Stretch the Road

Salameh, Mohammad

Belaid, Adam

First of all, as a country with almost no source of petroleum, the Jordanian society faces countless issues in regards to any field that requires the use of petroleum such as industry, transportation, and asphalt component production. Talking about the production of asphalt component, we in Jordan suffer from the most poorly created and spread asphalt cement for roads. This leads to the need of annual maintenance of roads which is practically unattainable considering the limited resources. Another issue caused by the poor physical properties of roads is the drastic increase in the annual rate of car accidents where they reach almost 150,000 accidents with 1000 deaths and more than 18,000 injuries in 2010. Besides, there is another cause of car accidents which is the use of second-hand tires by the deprived people, its trade reaches 21 million JD's annually. This is because of lack of awareness on the importance of tire recycling. 9 million tons of tires have reached Jordan between 2006 and 2010 only of which 0.3% is recycled. This means a huge amount of tires are wasted every year, noting that tires are disposable so after they burst they are to be sent into landfills to be either burnt or dumped underground. Sadly as tires are hydrocarbons and non-biodegradable material, neither of the disposing processes is eco-friendly. Therefore, out team came up with an idea that would work to solve both issues. The idea is the addition of rubber obtained from recycled tires to the asphalt component in order to reduce the amount of petroleum as the rubber will replace a slight percentage of the asphalt alongside which it improves the physical properties of the roads. We held several tests with changed variables through the procedure until we found the optimum asphalt component.

Awards Won: