

# Coldlay pioneer

**Out of adversity for Bardon  
Aggregates have come Landrec  
and Playbase – two cold mix  
technology-based developments  
of enormous potential.**

Landrec is a process for turning contaminated soils and demolition waste into safe, highly usable road building materials. Playbase is an economic sports court base course which fully meets Lawn Tennis Association specifications.

Both came about largely because Bardon Aggregates was stalled in its attempts to get approval for an earlier asphalt development which was the result of pioneering coldlay research.

"We couldn't get our innovative permanent coldlay surfacing material Haucphalt certified for love or money," says Bardon technical and development director Paul Phillips. "Through no fault of ours or our product, the certificate didn't arrive because of administration problems and we had to look at other ways of exploiting our cold mix knowledge."

The result was Bardon's entry into the environmental and leisure sectors. Meanwhile, Haucphalt has been selling well with unofficial verbal approval only from the certifying body, the Highway Authorities & Utilities Committee.

The story begins in the early 1990s when Bardon decided that the development of a permanent coldlay surfacing material (PCSM) should become a priority. Asphalts had traditionally been of hot mix, hot lay design but the company could see the theoretical benefits – both economic and environmental – of producing cold mix, cold lay materials.

A well designed PCSM could be mixed which, because it did not depend on heat to remain workable, did not have to be laid



*Playbase is one of two new innovative coldlay asphalts to come from Bardon*

straight away, unlike conventional hot rolled asphalts.

There would also be savings in energy. Around eight litres of fuel are required for each tonne of HRA whereas a PCSM could be produced for around a tenth of that figure, Bardon reckoned.

Finally, PCSMs provided a very real opportunity to recycle old asphalt pavements. The planings of these, constituting hard binders and good quality aggregates, could become a good source of base materials for a well designed cold mix, cold lay product.

Bardon's thinking was influenced by publication in June 1992 of the HAUC Specification for the Reinstatement of Openings in Highways. Appendix A10 of this detailed the requirements for PCSM; and represented a significant nod of official approval for the concept of cold mix, cold lay.

Bardon set about finding a "technology partner" to help it design a first class PCSM. Eventually the bitumen specialist Nynas UK was selected because of the company's reputation for innovation and consistent high quality products.

"The Nynas people have a good understanding of bitumen emulsion technology and provide excellent technical support," Phillips says. "We said help us

develop a cold mix and within a year the job was done."

Nynas' contribution was a purpose designed straight run bitumen emulsion which was given the name Haucset. This was the key component of a mix that Bardon believed would become a market leader, Haucphalt.

"It's a super material with a wide range of applications," Phillips says. "Haucphalt is particularly suitable for trenches, full width pavement reconstruction, cycle ways, and Class 3 and 4 roads."

Some two years on from publication of the HAUC specification, and after extensive trials of Haucphalt, Bardon applied for formal approval of its product. Unfortunately, Appendix A10 did not specify adequate detail to allow the authorities to put in place a proper PCSM approval procedure.

Bardon was not alone in making its application. Others applied, too, and a queue soon built up. A10 was revised in November 1995 and the first two in the queue (Bardon was not one of them) got approval in May 1996.

Then the shutters came down. The A10 approval requirements were revised a second time, and then a third. Sickness and absence hindered the workings of the technical group established to conduct the approvals procedure.



All the while, Bardon waited. The unfairness of the situation was acknowledged and the company was given the nod that its Haucphalt met the latest A10 requirements. But, at the time this issue of Modern Asphalts went to press in June 1998, no formal certificate had been awarded.

"We had to try another approvals route, through the local authorities," Phillips says. Ian Walsh at Kent County Council's materials laboratories was of great help, in establishing tests and standards.

Other counties such as Hertfordshire and Surrey were open minded too, and Haucphalt by now had formal approval for certain local authority applications.

Here a very harsh irony became evident: cable laying companies in favour of Haucphalt after trialling the material were prevented by lack of HAUC certification from using it to reinstate trenches – even when those trenches had been cut through existing Haucphalt pavement.

"We were at a distinct disadvantage in not having the HAUC certificate," Phillips says. "We had to ask ourselves, where do we go from here, how can we use the technology that we have developed?"

The answer was to prove to be:

"In entirely different applications."

Landrec is both the name of a process and a company, set up as a joint venture between Aggregate Industries (Bardon's parent company) and environment specialist AEA Technology.

The process can be defined as coating granulated brown field waste with hightech bitumen emulsion to produce a stable asphalt which can be designed for use within the structure of any highway.

"It is about applying a formula to contaminated soils and rubble which ends with their being coated and effectively neutralised," says Landrec general manager Dave Worrall.

"The construction material that results is a useful one, safe and robust, good for access roads, hard standings and the like."

Bardon's cold mix expertise along with the bitumen emulsion of Nynas are the crucial components of the Landrec process. "The technology is perfect for our process which gives us a substantial edge over competitors."

Another new market was to open up to Bardon at around the same time. About three years ago, the specifications for tennis courts came under the scrutiny of a joint committee of the Tennis

Court Construction Federation, the Lawn Tennis Association and BACMI.

The committee wanted to see if traditional custom and practice, including that of laying a single layer pavement over stone, could be improved to produce better, longer lasting courts.

It ended up by making a strong recommendation that a base course should be used as well as a wearing course.

"This had cost implications for tennis court developers and drove us to look for suitable materials which were also inexpensive," says the managing director of Doe Sport Sandy Haig.

Doe Sport is one of Britain's leading constructors of tennis courts and as such knew Bardon well. "They've provided us with asphalt for many years, and we were very interested to learn of their cold mix, cold lay materials."

To cut a long story short, Playbase was developed. "Playbase is first class, an ideal base course for sports grounds," Haig says. "There is little waste and being cold mix, we have little trouble with sites that are difficult to access."

Playbase's texture ensures a free draining construction and it complies fully with the latest 1997 LTA new build specifications.

## **Bardon's new products are the result of pioneering coldlay research**



*Extensive testing of Bardon's pioneering coldlay materials has proved their worth*

