



The project, named “Life Sure”, is co-funded by the EU

SACYR CONSTRUCCIÓN, CEDEX AND MADRID CITY COUNCIL DEVELOP TECHNOLOGY TO FABRICATE RECYCLED ASPHALT FOR URBAN ROADS

The new mixtures mean significant energy savings

Madrid, April 2014.- The European Commission, through the European financial instrument for the environment LIFE+ 2012, has approved the project known as LIFESURE, (Self-sustaining Urban Roads: A way to improve Environmental performance of urban areas) developed by Sacyr Construcción, as project coordinator, and CEDEX and Madrid City Council as collaborating partners. The project is based on obtaining recycled asphalt for use on urban roads.

With a budget of 2.38 million euros (50% co-funded by the European Union) and scheduled to run until June 2018, the project seeks to develop technologies to efficiently produce warm bituminous mixes, recycled at rates of up to 100%, for urban roads on all surface layers thereby contributing toward the sustainability of urban road assets by re-using high quality materials. What is more, their fabrication requires very little energy and generates very low emissions.

To undertake the trial sections, they plan to use over 3,000 tonnes of RAP, which represents the following savings:

- ✓ At least 35% less bitumen.
- ✓ Some 2,000 tonnes of natural aggregates.
- ✓ At least 60% less greenhouse gas emissions.
- ✓ A 60% saving on the cost per tonne of fabricated mixture.

The Lifesure project includes:

- ✓ Design and construction of a specific prototype plant for manufacturing such mixtures.
- ✓ Carrying out industrial-scale tests by laying some 18,000 m² of this type of mixtures along different trial sections, which include streets in Madrid and the CEDEX Accelerated Surface Test Track.
- ✓ Verification of the performance of the experimental mixtures through successive auscultations and their comparison with traditional techniques.
- ✓ Analysis of the life cycle of new solutions developed within the project.

BACKGROUND

Since the appearance of the Kyoto protocol, it has become necessary for asphalt mixture manufacturers to research 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 hot mixtures, but at manufacturing temperatures below 100 °C: the so-called warm mixtures.

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 surfaces, the milling residue generated when renewing the worn layers usually constitutes surplus waste, given the current lack of recycled bituminous mixtures capable of absorbing it on site, especially on major roads. There thus exists a shortage of solutions for using the generated milling residue and allowing it to be applied on busy roads; while known total recycling techniques do exist, such as cold mix recycling with foamed bitumen or emulsion, they have certain limitations due to the need for a curing period and lack the mechanical performance that is required, above all, just after they are laid.



More information www.lifesure.es