FIBOLITE

MAKING LITE OF

THERMALS

THERMALLY EFFICIENT

STRONG & DURABLE

LOADBEARING & HIGH STRENGTH

ACOUSTICS

ACOUSTIC COMPLIANCE

LOW MOISTURE MOVEMENT

ULTRA LIGHTWEIGHTS

Plasmor
CONCRETE PRODUCTS

A SUSTAINABLE AND ECOLOGICAL FUTURE

HISTORIC PERSPECTIVE

For three decades during the 1960's, 70's and 80's the staple raw material for quality lightweight aggregate block manufacture was Coal Fired Power Station Furnace Bottom Ash. During this period many coal fired power stations were contributing base load electricity supply to the National Electricity Grid and were being supplied by a myriad of UK collieries. Furnace bottom ash is the residue of burning coal and provides a strong, light, totally inert block making aggregate.

THE CHANGING ENERGY MARKET

During the late 1980's and early 90's the UK Energy market witnessed significant and dramatic changes. Due to political, economic and environmental pressures a high proportion of UK collieries and coal fired power stations were irreversibly closed down. This presented an acute dilemma to the lightweight aggregate block industry; how to secure future long-term supplies of quality lightweight aggregate. The choices facing the industry were numerous; consider expensive and unreliable imported aggregate, move to heavier quarried virgin aggregates, source sub-standard secondary aggregates or simply rely on the residual supply of power station furnace bottom ash. Considering the "Dash for Gas", the conversion of some coal fired power stations to oil burning and the increasing pressures of the Environmental Movements, these were not options of merit for Plasmor.

FOCUS ON EXPANDED CLAY

In 1990 the Plasmor Board of Directors committed the company to an extensive and exhaustive research and development project with the expressed intention of developing a totally new, reliable, long term supply of premium quality sustainable block making aggregate. Over a number of years the Company trialed a great many raw materials and processes including reclaimed and recycled materials all to little avail.

The future was undoubtedly found in Expanded Clay. After years of geological and chemical research, laboratory testing and incremental pilot testing the Company decided to pursue expanded clay, and pioneered the expanded clay process in the UK. Expanded clay nodules are produced by sophisticated pyrogenic technology whereby geochemically specific clay is expanded in a rotary kiln at high temperature. The first Plasmor expanded clay kiln was commissioned in 2000 and represented the biggest single investment in the Company's history and due to it's success, a second kiln was commissioned in 2007.

Plasmor view expanded clay as the key to the sustainable and ecological future of concrete block manufacture as it absolves the need for expensive imports and lowers the use of virgin, hard, quarried aggregates such as limestone, granite, sand and gravel. Use of expanded clay in lightweight aggregate blocks offers customers a number of important benefits:-

- **Lighter blocks giving faster laying rates and CDM 20kg compliance**
- **Thermal and Acoustic Building Regulation approval**
- **Consistent High Quality means less wastage on site due to breakages**
- **Lower moisture movement (not greater than 0.60mm/m) giving greater structural performance**
- **Consistent block structure giving excellent fixability**
- **Totally inert material giving greater fire resistance**
- **Class 1 aggregate as defined in BS 5628 -3**
- **Guaranteed consistent supply of quality block making aggregate**

