

SACYR CONSTRUCCIÓN RECEIVES R&D&I AWARD

## Sacyr, winner of best environmental practices award

*Sacyr Construcción has won the paving industry's top award for Best Environmental Practices (BEP) organised by the Spanish Association of Asphalt Mixture Manufacturers (ASEFMA).*

Within the framework of a mutual collaboration agreement, Sacyr Construcción and Repsol Lubricantes y Especialidades have developed an innovative, world-first technique. The project, entitled Full-rate warm recycled mixes with emulsion, is based on research and development to create a new material based on full warm recycling of bituminous mixtures.



Award for Best Environmental Practices of ASEFMA

The 9th National Day of the Spanish Association of Asphalt Mixture Manufacturers (Asefma) was the date chosen for presenting the paving industry's Top Award for Best Environmental Practices (BEP). The short-listed entries were narrowed down to the three most highly rated proposals, representing the following entities: CHM Infraestructuras, Collosa and Repsol-Sacyr (winner).

The panel of judges, formed by members of the Asefma Technical Committee, judged and selected the proposal based on the criteria of originality, innovation, impact on the industry and evaluated environmental improvements. They were deemed to be exemplary best practices undertaken in Spain in the area of asphalt paving.

Sacyr Construcción has developed an innovative, world-first technique in collaboration with Repsol Lubricantes y Especialidades for rehabilitating road pavement by re-using all of the deteriorated and aged materials. An asphalt-based emulsion was developed specifically for this purpose.

### THE PROJECT

Roads deteriorate due to traffic and the effect of climatic agents. Such deterioration implies a lack of safety for drivers and, therefore, a greater risk of accidents. There are many techniques for rehabilitating road pavement. The technique developed by Sacyr is pioneering as it is undertaken at ambient temperature (as opposed to the traditional hot techniques), which leads to a major reduction of emissions into the atmosphere, optimised energy efficiency of the applicator and better working conditions for the operators handling it.

Since the appearance of the Kyoto protocol, Sacyr Construcción, like all asphalt mixture manufacturers, has been researching the development of processes and products that minimise the negative environmental impacts caused during their fabrication. Climate change, CO2 emissions and decreasing fossil fuel reserves make it necessary to research new products and manufacturing techniques to obtain mixtures that offer mechanical performances similar to those currently in use, in which manufacturing temperature is reduced and the recycling of materials is maximised.

Over recent decades, the European Union has put considerable effort into developing infrastructures, which are now reaching the end of their service life or require costly conservation and maintenance operations.

When rehabilitating road pavement, the deteriorated material that is generated when renewing the worn layers usually constitutes surplus waste. Given the current lack of recycled bituminous mixtures capable of absorbing it on site, through this technique of warm recycling with emulsion Sacyr aims to resolve such issues by producing a new type of mixture manufactured at 100 °C using the material generated upon milling the roads.

This technology brings with it economic, environmental and social benefits. Firstly, by heating at lower temperatures during manufacture, fuel consumption, volatile organic compounds and CO2 emissions are slashed. Secondly, re-using

all of the milling residue from rehabilitated roads means it no longer has to be sent to a dumpsite and manufacturing costs are significantly reduced, without sacrificing the quality of the end product, which is the most innovative aspect of the project.

This technology has been developed within the framework of 5 research projects. Two have been funded nationally by the Industrial Technology Development Centre (CDTI) and the Ministry of Economy and Competitiveness (MINECO). At international level, two projects have been funded by the European Union and one by the Chilean government.

Using this technology, Sacyr Construcción and Repsol Lubricantes y Especialidades have constructed the first two trial sections of Spanish motorways with 100% and 50% re-use of milling material, respectively.

The Top Award for "Best Environmental Practices" (BEP) in paving is an industry initiative seeking to showcase and reward new developments in the area of asphalt mixtures, encompassing all advances of a technical, economic, sustainable and environmentally-friendly nature.

