

LISBOA 2010
MAY 25/28
16th World Meeting

The Environmentally Friendly Alternative to Resin



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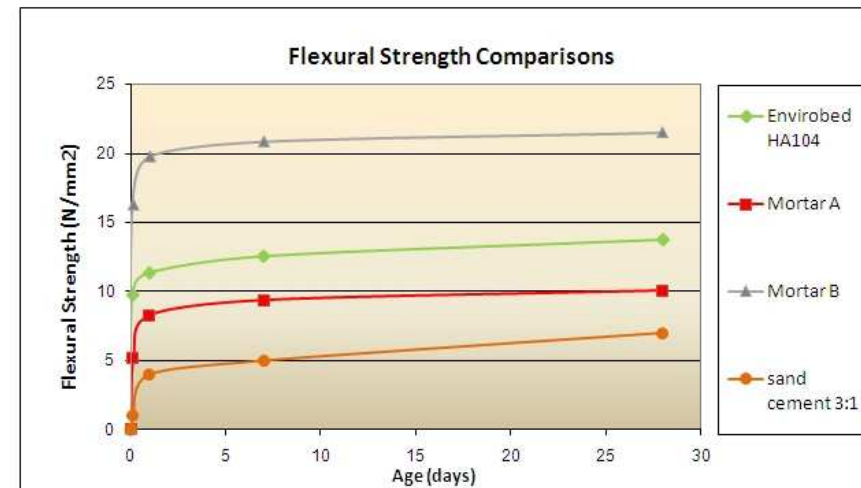
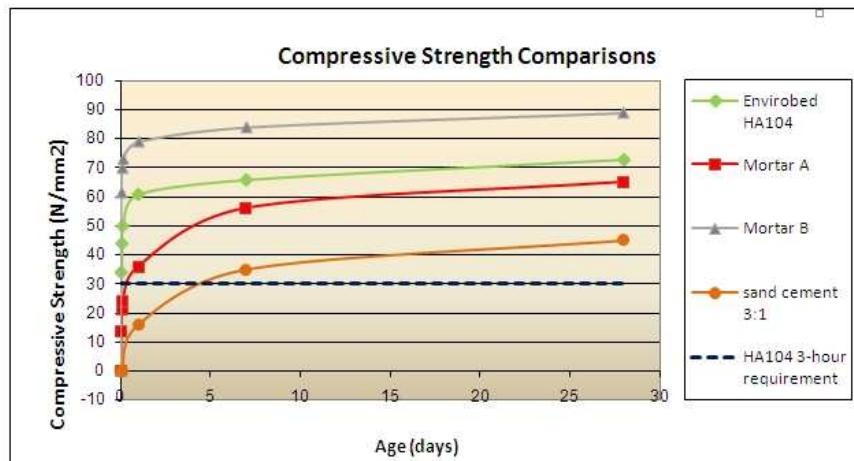
- Environmental Protection
- Increased demand for ‘ECO-Friendly’ products
- Instarmac’s Environmental commitment resulted in R&D for resin-alternative ironwork bedding materials.

- Factors influencing ironwork failure
- HA104/02 issued in 2002 by UK Highway Authority to combat ironwork failure
- Minimal technical specification
- Envirobred launched in 2007

Comparative tests carried out

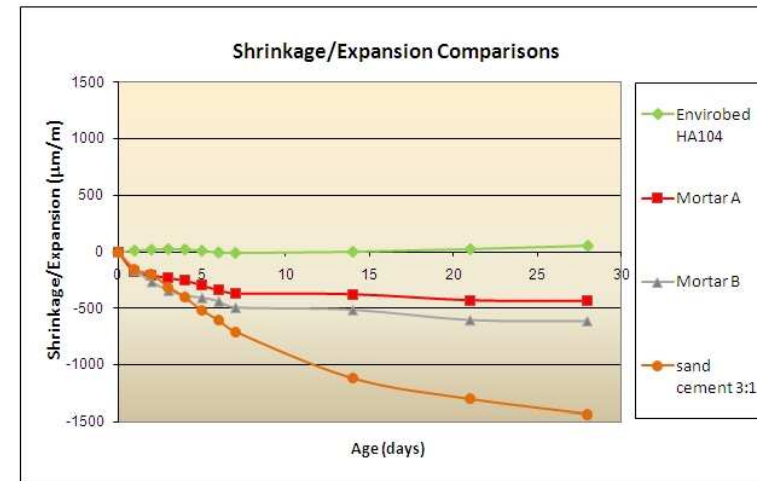
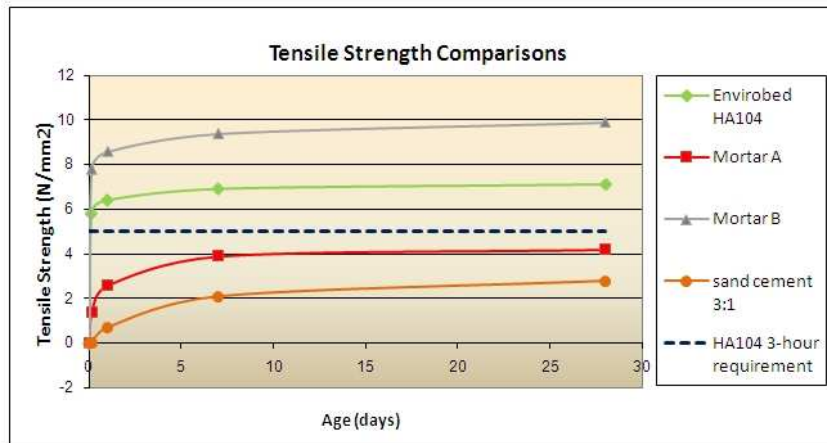
Age (days)	Envirobed HA104	Mortar A	Mortar B	sand cement 3:1
0	0	0	0	0
0.041666667	34	13.5	61.5	0
0.083333333	44	21	70	0
0.125	50	24	73	0
1	61	36	79	16
7	66	56	84	35
28	73	65	89	45

Age (days)	Envirobed HA104	Mortar A	Mortar B	sand cement 3:1
0	0	0	0	0
0.125	9.8	5.2	16.3	1
1	11.4	8.28	19.8	4
7	12.6	9.36	20.89	5
28	13.8	10.05	21.54	7



Comparative tests carried out

Age (days)	Envirobed HA104	Mortar A	Mortar B	sand cement 3:1
0	0	0	0	0
0.125	5.8	1.4	7.8	0
1	6.4	2.6	8.6	0.7
7	6.9	3.9	9.4	2.1
28	7.1	4.2	9.91	2.8



Day	Envirobed HA104	Mortar A	Mortar B	sand cement 3:1
28	3.5	1.8	5	1.1



Conclusions

- Envirobond exceeds HA104/02
- High early tensile strength in comparison to other cement based products
- ECO friendly and non-hazardous
- Can be used in all climate conditions
- Service life of 5 years as part of BBA/HAPAS Approved System