FIBOLITE

FEATURES & BENEFITS

ONE HAND LIFT
ULTRA LIGHTWEIGHT – IMPROVES LAYING RATES

ULTRA LIGHTWEIGHT
SATISFIES CDM REGULATIONS

THERMALLY EFFICIENT
SIMPLE SOLUTIONS TO COMPLY WITH U-VALUE REQUIREMENTS

ACOUSTIC COMPLIANCE
PART 'E' ROBUST DETAIL FOR FLANKING WALLS

STRONG AND DURABLE
LOWER WASTAGE THAN ALTERNATIVE ULTRA LIGHTWEIGHTS

LOADBEARING AND HIGH STRENGTH
3.6N/mm^2, 7.3N/mm^2

LOW MOISTURE MOVEMENT
NOT GREATER THAN 0.60mm/m

FIXABILITY
DIRECT NAILING, EASY AND SPEEDY TO DRILL AND PLUG

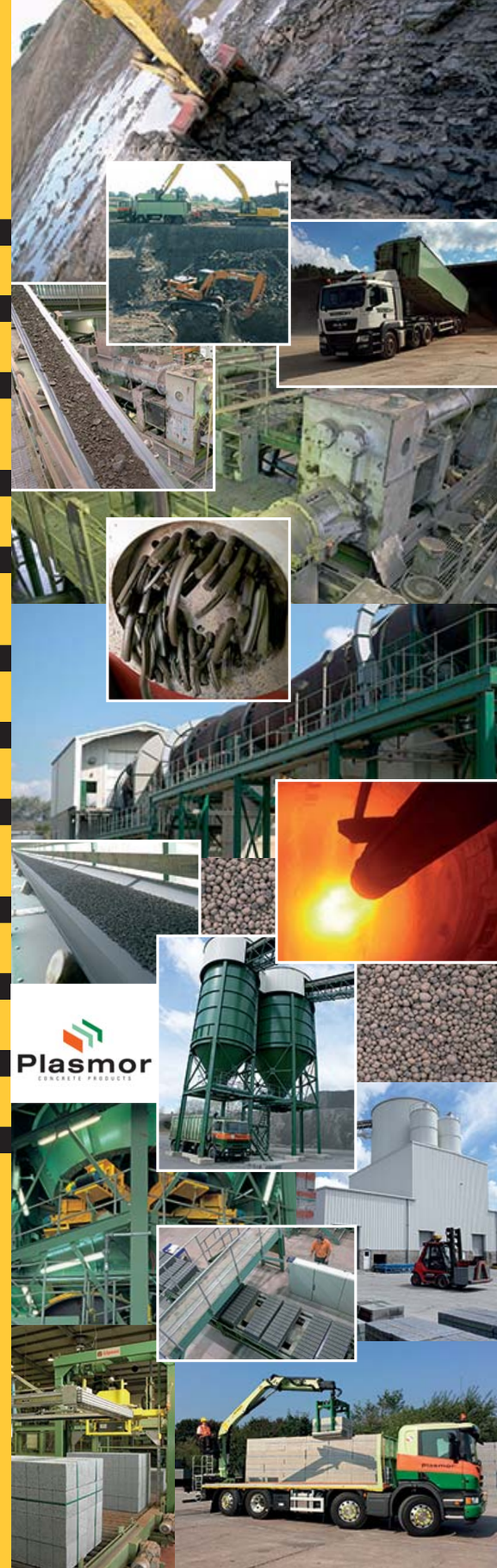
EASILY CUT AND CHASED
SAVES TIME AND EFFORT

AUTHORITY
MANUFACTURED TO BS EN 771-3

QUALITY MANAGEMENT STANDARD
BS EN ISO 9001 Certificate No: FM 10847

ENVIRONMENTAL MANAGEMENT SYSTEM
BS EN ISO 14001 Certificate No: EMS 536819

BEWARE OF IMITATIONS!



FIBOLITE

MAKING LITE OF **PART L 2021** (New Build) **REGULATIONS**

The Government has implemented changes to Part L (conservation of fuel and power) of the Building Regulations as part of their objective is to make buildings more energy efficient to further combat climate change. To help you meet these changes, Plasmor have a range of simple and cost effective solutions to meet the new regulations and using Plasmor blocks in a traditional building construction means there are extra benefits - thermally and acoustically proficient with a high durability and longevity.

The illustrations shown here are just a few examples of wall constructions that achieve **0.21 W/m³K** or better.

