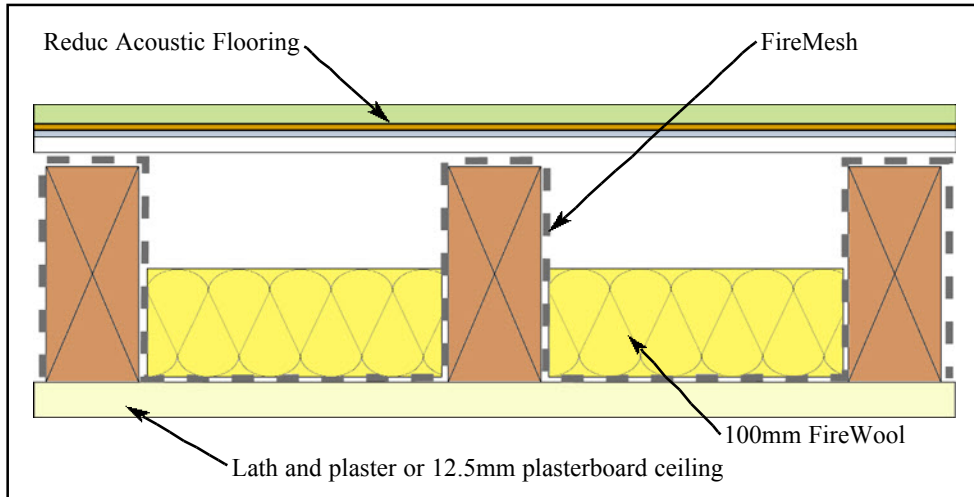


## 60 Minute Fire Rated Floor System



### Reduc Firefloor

The FireFloor system provides for a one-hour fire rated ceiling when refurbishing buildings, and where there is a requirement to improve the acoustic performance of an intermediate timber floor without disturbing the existing lath and plaster or single layer plasterboard ceiling.



In order to achieve the fire rating, existing floorboards are removed and FireMesh is mechanically fixed around the profile of the timber joists to create a supporting "hammock". FireWool is then friction fitted between the joists. The original floor boards can be replaced before overlaying Reduc Micro 17, Reduc Micro 21 or Reduc Strata Extra. Alternatively, Reduc Foundation 35 can be laid directly onto the joists to provide a new structural floor.

### Application

FireFloor is used extensively in the refurbishment of old or listed buildings with timber floors, where there is a requirement to retain the original ceiling below.

### Technical Advice and Acoustic Testing

Highly qualified and experienced building and acoustic engineers are available to discuss all aspects of acoustic performance requirements and can prepare specifications and effective installation instructions to ensure optimum performance is achieved. They can also undertake pre- and post-installation testing for airborne and impact sound insulation, if required. Further details are available on request.

### Operating Temperature

FireFloor components are suitable for use at normal building temperatures.

### Fire Performance

The FireFloor system was tested by TRADA in 1985 in accordance with the provisions of BS 476: Part 8: 1972, and achieved the fire resistance periods stated below, based on a uniformly distributed load of 1.623 kN/m<sup>2</sup> for the duration of the test and 24 hours thereafter.

Stability	:	60 minutes
Integrity	:	60 minutes
Insulation	:	60 minutes

Building Regulations Part B (2000) states that BS 476: Part 8 is still valid for products tested before 1988.

Applications made to Building Control bodies BEFORE 6th April 2007 should follow the guidance contained in Approved Document B 2000 edition. Applications made on or AFTER 6th April 2007 should follow the guidance contained in the latest Approved Document B (Volumes 1 and 2).

## Building Regulation Requirements

Building Regulations Approved Document E (England and Wales) and Building Standards Part H (Scotland) call for the following standards to be achieved for all timber floors:

Building Regulations Approved Document E	Airborne Noise	Impact Noise	Building Standards Part H	Airborne Noise	Impact Noise
	$D_{nT,w} + C_{tr}$ dB	$L'_{nT,w}$ dB		$D_{nT,w}$ dB	$L'_{nT,w}$ dB
Conversions	43 or greater	64 or less	Conversions	52 or greater	61 or less
New Build	45 or greater	62 or less	New Build	52 or greater	61 or less

## Acoustic Performance of FireFloor System

Detailed below are the anticipated acoustic performance figures with Reduc acoustic flooring incorporated in the FireFloor system.

Typical Floor Construction	Airborne Sound Weighted Standardised Level Difference		Impact Sound Weighted Standardised Pressure Level
	$D_{nT,w}$ dB	$D_{nT,w} + C_{tr}$ dB	$L'_{nT,w}$ dB
30mm lath and plaster ceiling in good condition or single layer plasterboard on the underside of timber joists with 22mm tongue and groove flooring	43	35	70
As above with 100mm FireWool slab between timber joists and Reduc Micro 17 overlaid on 22mm tongue and groove boards	51	43	58
As 2 above with Reduc Micro 21	52	44	57
As 2 above with Reduc Strata Extra	53	45	56
Reduc Foundation 35 laid directly onto timber joists with 100mm FireWool Slab between the joists and 30mm lath and plaster ceiling in good condition or single layer plasterboard	54	46	56

## Flanking Transmission

The performance figures quoted above are based on test results for timber and concrete floors and can only be expected if the building design and construction has followed good practice to ensure all potential flanking paths have been eliminated. In order for wall and floor constructions to be fully effective, extreme care should be taken to correctly detail the junctions between the separating wall or floor and the associated elements such as external walls and any penetrations. If junctions are incorrectly detailed, the acoustic performance will be limited and Building Regulation requirements may not be achieved in practice.

## Components and Dimensions

Component	Unit	Nominal Dimensions / Coverage		
		Thickness mm	Length / Coverage	Width mm
FireMesh	25mm gu rolls	n/a	50m	1200
FireWool	slabs	100	1000mm	600
Reduc Micro 17	boards	17	1175mm	575
Reduc Micro 21	boards	21	1175mm	575
Reduc Strata Extra	boards	35	1175mm	575
Reduc Foundation 35	boards	35	2400mm	600
Reduc Isolation Tape	rolls	5	15m	varies with thickness of flooring
Reduc Joint Adhesive	1 litre bottles	n/a	25m <sup>2</sup> per litre	n/a
FlexiSeal	380ml tubes	n/a	varies	n/a

## Application and Fixing

Remove existing floorboards above the ceiling to be treated. Mechanically fix FireMesh around the profile of the existing timber joists to form a supporting mechanism above the existing ceiling. Friction fit FireWool between the joists taking care to ensure there are no gaps between the joists and the FireWool.

Re-lay the original floor boards directly onto the joists before overlaying with Reduc Micro 17, Reduc Micro 21 or Reduc Strata Extra in accordance with the Reduc Fitting Guidance notes.

Alternatively, lay Reduc Foundation 35 directly onto the existing joists in accordance with the Reduc Fitting Guidance notes to create a new structural floor.