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Armourcoat Ltd
 Morewood Close Sevenoaks Kent TN13 2HU
 T: +44(0)1732 460 668 F: +44(0)1732 450 930
 UK Company 1997888. VAT Reg: 445788013
 www.armourcoat.com

Conforming to Part E of the UK Building regulations using Armourcoat Acoustic Plaster

There are two main aspects to schedule E of the Building Regulations and these are:

1. Dwelling houses, flats and rooms for residential purposes shall be designed and constructed in such a way that they provide reasonable resistance to sound from other parts of the same building and from adjoining buildings.
2. The common internal parts of buildings which contain flats or rooms for residential purposes shall be designed and constructed in such a way as to prevent more reverberation around the common parts than is reasonable.

In order to comply with building regulations the constructor is required to either:

1. Undertake pre-completion testing for sound insulation and reverberation control to prove the building conform to the regulatory requirements.
2. Construct the building in strict accordance with all the 'robust details' and design recommendations as set out in schedule E parts 1 – 4. Robust details are high performance separating wall and floor constructions (with associated construction details) that are expected to be sufficiently reliable not to need the check provided by pre-completion testing.

Reverberation control

Section 7 covers reverberation in the common internal parts of buildings containing flats or rooms for residential purposes. This section describes how to determine the amount of additional absorption to be used in corridors, hallways, stairwells and entrance halls that give access to flats and rooms for residential purposes. Any acoustic absorbent material used to control reverberation must be non flammable and fire rating to either BS476 Part 6 & 7 (class 0) or European Standard EN 13501 and achieve a minimum requirement of B1, S1, D0

The principal methods for determining the performance and total required surface area of an acoustic material is as follows:

- cover a specified area with an absorber of an appropriate class that has been rated according to BS EN ISO 11654:1997 Acoustic Sound absorbers for use in buildings. For entrance halls, corridors or hallways it is necessary to cover an area equal to or greater than the floor area with a Class C absorber or better. It will normally be most convenient to cover the ceiling area with the additional absorption. For stairwells or a stair enclosure, calculate the combined area of the stair treads, the upper surface of the intermediate landings, the upper surface of the landings (excluding ground floor) and the ceiling area on the top floor. Either cover at least an area equal to this calculated area with a Class D absorber or cover an area equal to at least 50% of this calculated area with a Class C absorber or better. The absorptive material should be equally distributed between all floor levels. It will normally be convenient to cover the underside of intermediate landings, the underside of the other landings and the ceiling area on the top floor. This requirement can generally be satisfied by the use of proprietary acoustic ceilings. However, the absorptive material can be applied to any surface that faces into the space.
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Armourcoat Acoustic Seamless Plaster System

The Armourcoat Acoustic Seamless Plaster System offers the appearance of a consistent smooth seamless marble plaster surface combined with exceptional sound absorption and acoustic performance.

Armourcoat have used their considerable expertise in the formulation of marble based plaster finishes to create an elegant plaster finish that appears smooth and even but still allows sound waves and energy to pass through the surface so they can be absorbed and attenuated in the layer of mineral wool beneath the surface.

The system comprises of a special mineral wool composite panel that is bonded onto the substrate and this is then finished with a seamless layer of the Armourcoat Acoustic plaster.

The Armourcoat Acoustic plaster system can be pigmented to a wide range of colours and is suitable for application to both flat and curved surfaces.

Armourcoat offer two different thickness of system to meet the Building Regulations:

- 28mm Acoustic system with NRC 0.8 and is rated Class C . This is ideal for the treatment of ceilings in general internal areas such as halls , lobbies and corridors in order to fully comply with Building regulations.
- 48mm Acoustic system with NRC 0.9 and is rated as Class A. This is ideal for situations where a higher absorption coefficient is required or where an acoustic consultant has specifically requested the use of a class A acoustic treatment.

Advantages of the Armourcoat Acoustic Plaster System:

- excellent sound absorption over a wide range of frequencies
- mineral based system that is non combustible and non flammable
- mineral wool panels manufactured from a minimum of 70% post consumer recycled glass
- the Armourcoat Acoustic Basecoat made from expanded glass foam granules with 85% post consumer recycled content
- the Armourcoat Acoustic Topcoat plaster made from 80% pre-consumer crushed marble
- all components in system contain no VOCs (Volatile Organic Compounds)
- factory prepared panels for immediate installation and shorter site drying times
- seamless finish
- resistant to mould and mildew
- up to 200m2 without joints
- wide range of colours available
- suitable for both flat and curved surfaces

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