

Innovations



To the untrained eye, a road surface is just a layer of asphalt or concrete. But there is an abundance of products, techniques and treatments that can do everything from preventing pavement from cracking to lessening traffic noise to helping us conserve water.

Here are eight innovations in road-surface products and roadbuilding techniques that are driving the future of road construction.

1. Noise-reducing asphalt:

There have been a few cost-benefit analyses done that show that using asphalt to reduce noise levels makes more sense than constructing sound wall barriers. It's ideal for use in residential areas.

2. Eco-friendly manufacturing:

As a result of the focus on green technologies that is permeating the industry, asphalt mixes are being developed that have less of an impact on the environment.

Warm mix that meets all the specifications of a hot mix. Because it is manufactured at a lower temperature, odor, smoke, fuel consumption and emissions are reduced during manufacturing. Their by lower the carbon footprint of an asphalt-producing plant by up to 20 per cent.

3. Eco-friendly ingredients:

Another way manufacturers are making roads more sustainable from an environmental perspective is by using recycled material in the mix.

4. Computer modelling:

The advances in roadbuilding are coming in engineering areas. Computer modelling is being used much more for designing structures. Using computer modelling for a structure like an overpass, for instance, is much more effective. Engineers can test ideas and you can instantly see the impacts, including the cost impacts, of changes.

5. Water-saving pavement:

Built using porous asphalt or pervious concrete, water-saving paved surfaces allow storm water to drain through the surface into a catchment area below. The products work well in parking lots, allowing owners to collect runoff and store it for uses such as on-site irrigation.

6. Durable Pavements:

Pavements are designed to last around 50 years, compared to 20 years for conventional pavements. The durability is due to the components of superior-performing asphalts and the ability to model and analyze road systems before construction.

7. Reclamation:

Repairing roads has traditionally involved removing the old asphalt pavement and hauling it off-site for disposal. Full-depth reclamation is a repairing technique in which the old asphalt is mixed with the underlying gravel and the resulting asphalt / gravel combination is used to form a new road base.

Mixing the asphalt into the gravel has been proven to produce a better-quality base material, saves the cost and environmental implications of removing the old asphalt from the site and reduces the amount of new aggregate used.

8. Collaboration:

It's not a product or a road building technique, but it is affecting the quality of roads. "Industry partners—the roadbuilder group, transportation people from all levels of government, consulting engineers—are sharing information and best practices, and taking a much more collaborative approach in creating a solution. The result going forward is going to be better products and even more innovation.