

Clay Heave Protection with Claymaster

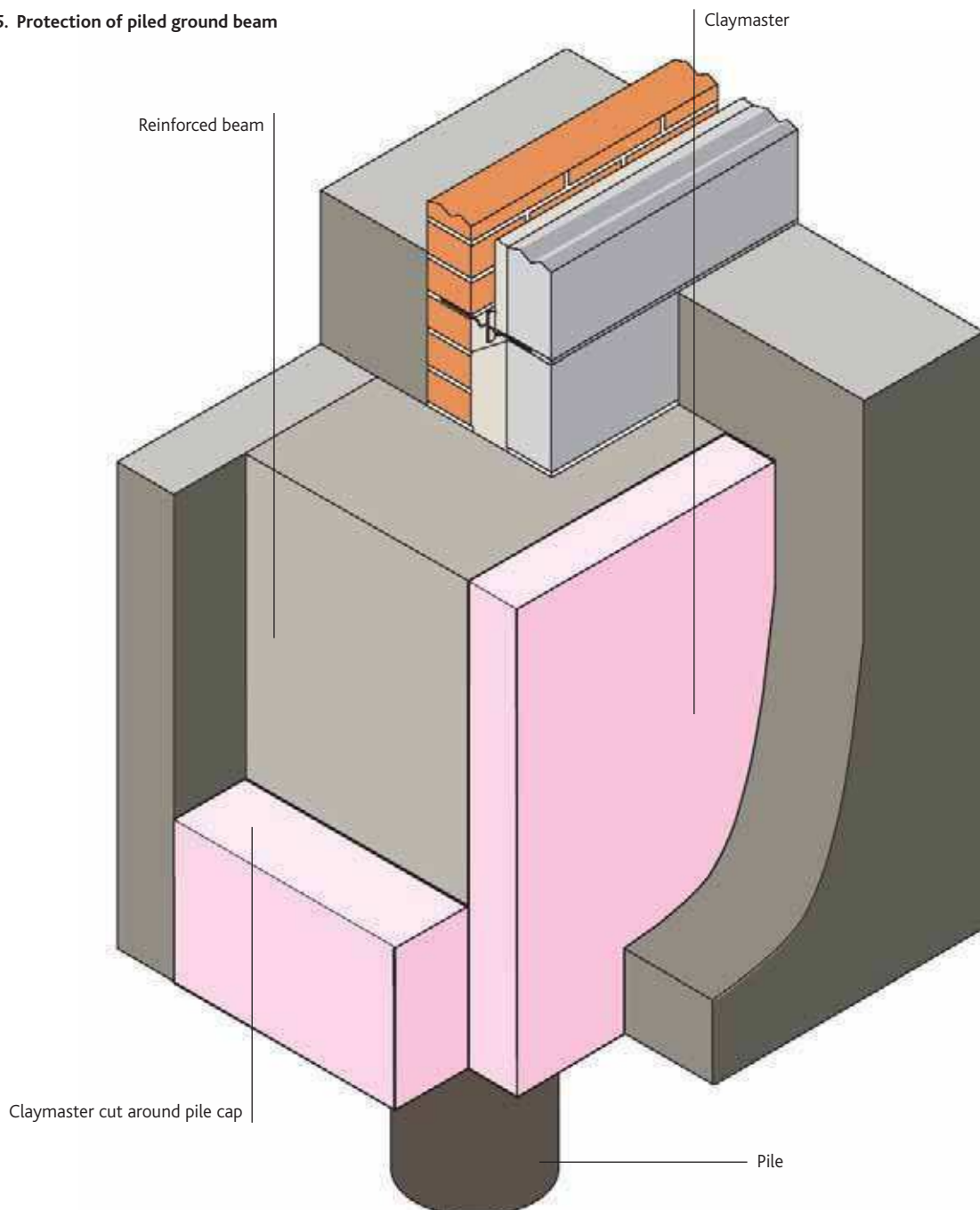
Table 1

Thickness	U-value					
	0.25 W/m ² K	0.27 W/m ² K	0.28 W/m ² K	0.29 W/m ² K	0.30 W/m ² K	0.31 W/m ² K
100	0.25	0.27	0.28	0.29	0.30	0.31
150	0.25	0.27	0.28	0.29	0.30	0.31
200	0.25	0.27	0.28	0.29	0.30	0.31
250	0.25	0.27	0.28	0.29	0.30	0.31
300	0.25	0.27	0.28	0.29	0.30	0.31
350	0.25	0.27	0.28	0.29	0.30	0.31
400	0.25	0.27	0.28	0.29	0.30	0.31
450	0.25	0.27	0.28	0.29	0.30	0.31
500	0.25	0.27	0.28	0.29	0.30	0.31

Clay Heave Protection

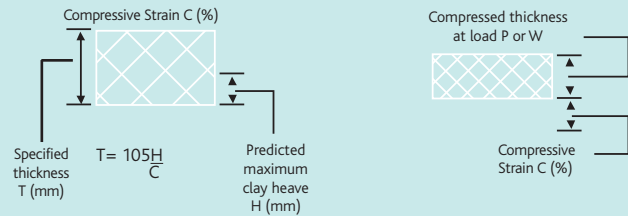
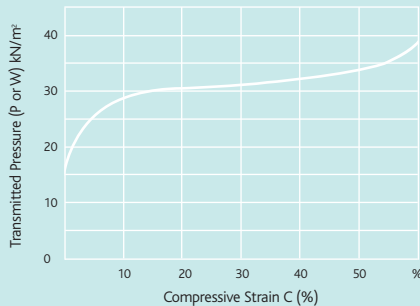
Claymaster is an EPS compressible-fill material which can be used to prevent potential problems in foundations due to moisture movement in soils which contain a large proportion of mineral particles below 0.002mm. The material can be used as a permanent shuttering for cast in-situ reinforced concrete, reducing pressure on ground beams in piled foundations, and on the side of trench fill.

Figure 25. Protection of piled ground beam



Claymaster

Graph 1. Claymaster compression curve



Key features

- Negligible compression during concrete casting. With a normal ground-beam depth up to 600mm, the initial compression of the material during casting can be disregarded.
- Cost effective. Claymaster provides a rapid, cost-effective solution to clay-heave problems, without the need for specialised trades or equipment.
- Permanent. Claymaster is rot-proof and durable and will withstand the conditions encountered below ground. It will not degrade in the presence of high levels of ground water or precipitation.
- Easy to handle. Claymaster is manufactured from EPS which is lightweight and easy to handle.

Grade

Standard size, 2400 x 1200mm, and 2400 x 600mm.

Thicknesses, 50, 75, 100, 150, and 200mm.

Additional widths (e.g. 400, 450 and 500 mm) are also available.

Claymaster is a special low density expanded polystyrene. It is coloured pink for ease of identification.

Shape

Boards are normally rectangular and of uniform thickness, but special shapes are available to order including circular sections to fit around pile caps, and tapered boards.

Accessories

Spacing blocks to ensure correct cover to steel reinforcement must be of a type and quantity to prevent penetration into the surface of the Claymaster; the imposed pressure on the Claymaster should not exceed 15kN/m².

Fire

When properly installed, the EPS is fully protected by the concrete beam or foundations and will have no adverse effect on the fire performance of the structure.

Mechanical properties

The expansion of clay soil is a long-term phenomenon and it is necessary for the compressible fill to react in the same timescale. Claymaster achieves this by creep deformation, reducing the induced pressures to safe levels.