PLASMOR 300mm FOUNDATION BLOCKS

OUTER LEAF **BRICKWORK** - 102.5mm

CAVITY INSULATION

100mm Knauf Dritherm 32, Superwall 32, URSA 32, Isover Hi-Cav 32, λ0.032

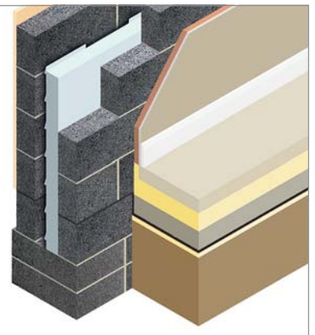
INTERNAL **100mm BLOCKWORK** 3.6 or 7.3 N

FIBOLITE

INTERNAL FINISH

53mm Gyproc Thermaline PIR WITH SKIM

0.17W/m²K



PLASMOR FOUNDATIONS

STELLAR FOUNDATION 350

(SOLID OR CELLULAR)

EXTERNAL & INTERNAL **100mm BLOCKWORK**

3.6 or 7.3 N ***FIBOLITE*** WITH RENDER★

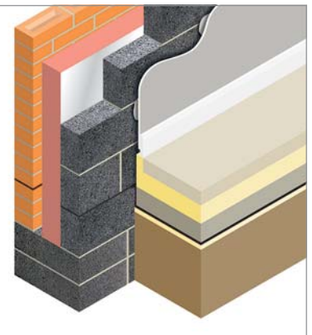
CAVITY INSULATION

75mm Unilin, Kingspan, Celotex, or equal, *50mm LOW EMISSIVITY,* λ0.022

INTERNAL FINISH

35mm Gyproc Thermaline Plus Plasterboard WITH SKIM

0.17W/m²K



PLASMOR FOUNDATIONS

STELLAR FOUNDATION 350

(SOLID OR CELLULAR)

OUTER LEAF **BRICKWORK** - 102.5mm

CAVITY INSULATION

100mm Kingspan, Unilin, Recticel or equal, *50mm LOW EMISSIVITY,* λ0.022

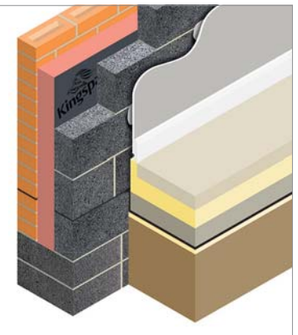
INTERNAL **100mm BLOCKWORK** 3.6 or 7.3 N

FIBOLITE

INTERNAL FINISH

12.5mm Plasterboard on dabs WITH SKIM

0.17W/m²K



PLASMOR 300mm FOUNDATION BLOCKS

OUTER LEAF **BRICKWORK** - 102.5mm

CAVITY INSULATION

90mm Kingspan K106 *WITH A 10mm CLEAR CAVITY,* λ0.019

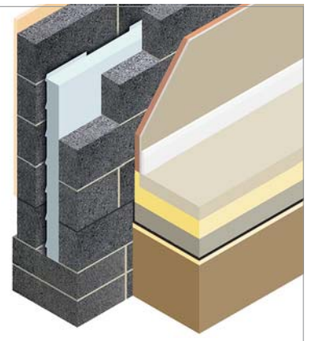
INTERNAL **100mm BLOCKWORK** 3.6 or 7.3 N

FIBOLITE

INTERNAL FINISH

12.5mm Plasterboard on dabs WITH SKIM

0.18W/m²K



PLASMOR FOUNDATIONS

STELLAR FOUNDATION 350

(SOLID OR CELLULAR)

