



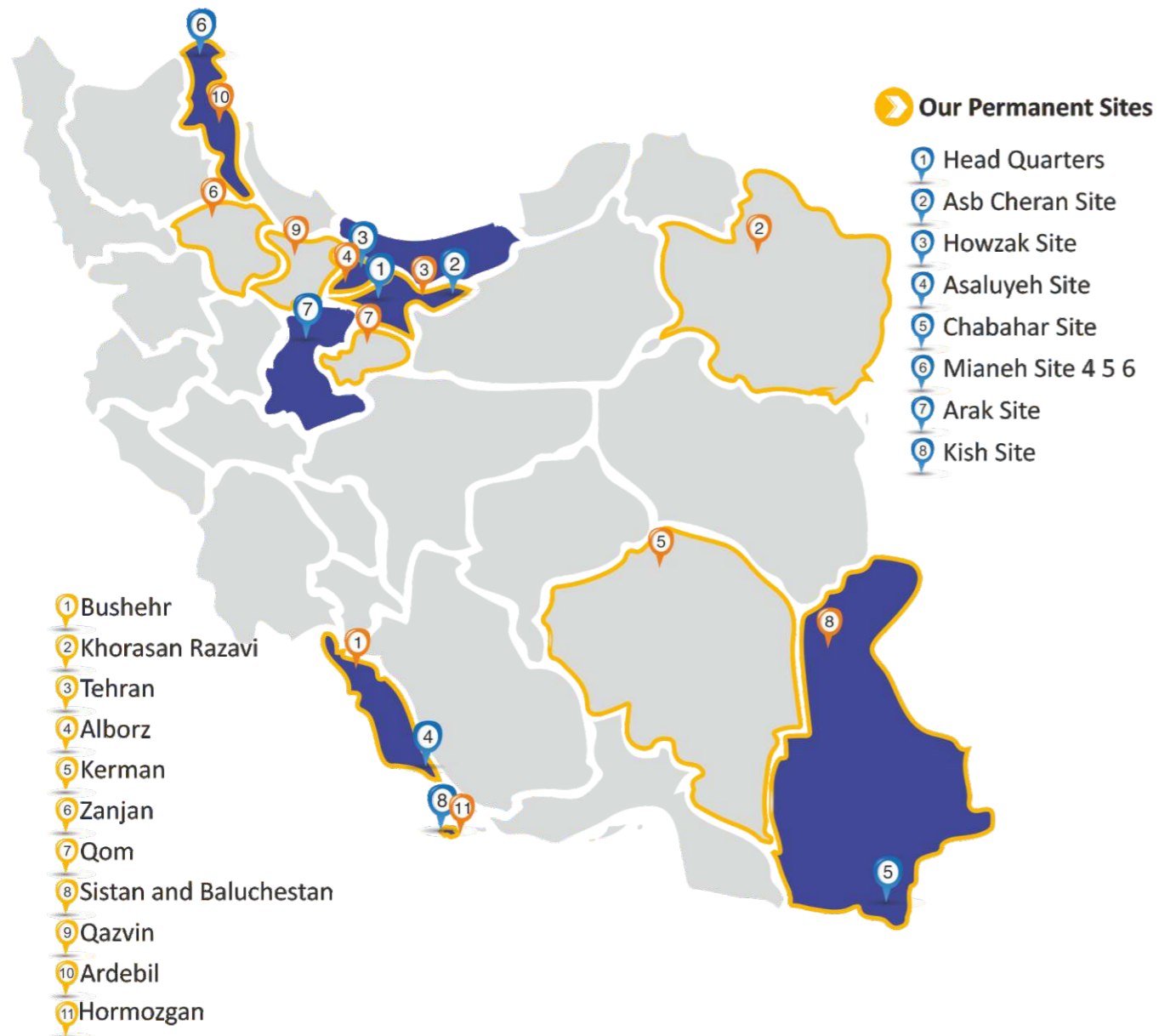
**KANDOVAN PARS**  
CONSTRUCTION COMPANY



**Brief Catalog 2019**

**KANDOVAN PARS**  
CONSTRUCTION COMPANY





**Under construction and constructed projects location**

**International Partners**



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## About Us

Kandovan Pars Construction Company was established in 1998 in Iran benefiting from decades of previous experience of its founders to implement civil and road projects and public works. With its continuous endeavor and activities in construction industry and implementation of successful civil projects across the country, the Company has offered valuable and significant services for the development and prosperity of Iran. Applying experienced managers, professional technical staff, equipped engineering groups, precise project control, research and development, quality control, value engineering and HSE units, the company has been able to play an effective role in construction of our country and implementation of national and international projects. Holding first grade of competency in contract working in two fields ; “roads and transportation” and “building and construction” from Vice-Presidency of Strategic Planning and Monitoring, the company is capable of carrying out mega projects. By registering a professional mining subsidiary company as well as its constructive presence in various sectors of development, the company has paid a great attention to mining and has endeavored exploration and exploitation activities in different mineral areas around Tehran, Alborz and other provinces. The Company has commissioned various stone crusher lines to produce sand and gravel from mountainous explosive quarries and with establishing six hot mix asphalt plants and an asphalt emulsion production plant has a significant share in producing hot mix asphalt for Tehran and Karaj metropolises and other regions. Our concrete batching plants provide required concrete for our civil projects especially in Asaluyeh region. The company is the largest certified producer of concrete for all petrochemical companies and South Pars phases.

