

RECYCLING END-OF-LIFE TYRES TO PRODUCE GOOD QUALITY ASPHALT FOR ROADS

An innovative technology of great environmental impact is the one that takes advantage of end-of-life tyres to produce a good quality asphalt for roads.

The new concern for the environment today shared at international level has drawn attention upon the technology of the [Rubberized asphalt](#), created and applied with success since the years sixties in Arizona (USA).

It consists in mixing a 15-20% of crumb rubber with materials that compose asphalt for roads (bitumen and minerals). This practice widely established in the United States where it is being implemented through regulations and national standards, is making its headway in China, Russia, Europe and Latin America.

This innovative solution, in practice, presents advantages of great interest because it allows:

- Getting rid of a polluting waste such as tyres that abound in all countries, cleaning the territories where they are discharged and discouraging practices for their disposal that damage the environment and human health;
- Producing an asphalt of a better quality than the conventional because the mixture of tyres can even duplicate the life span of the road, thanks to the flexibility of recycled rubber in resisting to temperature variations, improving resistance to deformations and cracking. This asphalt also decreases the noise level of vehicles transiting the road and greatly improves the adhesion in braking.
- Create a green supply chain to manage the recycling process of a harmful waste taking advantage of it as a raw material for a new product of high utility.

In all countries millions of used trucks, buses, tractors, motorbikes and bicycles tyres are changed annually that require careful management to be stored, disposed or recycled. Discarded tyres after having completed their life cycle, take more than 100 years to deteriorate, are often buried, stored or destroyed by incineration, causing hazards to the environment and to human health.

In many cases the tyres are dispersed in the territory and for their disposal burning practices that emit harmful gases to the environment and health are used. Disposal into dumps often favours the proliferation of rodents and insects, first of all mosquitoes that transmit dengue, malaria, yellow fever and other diseases.



The severity of the harmful effects of these uncontrolled practices of tyres management is leading most countries to implement laws and specific management initiatives.

In this context, the advantage of considering the used tyres as an abundant resource and distributed in the territories is evident, which can be valued by generating a new material of first utility to pave the roads.

The production process includes a series of stages: collecting and transferring the tyres to the treatment plants; separating the rubber of the tyres from the metal residues; crush the rubber to reduce it in grain size of less than a millimetre; adding rubber powder to bitumen and mixtures (sand and stones); taking advantage of this new material in the construction of rural and urban roads.

This production process can be fully secured by a specialized company or by a chain of associated production companies, creating jobs and income in the territories. It is estimated that 1300 tyres are needed for one kilometre of road, even though this data still depends on the technology adopted and the context. The dimension of the productive activity will obviously be adequate to the amount of accumulated tires which can be recycled, in each country and context, and the annual quantity of decommissioned tires.

Extensive information about the production process can be found on the websites of associations and companies promoting this technology in different countries.

To know more

[Rubber-asphalt in universalpave.com](http://Rubber-asphalt.in.universalpave.com)

Forconstructionpros.com

Tire recycling in Los Angeles County

Artículo en Tiresspa.com

Artículo en Prezi.com

Rubber Pavements Association website

Ecopneust.it website

Rubberized asphalt in Wikipedia

Article in pavementpreservation.org

Article in makeasmartcity.org

Pavemaintenance.wikispaces.com



[Article in miovision.com](http://miovision.com)

[Article in d-waste.com](http://d-waste.com)

[Article in tnu.es](http://tnu.es)

[Article in aliapur.fr](http://aliapur.fr)