EXTERNAL & INTERNAL **100mm BLOCKWORK**

3.6 or 7.3 N ***FIBOLITE*** WITH RENDER★

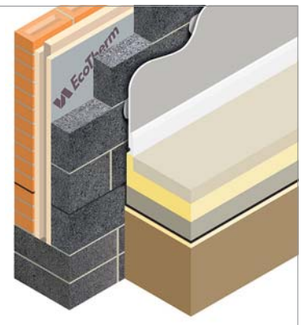
CAVITY INSULATION

150mm Knauf Dritherm 32, Superwall 32, URSA 32, Isover Hi-Cav 32, λ0.032

INTERNAL FINISH

12.5mm Plasterboard on dabs WITH SKIM

0.18W/m²K



PLASMOR 300mm FOUNDATION BLOCKS

OUTER LEAF **BRICKWORK** - BR 102.5mm

INTERNAL **100mm BLOCKWORK** 3.6 or 7.3 N

FIBOLITE

CAVITY INSULATION

Ecotherm Eco-Cavity Full Fill (90mm in a 100mm cavity), λ0.022

INTERNAL FINISH

12.5mm Plasterboard on dabs WITH SKIM

0.19W/m²K

PLASMOR FOUNDATIONS

STELLAR FOUNDATION 350

(SOLID OR CELLULAR)

OUTER LEAF **BRICKWORK** - 102.5mm

CAVITY INSULATION

75mm Kingspan K108 *50mm LOW EMISSIVITY,* λ0.019

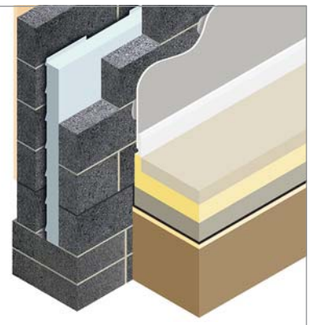
INTERNAL **100mm BLOCKWORK** 3.6 or 7.3 N

FIBOLITE

INTERNAL FINISH

12.5mm Plasterboard on dabs WITH SKIM

0.19W/m²K



PLASMOR FOUNDATIONS

STELLAR FOUNDATION 350

(SOLID OR CELLULAR)

EXTERNAL & INTERNAL **100mm BLOCKWORK**

3.6 or 7.3 N ***FIBOLITE*** WITH RENDER★

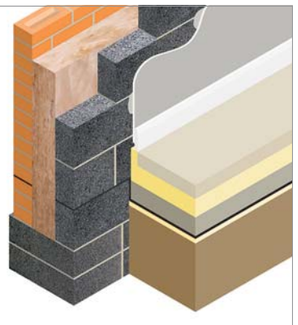
CAVITY INSULATION

75mm Unilin, Kingspan, Celotex, or equal, *50mm LOW EMISSIVITY,* λ0.022

INTERNAL FINISH

12.5mm Plasterboard on dabs WITH SKIM

0.20W/m²K



PLASMOR FOUNDATIONS

STELLAR FOUNDATION 350

(SOLID OR CELLULAR)

OUTER LEAF **BRICKWORK** - 102.5mm

CAVITY INSULATION

125mm Knauf Dritherm 32, Superwall 32, URSA 32, Isover Hi-Cav 32, λ0.032

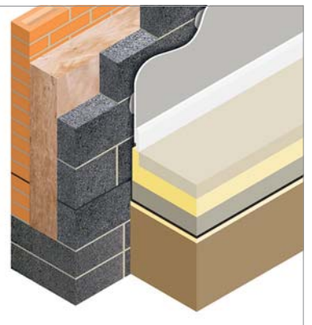
INTERNAL **100mm BLOCKWORK** 3.6 or 7.3 N

FIBOLITE

INTERNAL FINISH

12.5mm Plasterboard on dabs WITH SKIM

0.21W/m²K



PLASMOR FOUNDATIONS

STELLAR FOUNDATION 350

(SOLID OR CELLULAR)