## Human Resources

Human Resources Management as an organizational asset plays an important role in the success of projects and demands a powerful management system. Recruiting, monitoring, developing and motivating people are the main elements of the dominant management system. Furthermore, the specialized and skilled individuals and professors of high-ranked universities are employed to implement the projects as good as possible.

Training, as a substantial element of Human Resources Management is highly considered and causes a win-win situation for both employees and company development.

The high educational standard of the current Human Resources Department of Kandovan Pars is shown in the following diagram:



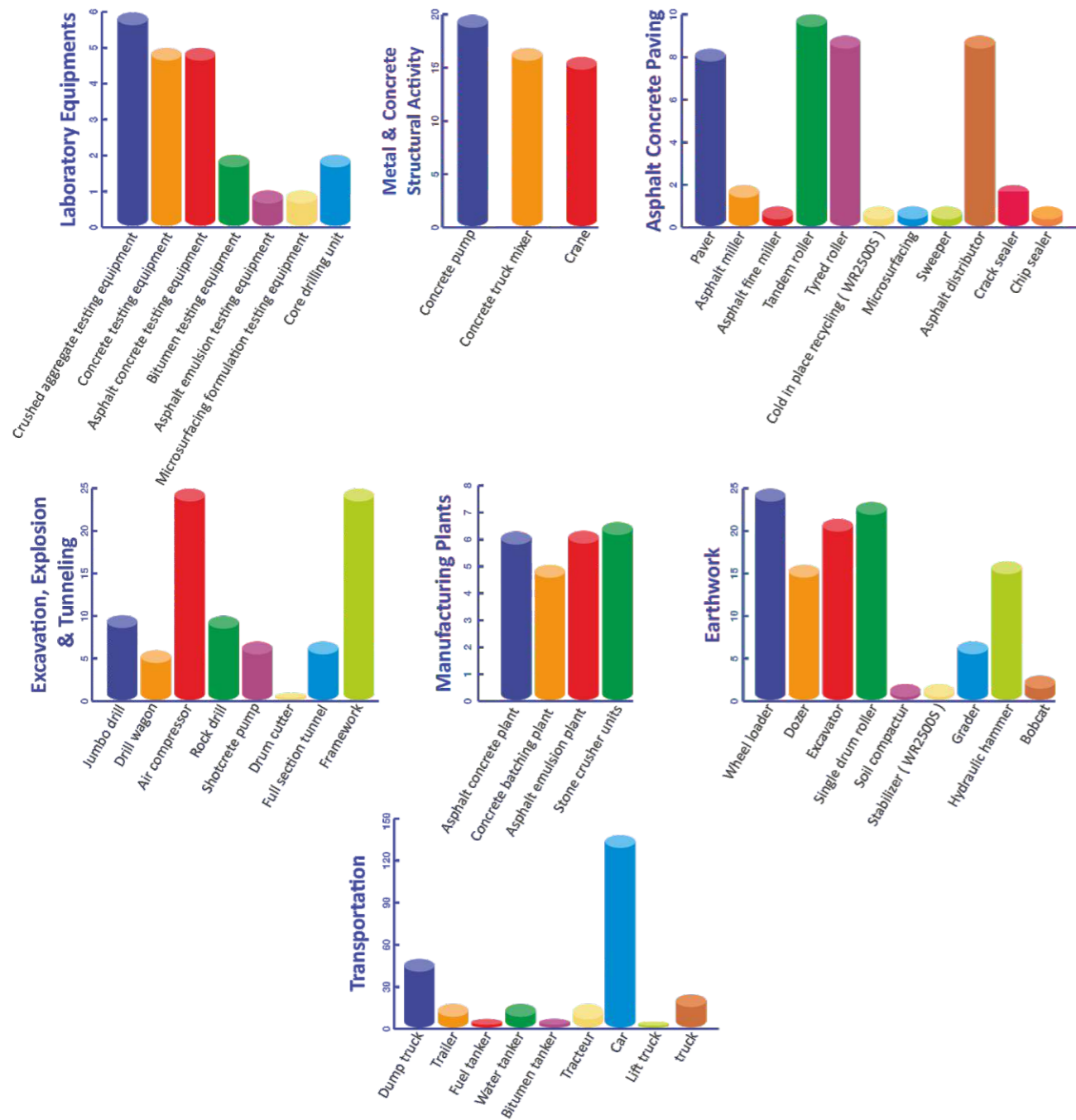
## Machinery & Equipment

Kandovan Pars has high standards for machinery and equipment the main components of project implementations. Therefore, the Department of Machinery and Equipment has been established to achieve a specialized management and increase efficiency. Documentation, utilization of special softwares, application of modern and appropriate machines, etc. are the tools that help this unit to manage the Kandovan Pars fleet.

