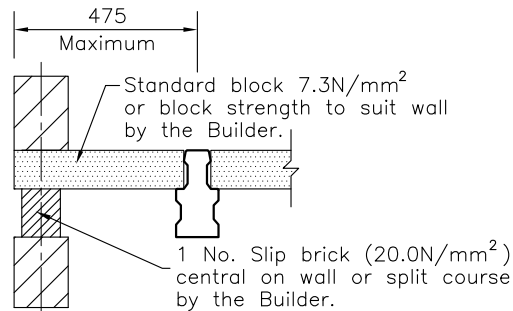
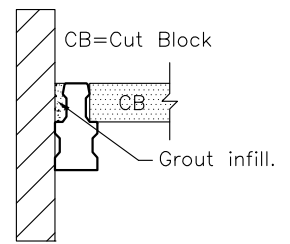


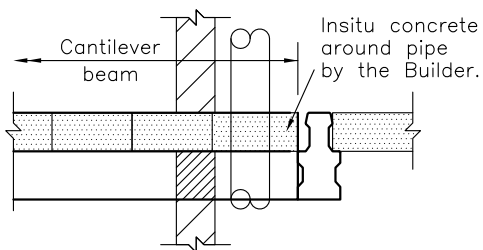
**F-F (100mm Wall)**



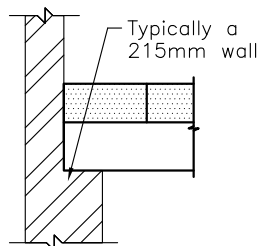
**F-F (140mm Wall)**



**G-G**

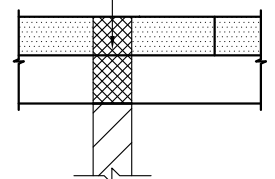


**L-L**



**T-T**

Brick or concrete infill between beams (when they are staggered over a wall), by the Builder



**Y-Y**



Earls Colne Business Park, Earls Colne,  
Colchester, Essex, CO6 2NS

Tel: 01787 223931

Email: [estimating@milbank.co.uk](mailto:estimating@milbank.co.uk)

Email: [design@milbank.co.uk](mailto:design@milbank.co.uk)

## Section Properties

Area Ac	18,160 mm <sup>2</sup>
Nab	127.14 mm
Inertia	73,390,737 mm <sup>4</sup>
Zt	577,235 mm <sup>3</sup>
Zb	749,971 mm <sup>3</sup>

## Material Properties

Fcu	55 N/mm <sup>2</sup>
Fci	35 N/mm <sup>2</sup>
Fct	-3.3 N/mm <sup>2</sup>
Et	27 kN/mm <sup>2</sup>
Ew	31 kN/mm <sup>2</sup>
Es	200 kN/mm <sup>2</sup>

## Beams:

Manufactured in 50mm increments.

Design to BS 8110-1:1997 Class 2 members.

## Prestressing Tendons:

5mm Wire to BS 5896 / 2 wire - 1770 - 5 - PI - relax 2

9.3mm Strand to BS 5896 / 3 strand - 1770 - 9.3 - PI - relax 2

## Cement:

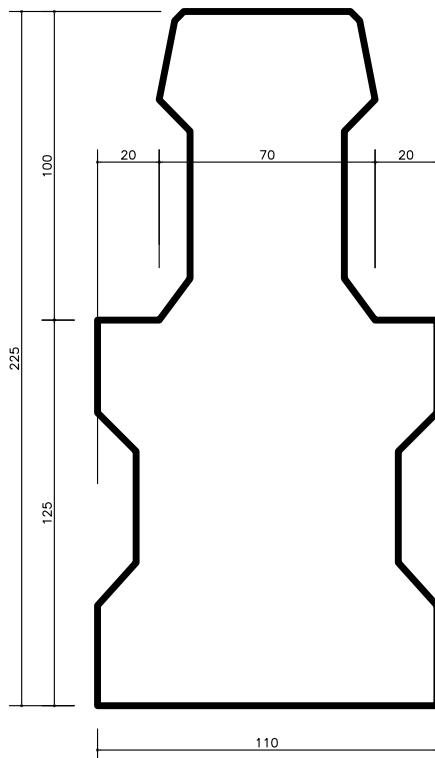
CEM I 42,5 R to BS EN 197-1

## Aggregate:

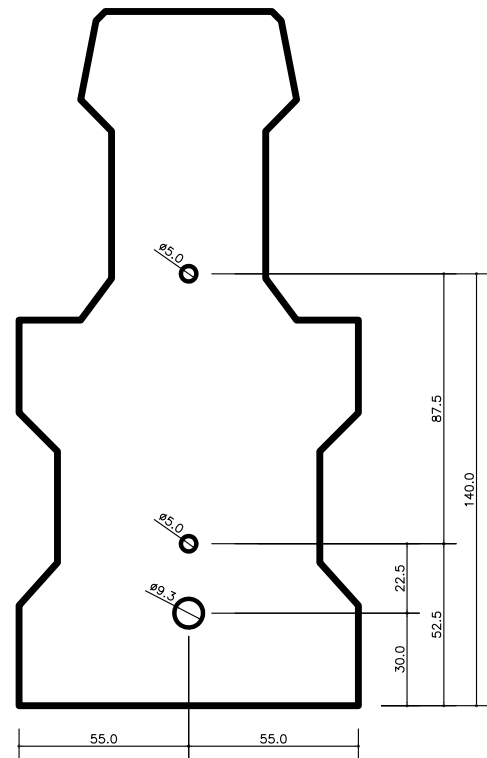
4/10mm (Flintstone) to BS EN 12620

## Fire Resistance:

1 Hour Maximum (limited by section width) to BS 8110-2:1985



$$\begin{aligned} RMs &= 9.94 \text{ kNm} \\ RMu &= 15.21 \text{ kNm} \\ Vco &= 20.79 \text{ kN} \end{aligned}$$



## Self-Weight kN/m<sup>2</sup> (Joist, Blocks and Grout)

Block Type	Block Density	Self-Weight kN/m <sup>2</sup> (Joist, Blocks and Grout)			
		Single Beams	Double Beams	Triple Beams	
Lightweight	600 kg/m <sup>3</sup>	S510	1.35	D620 2.01	T730 2.46
		S398	1.57	D508 2.32	T618 2.80
		S285	1.96	D395 2.81	T505 3.30
Medium	1450 kg/m <sup>3</sup>	S510	2.07	D620 2.60	T730 2.97
		S398	2.26	D508 2.86	T618 3.25
		S285	2.59	D395 3.27	T505 3.65
Dense	2000 kg/m <sup>3</sup>	S510	2.54	D620 2.98	T730 3.29
		S398	2.70	D508 3.21	T618 3.53
		S285	2.99	D395 3.56	T505 3.88