door heads need to be firstly treated with Gyproc Thistlebond-it, and allowed to fully dry for at least 24 hours prior to applying Gyproc Airtite to the said area.
Gyproc Airtite can also be applied over expanded metal, but where specific air permeability is required, it is prudent to allow for the thickness of the expanded metal to ensure a continuous 6mm parge coat is applied throughout.

**Approximate Coverage**
Gyproc Airtite plaster applied to a nominal thickness of 6mm will give an approximate coverage of approximately 180m² per tonne*. See plastering Specifications, section 5.11.

*Depending on the straightness of the concrete blockwork.

**Setting Time**
4 to 5 hours, but may be affected by background suction and environmental conditions.

**Drying**
Adequate ventilation is an essential requirement to aid drying out of all plasters. In accordance with I.S. CEN/TS 15124:2005 'when the application is finished with Gypsum plastering should be ventilated until it has dried.'

In addition, I.S. EN 13914-2:2005 states that 'if adequate ventilation is not provided during the drying of the plaster, then the strength of the plaster may be impaired and the time at which decoration may start may be delayed.'

### Airtightness Test Results
The following masonry walls were constructed and a 6mm application of Gyproc Airtite was applied to one side of same. The air permeability tests were carried out in BSRIA, a UKAS accredited laboratory. Test results on each of the 3 constructions are shown below.

The current Technical Guidance Document L, Conservation of Fuel and Energy, Dwellings 2007 (implemented 1st July 2008) require buildings to be constructed to have an upper air permeability performance level of 10 m³/h.m². It should be noted that plastering a blockwork wall with Gyproc Base Coat or Floating Coat finished with Gyproc Skim Coat or Carlite Finish will also aid compliance with these air permeability requirements. Air permeability levels are expected to reduce further in future revisions to Technical Guidance Document L.

<table>
<thead>
<tr>
<th>Type of Blockwork Construction</th>
<th>Air Permeability</th>
<th>Air Changes</th>
<th>Test Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>215mm wide Block Wall on Flat (440mm x 215mm x 100mm)</td>
<td>0.11</td>
<td>0.047819</td>
<td>0.103289</td>
</tr>
<tr>
<td>Blockwall with 6mm Gyproc Airtite parge coat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100mm wide Block Wall on Edge (440mm x 215mm x 100mm)</td>
<td>0.12</td>
<td>0.050575</td>
<td>0.109241</td>
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<tr>
<td>Blockwall with 6mm Gyproc Airtite parge coat</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>215mm wide Cavity Block Wall (440mm x 215mm x 215mm)</td>
<td>0.27</td>
<td>0.112642</td>
<td>0.243307</td>
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<tr>
<td>Blockwall with 6mm Gyproc Airtite parge coat</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:** Assumption that the building has an impermeable floor & roof.

<table>
<thead>
<tr>
<th>Volume (m³)</th>
<th>House</th>
<th>Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>576</td>
<td>60</td>
<td>240</td>
</tr>
<tr>
<td>Envelope of house</td>
<td>Envelope of room</td>
<td></td>
</tr>
</tbody>
</table>

Airtightness Plaster

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