The most important goals of this unit are as follow:

- increasing efficiency of fleet
- increasing quality of project implementation
- reducing the costs of operation and maintenance
- reducing the risks and probability of faults in projects
- increasing availability of equipment

Existing machinery and equipment are as follow:



## Certificates & Memberships

- Vice-Presidency of Strategic Planning and Monitoring
- First Grade in "Road Construction and Earthworks"
- First Grade in "Building and Structure Construction"
- Second Grade in "Hydraulic and Marine Structures"
- Third Grade in "Facilities and Equipment"



- International Certificates
- ISO 9001 : 2008
- ISO 14001 : 2004
- OHSAS 18001 : 2007
- HSE – MS IMS
- Integrated Management System (IMS)



### Certificate & Membership

- National Road Construction Society
- National Construction Society
- National Tunnel Construction Society
- Pavement Engineering Association of Iran
- Iranian Asphalt Producer Association
- HSE
- International Bitumen Emulsion Federation



- Technical Certificate of Road, Housing and Urban Development Research Center for Six Asphalt Plants and one bitumen emulsion plant unit



## Production Activities

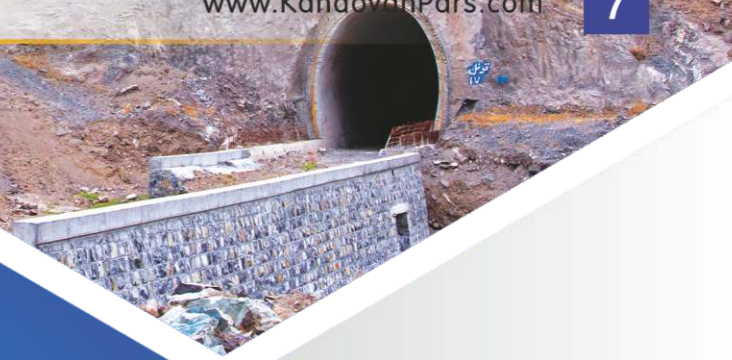
Standard Crushed Gravel and Sand Extraction from Blasting Type Quarries  
 All Kinds of Conventional and Modern Asphalt Mixtures Production  
 Packed Cold Mix Asphalt  
 All Kinds of Bitumen Emulsion Production  
 Ready-Mixed Concrete and Pre-cast Segmental Concrete Production  
 Extraction of Metal and Non-Metal Minerals



## Construction Activities



Railway Construction  
 Road Construction and Maintenance  
 Airfield Construction  
 Heavy Industrial Complex Structures Construction  
 Oil, Gas and Petrochemical complex construction  
 Residential, Commercial and Administrative Complex construction  
 Dam Construction  
 Pipelines and Water Conveyance Networks Construction  
 Bridge Construction  
 Tunnel Construction





## Road Construction & Earthwork Projects

- Subsidiary Operation of Substructure 2/C Mianeh - Ardebil Railway
- Substructure of Mianeh - Ardebil Railway - Part 3B
- Maintenance and Safety Works in Section 2/B tunnels of Mianeh - Ardebil railway
- Construction of Access Road for Water Conveyance from Hajilarchai Dam to Songoon
- Implementation of Site's Western & Southern Access Road along with Flood Leading Channel of West Side of Makran - Chabahar Steel Project
- Earthworks, Soil Stabilization & Preparation of 200 Hectares of Asaluyeh Petrochemical Complex
- Earthworks & Preparation of Dena Petrochemical Complex Site in Asaluyeh
- Earthworks and Preparation of Plant Site and Associated Buildings of Darre Aloo Copper Mine
- Construction of West Runway of Damavand City
- Access Road Construction to Nayband Gulf in Asaluyeh
- Preparation & Construction of Internal Roads and Installation Corridors of Makran Petrochemical Complex in Chabahar
- Earthworks and rough grading of I3 and S2 roads
- Earthworks of Phase 3 of Urea & Ammonium of Pardis Petrochemical Complex in Asaluyeh
- Earthworks of Phase 24-22 of Tondgouyan in South Pars Complex of Asaluyeh
- Earthworks & Demolition of Concrete Structures of Boushehr Petrochemical Complex in Asaluyeh
- Paving of A2 & A3 Installation Corridor in Asaluyeh City (Phase 1)
- Earthworks of C.F Site in Asaluyeh
- Earthworks & Material Transportation of 15th & 16th Phases of South Pars Complex in Asaluyeh

Maintenance Works in Section 2/B Tunnels of Mianeh - Ardebil Railway

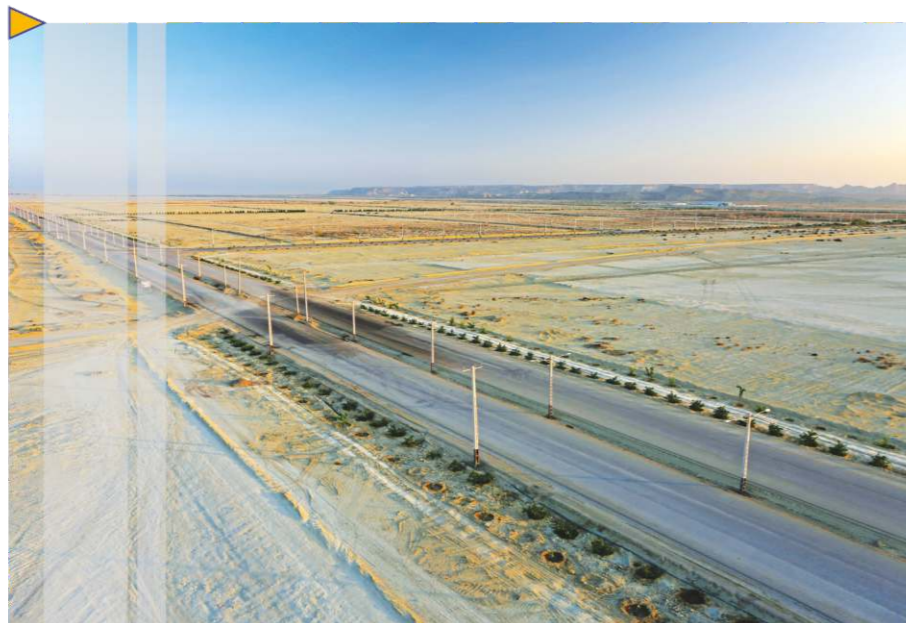


Trenching & Preparation of Second Phase of Asaluyeh Petrochemical Complex



Construction of Access Road for Water Conveyance from Hajjiarchai Dam to Songoon Lead Complex