OUTER LEAF **BRICKWORK** - 102.5mm

CAVITY INSULATION

150mm Knauf Dritherm 37, λ0.037

INTERNAL **100mm BLOCKWORK** 3.6 or 7.3 N

FIBOLITE

INTERNAL FINISH

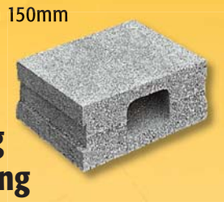
12.5mm Plasterboard on dabs WITH SKIM

0.21W/m²K

★ Please consult our Technical Department for further information

ALWAYS START OFF ON **THE RIGHT FOOTING**

The ***STELLAR FOUNDATION 350*** block is specifically designed to reduce weight and still achieve the technical requirements of a 350mm load bearing masonry cavity wall construction. This unique design has a cellular element at its core that only runs through 90% of the length of the block. This means the block has a hole on one side, but has a solid face on the opposite end and also includes finger grips running along the edges for ease of handling and is suitable for a minimum 125mm to a maximum 150mm wide cavity construction.



Amazing 17% Saving

in Embodied CO_2

over a solid foundation

For further information or calculations contact our

TECHNICAL DEPARTMENT:

01977 673221

Plasmor

CONCRETE PRODUCTS

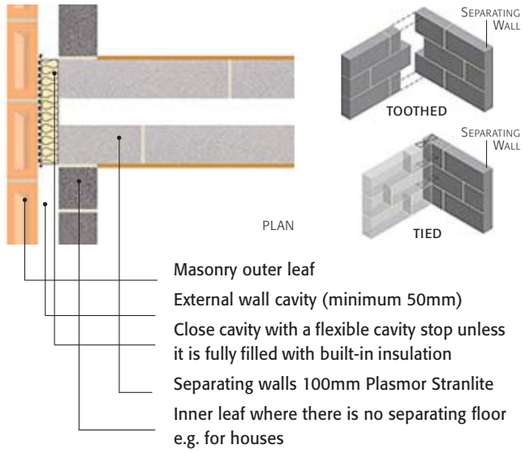
FIBOLITE

MAKING LITE OF PART E REGULATIONS

Robust Details Part E *(Resistance to the Passage of Sound)* permits the use of **Plasmor Fibolite blocks** in flanking walls in conjunction with **Plasmor Stranlite blocks** in the separating *(party)* wall. The amendments apply to **E-WM-2**, **E-WM-4**, **E-WM-11** and **E-WM-21** wall types.

This regulation recognises the acoustic properties of **Fibolite blocks** in flanking wall applications and together with Fibolite's thermal performance, low moisture movement properties and its ultra lightweight, emphasises Fibolite as the building block of choice for the discerning specifier and builder.

EXTERNAL *(FLANKING)* WALL USING PLASMOR *FIBOLITE* BLOCKS — E-WM-2



- Masonry outer leaf
- External wall cavity (minimum 50mm)
- Close cavity with a flexible cavity stop unless it is fully filled with built-in insulation
- Separating walls 100mm Plasmor Stranlite
- Inner leaf where there is no separating floor e.g. for houses
- **100mm Plasmor Fibolite** (or concrete block 850 - 1600 kg/m^3)
- Internal finish - 13mm plaster or nominal 8kg/m^2 gypsum based board

SEPARATING WALL USING PLASMOR *STRANLITE* BLOCKS — E-WM-2

Wet Plaster

Block density
1375 - 1600 kg/m^3

Wall ties
Approved Document E 'Tie type A'

Clear cavity width ★
75mm (min)

Block thickness
100mm (min) **Plasmor Stranlite**, each leaf

Wall finish
13mm plaster or cement:sand render with plaster skim (min 10 kg/m^2), both sides

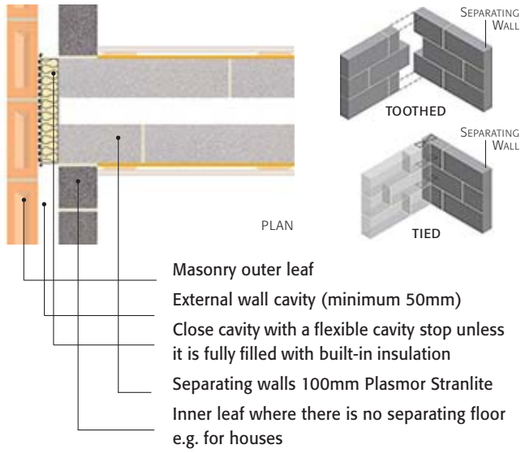
External (flanking) wall Masonry (both leaves) with 50mm (min) cavity - clear, fully filled or partially filled with insulation

