

**Resolution**

**of the First International Central Asian Road Conference (CARC 2022),**

**Almaty, Kazakhstan**

**the City of Almaty September, 27 - 2022**

The participants of the Conference pointed out that development of a network of safe and quality motor roads is an international priority.

 Central Asian nations are implementing targeted programmes to improve their roads and enhance the coverage.

Such programmes involve major funding and material resources. In the short- and longer-term outlook the goal is to make the best of cutting-edge techniques and high-performance road construction materials so that relevant objectives are achieved.

Domestic and world-wide experience has demonstrated that an effective way to improve the quality of the road network would be a wider use of high-performance composites, asphalt-concrete (AC) mixes, polymers, and polymer-modified binders, and emulsions technology.

CARC 2022 International Conference welcomed industry experts from some 20 countries.

In the four sessions of the Conference the speakers gave over 30 scientific presentations focusing on important issues for the Central Asian road industry.

Session One examined various aspects of the road industry funding, enhancing the quality of motor roads, including asphalt-concrete pavements. The speakers have specifically noted certain features of using the FIDIC system and approaches, its role in engineering, practical experience of using it in Central Asia, as well as the need for a comprehensive motor roads management system.

Session Two on asphalt-concrete pavements featured an in-depth discussion on improving the quality of AC mixes via a number of paths and techniques. It examined rutting prevention by using high-modulus ACs and polymers introduced in the formulation right in the mixer at an AC plant.

 Session Three was devoted to bitumen-based binders quality enhancement issues and the use of Superpave. Based upon the track record of using Superpave in the Republic of Kazakhstan the Session outlined measures for its further development. The Session also offered suggestions to deal with the tight bitumen market situation during high season by setting up cutting-edge automated bitumen terminals in Kazakhstan and other Central Asian nations. Modern day equipment for PMB manufacturing, storage, and transportation was show-cased.

 Session Four focused on cold(-mixes) technology for road construction. Emulsions were characterized as being highly efficient for wear courses and rejuvenation of certain layers of the pavement system. Presentations of innovative bitumen emulsions hardware solutions and various bitumen emulsions process equipment were made.

 Considering the presentations and discussions afterwards, the participants of the International Conference recommend as follows:

1. Make suggestions to road administrations of Central Asian nations to involve novel technology, materials, and hardware in the operations of reporting organizations to achieve major improvements in the quality of road works, lower operational costs for repairs and maintenance of transportation infrastructure.
2. Propose an in-depth examination of a technical policy for the implementation of FIDIC methodology for road construction assets, and, if possible, have it made part of curricula for road industry staff.
3. Pull together the efforts of representatives of public and private sectors, scientific and design institutions for the purpose of developing a better road network in the region of Central Asia.
4. Facilitate a larger scale use of Superpave volume-based design methods for making high-performance asphalt-concrete mixes for pavements in heavy-traffic routes and pronounced continental climate.
5. Road construction community to expand the scope for AC compounds with polymers mixed in-line or PMB, emulsions technology for wear courses and surface treatment, as well as well as that for recycling solutions and ground stabilization with bitumen emulsions.
6. Road administrations to conduct training events and practical courses with detailed studies of novel techniques and methodology for making modified binders, polymer-containing AC mixes, SMA and polymer-SMA, emulsion technology, Superpave methodology; FIDIC rules courses, etc. at the premises and with the support of the Professional Upgrade Centre and **InDorTekh, LLC** Research Laboratory.
7. **InDorTekh, LLC***,* the organizer of the Conference, and Intergovernmental Council of the Road Industry to engage in efforts to organize the next Conference in the territory of Central Asia to continue the discussion of relevant issues and practical suggestions.
8. Address heads of ministries of transport and road administrations of Central Asian nations for the support and assistance in holding the annual Central Asian Road Conference CARC (organized by **InDorTekh, LLC**) in their territory, involve experts and industry professionals for the purpose.