Preparation of Access Roads & Installation Corridors of Makran Petrochemical Complex in Chabahar



Earthworks of Phase 22-24 of Tonggouyan in South Pars Complex of Asaluyeh

Construction of West Ringway of Damavand City



Mianeh - Ardebil Railway - Part 3B

- Earthworks of Persian Gulf Highway (Bozbaz-Bandu) in Asaluye
- Stabilization, Sub-base & Pathway Construction of Meygoon-No
- Supplementary Earthworks & Sub-base of Hydroponic Site of Hashtgerd New City
- Supplementary Preparation Works of Hashtgerd New City (Phase 3)
- Earthworks of Hashtgerd Residential Buildings (Phase 3)
- Earthworks & Asphalt Implementation of Parts of Pardis New City (Phases 1,2,3)
- Earthworks of Mosala in Pardis New City
- Earthworks of Main Building of Mosala in Pardis New City (Phase 3)
- Earthworks & Preparation of 80 and 360 Hectares of Andisheh City
- Earthworks of Base & Sub-base of Shahid Lajevardi Site in Tehran
- Earthworks of Kharazmi Industrial Complex in Tehran
- Earthworks & Asphalt Implementation of Nasir Abad Industrial Complex
- Construction of West Lane of Sa'adat Abad's Bargh Blvd.
- Be'sat Blvd. Construction in Tehran (Phase 1)
- Sub-base Implementation of Chitgar Complex (Shahriar-Safadasht)
- Sub-base & Base & Paving of Mehrabad-Abas Abad in Damavand Axis



Earthworks & Asphalt Implementation  
of Parts of Pardis New City (Phases 1,2,3)



Asphalt Cutting, Stabilization &  
Pavement of Payam St. in Lavasan Cit

Tunnel on the Mianeh – Ardebil Railway – Part 3B







## Asphalt Mix Overlays & Protective Layers Projects

- Subbase Construction, Asphalt Pavement Patching Operation, Utility Cuts Repairing, and Microsurfacing Execution in Kish Island Roads
- Soil Stabilization with Cement in Rahjerd - Salafchegan Road
- Hot Mix Asphalt Pavement, and Asphalt Pavement Patching Operation in Roudehen – Polour Road
- Rehabilitation and hot Mix Asphalt Overlay of Rajayi Dasht – Moalem Gelaye road
- MEG Unit Hot mix asphalt pavement
- Subbase Construction, and Hot Mix Asphalt Pavement of Site No. 3
- Hot Thin-Layer Polymer Modified Asphalt of Karaj – Qazvin Highway (Karaj – Hashtgerd)
- Hot Mix Asphalt Pavement of Bolbol Khan and Tunnel No. 5 in Amol – Tehran Road
- Hot Mix Asphalt Pavement of Chabahar Port Access Road
- Hot Mix Asphalt Pavement of Pardis Phases No. 4, 5, 8, 9, and 11
- Hot Asphalt Mixture Pavement in Chabahar-Gooatr- 60Km
- Hot Asphalt Mixture Pavement in Karaj-Chalous Road with polymer Modified Bitumen
- Seal Coating Operation with Polymer Modified Bitumen and Protective Asphalt Pavement of Microsurfacing in the Territory of Khorasan Razavi
- Protective Cape Seal Asphalt Pavement Containing One Layer of Chip Seal & Two Layers of Microsurfacing in Salafchegan-Delijan Road
- Seal Coating and patching Operation and Protective Asphalt Pavement of Microsurfacing in Iranshahr-Bam Road
- Protective Asphalt Pavement of Microsurfacing in Firouzabad-Jam Road
- Hot Asphalt Mixture Pavement, Seal Coating and patching Operation and Protective Asphalt Pavement of Microsurfacing in Qazvin-Rasht Road
- Subbas and Base Earthwork and Pavement Rehabilitation of Yasini Highway (North to South – 12 km)
- Hot Thin-Layer Polymer Modified Asphalt of Firouzkoo-Damavand Road
- Design, Construction & Rehabilitation of Karaj-Hashtgerd-Abyek Road by Hot In-place Recycle & Polymer Modified Asphalt Overlay
- Protective Asphalt Pavement of Microsurfacing in Salafchegan-Delijan
- Pavement of East Alamut Rural Roads

Colored Asphalt Purchasing & Pavement in Lavasan City



Design, Construction & Rehabilitation of Karaj-Hashtgerd-Abyek Road by Hot In-place Recycle & Polymer Modified Asphalt Overlay Method