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Table 2.1

U-value	U-values					
	0.25 W/m ² K	0.22 W/m ² K	0.20 W/m ² K	0.18 W/m ² K	0.15 W/m ² K	0.10 W/m ² K
0.00	00	00	00	00	00	00
0.01	01	01	01	01	01	01
0.02	02	02	02	02	02	02
0.03	03	03	03	03	03	03
0.04	04	04	04	04	04	04
0.05	05	05	05	05	05	05
0.06	06	06	06	06	06	06
0.07	07	07	07	07	07	07
0.08	08	08	08	08	08	08
0.09	09	09	09	09	09	09
0.10	10	10	10	10	10	10
0.11	11	11	11	11	11	11
0.12	12	12	12	12	12	12
0.13	13	13	13	13	13	13
0.14	14	14	14	14	14	14
0.15	15	15	15	15	15	15
0.16	16	16	16	16	16	16
0.17	17	17	17	17	17	17
0.18	18	18	18	18	18	18
0.19	19	19	19	19	19	19
0.20	20	20	20	20	20	20
0.21	21	21	21	21	21	21
0.22	22	22	22	22	22	22
0.23	23	23	23	23	23	23
0.24	24	24	24	24	24	24
0.25	25	25	25	25	25	25
0.26	26	26	26	26	26	26
0.27	27	27	27	27	27	27
0.28	28	28	28	28	28	28
0.29	29	29	29	29	29	29
0.30	30	30	30	30	30	30
0.31	31	31	31	31	31	31
0.32	32	32	32	32	32	32
0.33	33	33	33	33	33	33
0.34	34	34	34	34	34	34
0.35	35	35	35	35	35	35
0.36	36	36	36	36	36	36
0.37	37	37	37	37	37	37
0.38	38	38	38	38	38	38
0.39	39	39	39	39	39	39
0.40	40	40	40	40	40	40
0.41	41	41	41	41	41	41
0.42	42	42	42	42	42	42
0.43	43	43	43	43	43	43
0.44	44	44	44	44	44	44
0.45	45	45	45	45	45	45
0.46	46	46	46	46	46	46
0.47	47	47	47	47	47	47
0.48	48	48	48	48	48	48
0.49	49	49	49	49	49	49
0.50	50	50	50	50	50	50
0.51	51	51	51	51	51	51
0.52	52	52	52	52	52	52
0.53	53	53	53	53	53	53
0.54	54	54	54	54	54	54
0.55	55	55	55	55	55	55
0.56	56	56	56	56	56	56
0.57	57	57	57	57	57	57
0.58	58	58	58	58	58	58
0.59	59	59	59	59	59	59
0.60	60	60	60	60	60	60
0.61	61	61	61	61	61	61
0.62	62	62	62	62	62	62
0.63	63	63	63	63	63	63
0.64	64	64	64	64	64	64
0.65	65	65	65	65	65	65
0.66	66	66	66	66	66	66
0.67	67	67	67	67	67	67
0.68	68	68	68	68	68	68
0.69	69	69	69	69	69	69
0.70	70	70	70	70	70	70
0.71	71	71	71	71	71	71
0.72	72	72	72	72	72	72
0.73	73	73	73	73	73	73
0.74	74	74	74	74	74	74
0.75	75	75	75	75	75	75
0.76	76	76	76	76	76	76
0.77	77	77	77	77	77	77
0.78	78	78	78	78	78	78
0.79	79	79	79	79	79	79
0.80	80	80	80	80	80	80
0.81	81	81	81	81	81	81
0.82	82	82	82	82	82	82
0.83	83	83	83	83	83	83
0.84	84	84	84	84	84	84
0.85	85	85	85	85	85	85
0.86	86	86	86	86	86	86
0.87	87	87	87	87	87	87
0.88	88	88	88	88	88	88
0.89	89	89	89	89	89	89
0.90	90	90	90	90	90	90
0.91	91	91	91	91	91	91
0.92	92	92	92	92	92	92
0.93	93	93	93	93	93	93
0.94	94	94	94	94	94	94
0.95	95	95	95	95	95	95
0.96	96	96	96	96	96	96
0.97	97	97	97	97	97	97
0.98	98	98	98	98	98	98
0.99	99	99	99	99	99	99
1.00	100	100	100	100	100	100

For more information about Jablite please contact us on:
Tel: 0870 600 3666
Email: sales@jablite.co.uk
Visit: www.jablite.co.uk



Jablite Limited
Head Office: Infinity House, Anderson Way, Belvedere, Kent DA17 6BG