NOTE: *Where there is a separating floor eg. flats/apartments, the party floor is subject to pre-completion acoustic testing.*

GOOD SITE PRACTICE

- Keep cavity and wall ties free from mortar dropping and debris
- Fully fill all blockwork joints with mortar
- Make sure there is no connection between the two leaves except for wall ties and foundations
- Keep any chases for services to a minimum and fill well with mortar

EXTERNAL *(FLANKING)* WALL USING PLASMOR *FIBOLITE* BLOCKS — E-WM-4



- Masonry outer leaf
- External wall cavity (minimum 50mm)
- Close cavity with a flexible cavity stop unless it is fully filled with built-in insulation
- Separating walls 100mm Plasmor Stranlite
- Inner leaf where there is no separating floor e.g. for houses
- **100mm Plasmor Fibolite** (or concrete block 850 - 1600 kg/m^3)
- Internal finish - 13mm plaster or nominal 8kg/m^2 gypsum based board

SEPARATING WALL USING PLASMOR *STRANLITE* BLOCKS — E-WM-4

Parge Coat and Plasterboard

Block density
1350 - 1600 kg/m^3

Wall ties
Approved Document E 'Tie type A'

Clear cavity width ★
75mm (min)

Block thickness
100mm (min) **Plasmor Stranlite**, each leaf

Wall finish
Gypsum based board (nominal 8kg/m^2) mounted on dabs on cement:sand render (nominal 8mm) with scratch finish. Typical render mix 1:1:6 to 1:1/2:4. Render mix must not be stronger than background

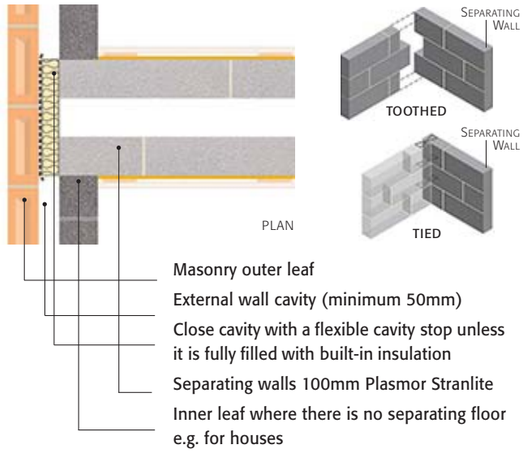
External (flanking) wall Masonry (both leaves) with 50mm (min) cavity - clear, fully filled or partially filled with insulation

NOTE: *Where there is a separating floor eg. flats/apartments, the party floor is subject to pre-completion acoustic testing.*

GOOD SITE PRACTICE

- As previous, plus - ensure that render is applied to the complete face of each leaf with a scratch finish (it may be omitted within the floor joist/beam zone

EXTERNAL *(FLANKING)* WALL USING PLASMOR *FIBOLITE* BLOCKS — E-WM-11



- Masonry outer leaf
- External wall cavity (minimum 50mm)
- Close cavity with a flexible cavity stop unless it is fully filled with built-in insulation
- Separating walls 100mm Plasmor Stranlite
- Inner leaf where there is no separating floor e.g. for houses
- **100mm Plasmor Fibolite** (or concrete block 850 - 1600 kg/m^3)
- Internal finish - 13mm plaster or nominal 8kg/m^2 gypsum based board

SEPARATING WALL USING PLASMOR *STRANLITE* BLOCKS — E-WM-11

Parge Coat and Plasterboard

Block density
1350 - 1600 kg/m^3

Wall ties
Approved Document E 'Tie type A'

Clear cavity width ★
100mm (min)