- Road Rehabilitation of West Alamut Rural Roads
- Rehabilitation and Stabilization Operation with Cement of Aloulak-Dastjerd Road
- Rehabilitation and Hot Mix Asphalt Overlay of Alborz Roads
- Rehabilitation of Alamout and Alborz Roads
- Implementation of Site's Western & Southern Access Road along with Flood Leading Channel of West Side of Makran - Chabahar Steel Project
- Asphalt Pavement of Makran Petrochemical Complex in Chabahar Free Zone
- Sub-base and Hot Mix Asphalt Implementation of Chabahar Rural Roads
- Asphalt Purchasing for Repairment, Patching and Asphalt Overlay Implementation in Konarak-Zarabad
- Colored Asphalt Purchasing & Pavement of Lavasan's Municipality
- Asphalt Pavement of Lavasan City (In 5 Contracts)
- Asphalt Cutting & Roller Compacted Concrete Implementation & Polymer Modified Asphalt of BRT Stations in District 6 in Tehran
- Asphalt Pavement of Haraz Road (Phase 1 of Emamzadeh Hashem-Polour)
- Seal coating, Patching and Asphalt Pavement of Haraz Road
- Supplementary Works for Underpass Intersection Between Mosha & Haraz Way
- Curb Installing, Sub-Base and Asphalt Pavement of Mosha's Main Road
- Asphalt Pavement of Haraz Road (Abshar Tunnel zone)
- Asphalt Production & Pavement of Firoozkooch Industrial Complex Streets
- Asphalt Pavement on Intersections of Electric Train Route of golshahr- Hashtgerd New City



Protective Cape Seal Asphalt Pavement Containing One Layer of Chip Seal & Two Layers of Microsurfacing in Salafchegan-Delijan



Hot Thin-Layer Polymer Modified Asphalt in Karaj-Chalous Road

Hot Thin-Layer Polymer Modified Asphalt of Karaj – Qazvin Highway (Karaj – Hashtgerd)



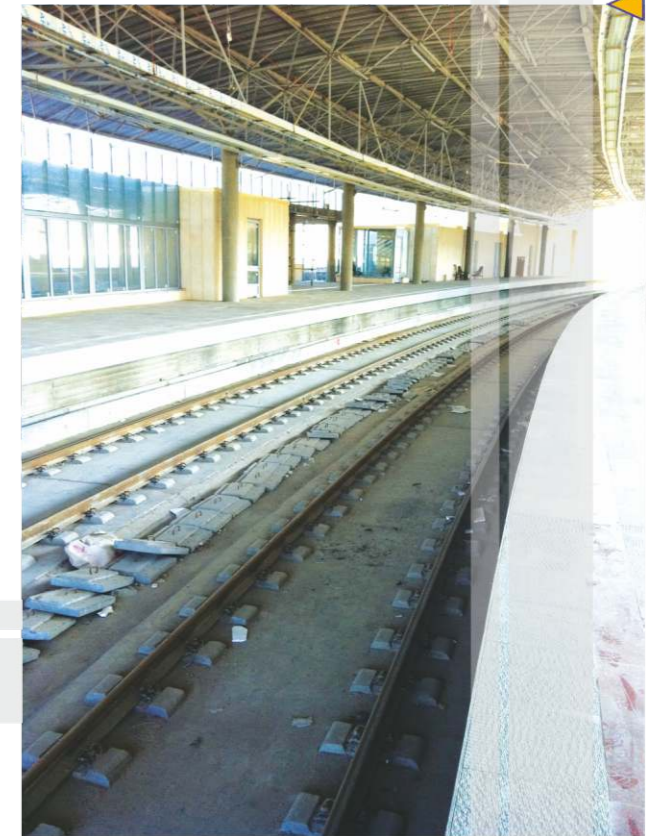
- Asphalt Pavement on Bridge & Intersections of Subway Route of Hashtgerd New City
- Asphalt Pavement of the Main and Secondary Passages of Hashtgerd New City
- Sub-base, Soil Stabilization with WR and Asphalt Pavement of, Passways in Ushan-Fasham-Meygoon City
- Hoomand-Absard Road Optimization and Asphalt Pavement of West & East Lane of Absard Blvd. Asphalt Patching in Tehran
- Rehabilitation & Overlaying Asphalt Pavements in Tehran City
- Rehabilitation of Lashgari Highway West to East Rout
- Rehabilitation of Lashgari Highway East to West Route in Tehran
- Asphalt Rehabilitation & Pavement of Babayi Highway in Tehran
- Asphalt Pavement of Emam Khomeyni- Farhang Street
- Mechanized Asphalt Pavement in Damavand City
- Sub-base & Asphalt Pavement of Mehrabad-Abas Abad Rural Road
- Earthwork, Road Construction, Curb Installing and Asphalt Pavement of Some Sections of Pardis New City (Phase 1 & 2)
- Transportation & Asphalt Pavement in Phase 8 of Pardis New City
- Asphalt Pavement of Afjeh-Bargeh Jahan Rural Road
- Asphalt Pavement of Boomehen Main Blvd.
- Asphalt Pavement in Roodehen City
- Purchasing Asphalt to Repair and Patch the Chabahar-Nikshahr-Konarak Road
- Sub-base & Asphalt Pavement of Meygoon Passways
- Asphalt Rehabilitation & Pavement of Artesh, Sayyad Shirazi & Emam Ali Highways in Distric 1 Area in Tehran
- Asphalt pavements in Zone No.1 in Tehran
- Asphalt Pavements of Persian Gulf Highway in Bozbaz-Bandou Section
- Asphalt Works (Asphalt Production, Transportation, Implementation, Cutting, Patching and Seal Coating) of Streets & Highways in Zone No.1 in Tehran
- Hot Mix Asphalt Production and Implementation of Gharargah Khatam ol Anbia- Arvandan institute
- Asphalt pavement (Mahmoudieh Complex Project)
- Asphalt Pavement of West Lane of Electricity Administration of Tehran Placed in Sa'adat Abad
- Asphalt Purchasing, Pavement, Transportation, Implementation & Compacting for Parsgarma Construction Co.



