FORTERRA	BEAM FLOORING TO EC2		Version 14.28
	Job title : New House, Chadlington		**By : PTC**
Tel: 01636 832000	**Job ref : 68361**	**Calc ref : 1**	**Date: 26/04/18**

Floor system : Beam & Block , Floor case : RDJ6
Beam ref : RD09. 215 mm wide (165 mm at top) x 150 mm deep. 9 no. wires. No. of beams = 1.
Block type : Aggregate infill block 440 mm wide. Density = 1500 kg/cu.m.
Floor case width = 388 mm. =I=

Exposure type XC1 for EC2 category : ' Inside enclosed buildings ' gives design class with permissible tension.
Type of floor loading = Domestic.
Effective span = 5.700 m. Clear span = 5.600 m.
Alternative point load checked : 2 kN at mid span

LOADING	kN/m^2		Width (m)		Service (kN/m)		Ultimate 6.10(a) (kN/m)		Ultimate 6.10(b) (kN/m)
							Use maximum of EC1 equation 6.10(a) or (b)		
Self weight of beam, block and infil	2.47	x	0.39	=	0.96	x 1.35	1.29	x 1.25	1.20
Self weight of structural topping	0.00	x	0.39	=	0.00	x 1.35	0.00	x 1.25	0.00
Finishes other than structural topping	3.60	x	0.39	=	1.40	x 1.35	1.89	x 1.25	1.74
Partitions (allow)	0.00	x	0.39	=	0.00	x 1.35	0.00	x 1.25	0.00
Superimposed live	1.50	x	0.39	=	0.58	x 1.05	0.61	x 1.50	0.87
Total	**7.57**				**2.94**		**3.79**		**3.81**

POINT, CROSS WALL & LINE LOADS
Cross Wall Dead load = 7.50 kN/m at x = 5.450 m LHS x width = 0.500 m.

RESULTS	M service (kNm)	M ultimate (kNm)	LHS shear (kN)	RHS shear (kN)	Max V_{Ed} / V_{Rd} (ratio)	Total Deflection (mm)	Movement (mm)
Actual	12.40	16.08	11.08	15.64	0.37	17.1	3.0
Limit	12.45	20.30	41.29	41.29	1	22.8*	16.3**
						*span/250	**span/350

** Finishes = Non-brittle finishes

Flexurally cracked shear occurs at x = 1.482 and 4.332 m from LHS

Shear force **PASS**
Alternative point load **PASS**
Natural frequency = 4.5 (Hz) Minimum value = 4.0 (Hz) **PASS**
Crack width = 0.007 (mm) Limiting value = 0.2 mm **PASS**
Service moment **PASS**
Ultimate moment **PASS**
Deflection **PASS**
Curltailment length
*** * * Design satisfactory * * * (max. ratio actual / limit = 1.00)**