Block thickness
100mm (min) **Plasmor Stranlite**, each leaf

Wall finish
Gypsum based board (nominal 8kg/m^2) mounted on dabs on cement:sand render (nominal 8mm) with scratch finish. Typical render mix 1:1:6 to 1:1/2:4. Render mix must not be stronger than background

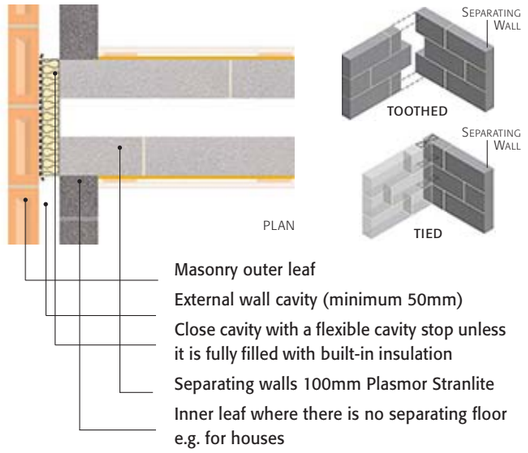
External (flanking) wall Masonry (both leaves) with 50mm (min) cavity - clear, fully filled or partially filled with insulation

NOTE: *Where there is a separating floor eg. flats/apartments, the party floor is subject to pre-completion acoustic testing.*

GOOD SITE PRACTICE

- As previous, plus - ensure cavity is 100mm wide and that correct wall ties are used.

EXTERNAL *(FLANKING)* WALL USING PLASMOR *FIBOLITE* BLOCKS — E-WM-21



- Masonry outer leaf
- External wall cavity (minimum 50mm)
- Close cavity with a flexible cavity stop unless it is fully filled with built-in insulation
- Separating walls 100mm Plasmor Stranlite
- Inner leaf where there is no separating floor e.g. for houses
- **100mm Plasmor Fibolite** (or concrete block 850 - 1600 kg/m^3)
- Internal finish - 13mm plaster or nominal 8kg/m^2 gypsum based board

SEPARATING WALL USING PLASMOR *STRANLITE* BLOCKS — E-WM-21

Wet Plaster

Block density
1350 - 1600 kg/m^3

Wall ties
Approved Document E 'Tie type A'

Clear cavity width ★
100mm (min)

Block thickness
100mm (min) **Plasmor Stranlite**, each leaf

Wall finish
13mm plaster or cement:sand render with plaster skim (minimum 10kg/m^2) both sides

External (flanking) wall Masonry (both leaves) with 50mm (min) cavity - clear, fully filled or partially filled with insulation

NOTE: *Where there is a separating floor eg. flats/apartments, the party floor is subject to pre-completion acoustic testing.*

GOOD SITE PRACTICE

- As previous, plus - ensure cavity is 100mm wide and that correct wall ties are used.

★ ***Separating wall cavity insulation*** is optional but does carry a benefit in SAP for the party wall U value. Insulation should have a maximum density of 40kg/m^3.

"The future is secure and we're all fired up about expanded clay"

EXPANDED CLAY GIVES MARKET BOOST TO FIBOLITE

The upsurge in demand for ultra lightweight "aggregate" blocks which satisfy CDM regulations, meet builders needs for thermal performance and comply with Part E Acoustic regulations in flanking walls, has led to nprecedented demand for Plasmor *FIBOLITE* blocks.

Such has been the success of the first expanded clay kiln and the demand for ***FIBOLITE*** that in 2007 Plasmor successfully commissioned a second kiln to meet demand.

Plasmor now operate the only two expanded clay kilns in the UK, both the most hi-tech, sophisticated, fuel efficient and environmentally clean plants in Europe.

Concurrent with the expansion of expanded clay production, the Company have acquired secure, long term sources of the very specific clay required for the process.

TECHNICAL HELPLINE:
01977 673221

Plasmor
CONCRETE PRODUCTS