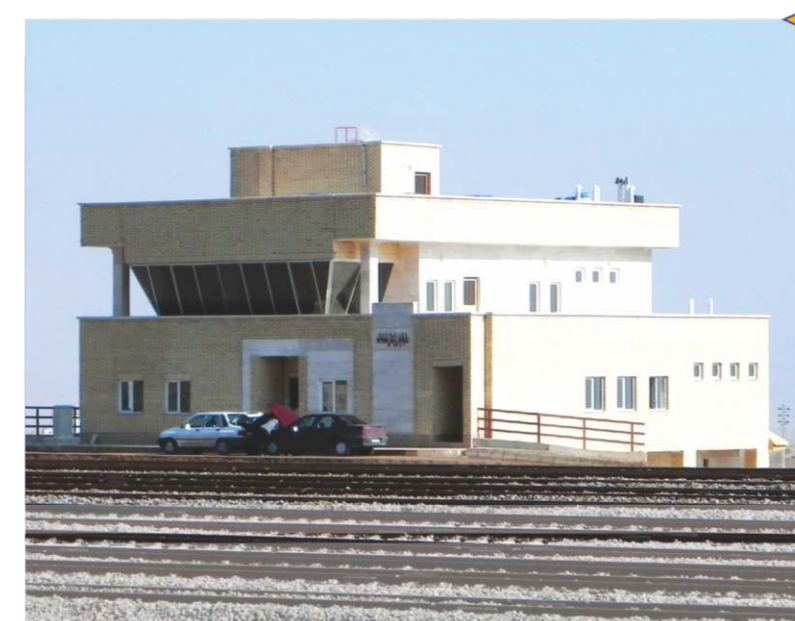
- Railway Station Implementation of Sangan Including Construction of All Buildings, Rails Sub-base & Base
- Construction of Special Bridges for Mianeh - Ardebil Railway
- Sub-Base Supplementary operations of 2/C section of Mianeh – Ardebil Railway
- Substructures of Mianeh-Ardebil Railway - Part 3/B
- Tunnel Safety and Protective Operations of 2/B Section of Mianeh – Ardebil Railway
- Building Construction of Zanjan Railway Station & Administrative Building of North-West Railway
- Installation of Signaling Instruments of First Urban Train Lane of Tabriz



Installation of Signaling Instruments  
of First Urban Train Lane of Tabriz



## Urban & Suburban Railway Projects



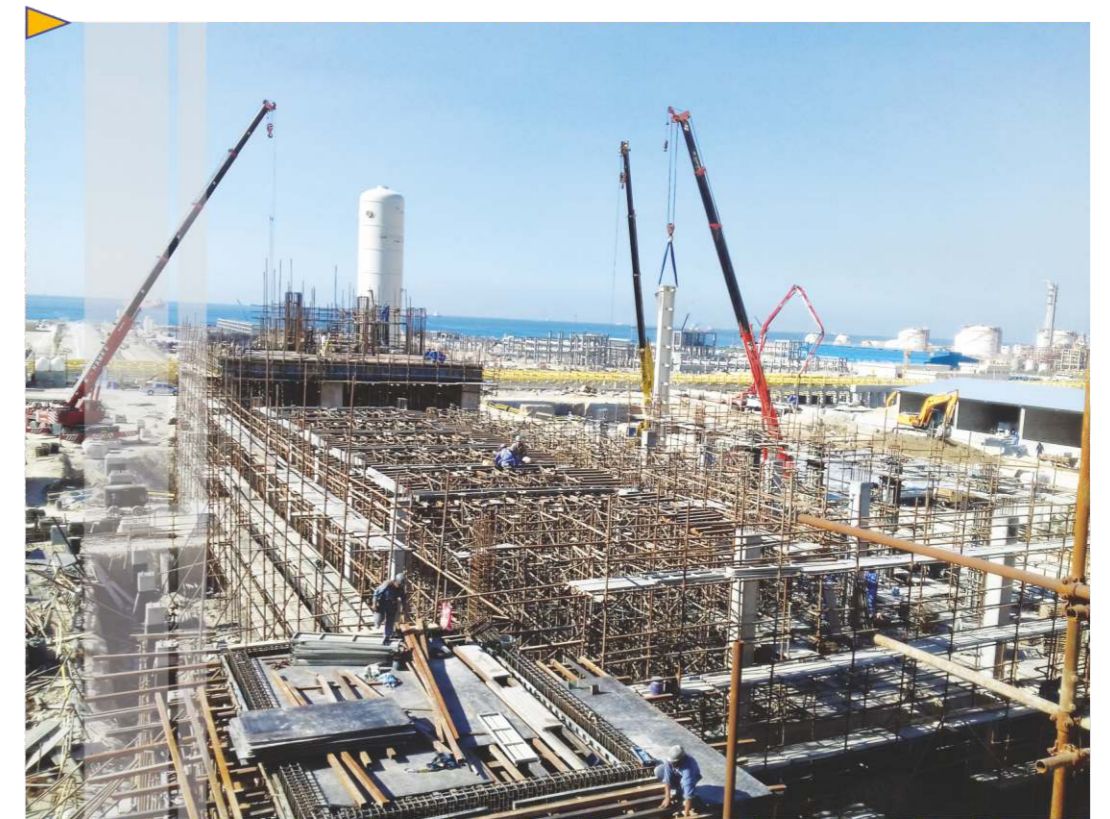
Traffic Control of  
Sangan Railway Station



## Building & Structural Construction Projects

- Civil Works and Building Construction and Underground Pipeline Installation of Methanol and Ammonia Production Project in Petrochemical Complex Phase. 2
- Civil Works & Concrete Structures Construction of Morvarid & Kavian Petrochemical Complexes in K2 Route in Asaluyeh
- Civil Works & Concrete Structures Construction of Cooling Tower of Boushehr Petrochemical Complex in Asaluyeh
- Industrial Civil Works, Building & Underground Pipelines of Sweetening Unit of Boushehr Petrochemical Complex
- Industrial Civil Works, Building & Underground Pipelines of Air Unit Project (ASU)
- Paving of Sweetening Unit of Boushehr Petrochemical Complex in Asaluyeh
- Industrial Civil Works, Building & Underground Pipelines of Utility Site 3
- Construction of Special Bridges for Mianeh - Ardebil Railway

Industrial Civil Works, Building & Underground Pipelines of Air Unit Project (ASU) of Boushehr Petrochemical Complex in Asaluyeh



Construction of Ehtemam Jam Factory in Asaluyeh

Industrial Civil Works, Building & Underground Pipelines of Air Unit Project (ASU) of Boushehr Petrochemical Complex in Asaluyeh



Civil Works & Concrete Structures Construction of Cooling Tower of Boushehr Petrochemical Complex in Asaluyeh (Site 3)

Civil Works, Industrial Civil & Underground Pipeline of Sweetening Unit of Boushehr Petrochemical Complex in Asaluyeh



Construction of Sheikh Bahayi GIS Electrical Post in Tehran

Civil Works & Concrete Structures Construction of Morvarid & Kavian Petrochemical Complexes in K2 Route in Asaluyeh ( L1-L2 Bridge)



Building Construction of Zanjaan Railway Station





Construction of Retaining Wall around Morvarid & Kavian Petrochemical Complexes in Asaluyeh



Construction of Azad University Building in Ray City



Construction of North Wall of Site 2 of Boushehr Petrochemical Complex in Asaluyeh



Civil Works, Industrial Civil & Underground Pipeline of Sweetening Unit of Boushehr Petrochemical Complex in Asaluyeh



Construction of Instalation Culvert & Sleepers in Kavian Petrochemical Complex in Asaluyeh

Design, Procurement & Construction of Bidkhoon Residential Complex in Asaluyeh



- Building Construction of Zanjaan Railway Station
- Construction of Dispatching Building of South Gas Complex in Asaluyeh
- Design, Procurement & Construction of Bidkhoon Residential Complex in Asaluyeh
- Construction of Sheikh Bahayi GIS Electrical Post in Tehran
- Construction of Ehtemam Jam Factory in Asaluyeh
- Counstruction of Administrative Building Site of Makran Petrochemical Complex in Chabahar
- Retaining Wall Construction of Morvarid & Kavian Petrochemical Complexes in Asaluyeh
- Construction of North Wall of Site 2 of Boushehr Petrochemical Complex in Asaluyeh
- Construction of West Wall of Site 2 of Boushehr Petrochemical Complex in Asaluyeh
- Basic Repairs & Technical Buldings of Chabahar- Guatr Axis
- Landscaping of Residential Buildings of Konarak (Phase 6 & 8)
- Construction of Azad University Building in Ray City

Paving of Sweetening Unit of Boushehr Petrochemical Complex in Asaluyeh



Counstruction of Administrative Building Site of Makran Petrochemical Complex in Chabahar



Civil Works, Industrial Civil & Underground Pipeline of Sweetening Unit of Boushehr Petrochemical Complex in Asaluyeh



Construction of West Wall of Site 2 of Boushehr Petrochemical Complex in Asaluyeh

Civil Works & Concrete Structures Construction of Morvarid & Kavian Petrochemical Complexes in K2 Route in Asaluyeh ( Connecting Bridge of Phase 1 & 2 )



Air Compressor Foundations of ASU Project







## Hydraulics & Water Conveying Structures Projects

- Construction of Detention Dams in Asaluyeh
- Construction of Concrete Weir Boxes & Outlet Hot Waters Conveyance System of Morvarid Petrochemical Complex in Asaluyeh
- Design & Implementation of Sewage Refinery of Shirino Hotel in Asaluyeh
- Construction of Water Conveyance Network to the Zones of Ardebil City
- Procurement & Construction of Water Conveyance Network from Shi Kalak Reservoir Dam
- Construction of Diversion Dykes in Chabahar Free Zone
- Concrete Cover of Channels of South Pars Gas Complex (Phase 3 & 2) in Asaluyeh
- Inlet & Outlet Pipes Implementation of Boushehr Petrochemical Complex Cooling Towers in Asaluyeh (Site 3)

Construction of S3 Detention Dam in Asaluyeh



Procurement & Construction of Water Conveyance Network from Shi Kalak Reservoir Dam



Construction of S4 Detention Dam in Asaluyeh



Design & Implementation of Sewage Refinery of Shirino Hotel in Asaluyeh



Construction of Water Conveyance Network to the Zones of Ardebil City

Inlet & Outlet Pipes Implementation of Boushehr Petrochemical Complex Cooling Towers in Asaluyeh (Site 3)





## Quarries & Production Sites

In order to provide high-quality construction materials for its own & other projects, Kandovan Pars Company exploits limestone from mountainous mines & produces mountainous sand & gravel, hot mix asphalt with mountainous aggregates, bitumen emulsion, Ready-mixed concrete & precast concrete segments in the best quality. The Company possesses five mountainous quarries to produce sand & gravel, six asphalt plants each of which with 160 tons capacity per hour, six batching units to produce ready & precast concrete and different stone crusher lines.

- Mountainous mine with 2,000,000 tons per year capacity
  - Two asphalt plants with the total capacity of 300,000 tons per year
  - Stone crusher lines with the capacity of 5000 tons per day
  - Bitumen storage capacity of 1,000 cubic meter
  - Well-equipped laboratory for quality controlling of bitumen, asphalt mix, concrete & aggregates
  - Ready-mixed concrete producing plan
- Asb Cheran Quarry**  
(East of Tehran – Damavand)

- Mountainous mine with 1,000,000 tons per year capacity
- Two asphalt plants with the total capacity of 300,000 tons per year
- Stone crusher lines with the capacity of 5000 tons per day
- Bitumen storage capacity of 1,000 cubic meter
- Well-equipped laboratory for quality controlling of bitumen, asphalt mix, emulsion & aggregates
- Asphalt emulsion production unit

### Howzak Quarry (West of Tehran - Abyek)



### Mianeh Site

- Stone crusher lines for producing sand & gravel
- Ready-mixed concrete production plant



## Chabahr Site

- Asphalt plant with the total capacity of 150,000 tons per year
- Stone crusher lines to produce sand & gravel
- Well-equipped laboratory for quality controlling of bitumen, asphalt mix, concrete & aggregates
- Ready-mixed concrete production plant
- Extraction of metal minerals like Manganese



## Asaluyeh Site

- Three ready concrete production plants
- Precast segment concrete production site
- Engineering & accommodation camp
- Parking & repair site for heavy machinery
- Well-equipped laboratory for quality controlling of bitumen, asphalt mix, concrete & aggregates

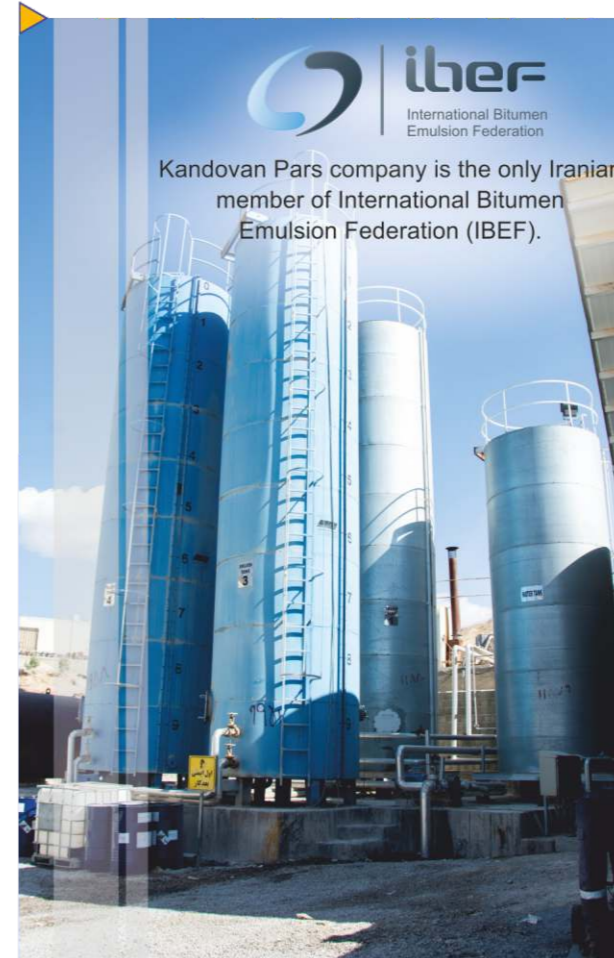


## Arak Site • Extraction of poly-metal minerals like Lead, Ferro &amp; Zin

Qazvin Site  
(Alamout)

- Asphalt plant with the total capacity of 150,000 tons per year
- Well-equipped laboratory for controlling the quality of bitumen, asphalt mix & aggregates





Benefiting a full automatic bitumen emulsion production plant made by Emulbitume from France, formulate and produce polymer modified bitumen emulsions compatible with materials and aggregates used in road construction projects. This unit has the ability to produce 10 tons of emulsion per hour and consists of storage tanks with a capacity of 250 tons in total. It not only has the ability to produce all types of bitumen emulsion but also is capable of producing various types of polymer modified emulsion with polymer modified bitumen or by inline SBR (Latex) injection. Well-equipped quality control laboratory beside this plant is able to perform bitumen emulsion tests based on ASTM & EN standards.

The bitumen emulsion plant is capable of producing any type of emulsions as follows:

- 1- Rapid setting cationic emulsions (CRS) with neat and polymer modified bitumen for Tack Coat or Chip Seal applications
- 2- Slow or medium setting cationic emulsion (CSS) with neat and polymer modified bitumen for Prime Coat & Cold Mix applications
- 3- Quick setting cationic emulsion (CQS) with neat and polymer modified bitumen for Slurry seal & Microsurfacing applications

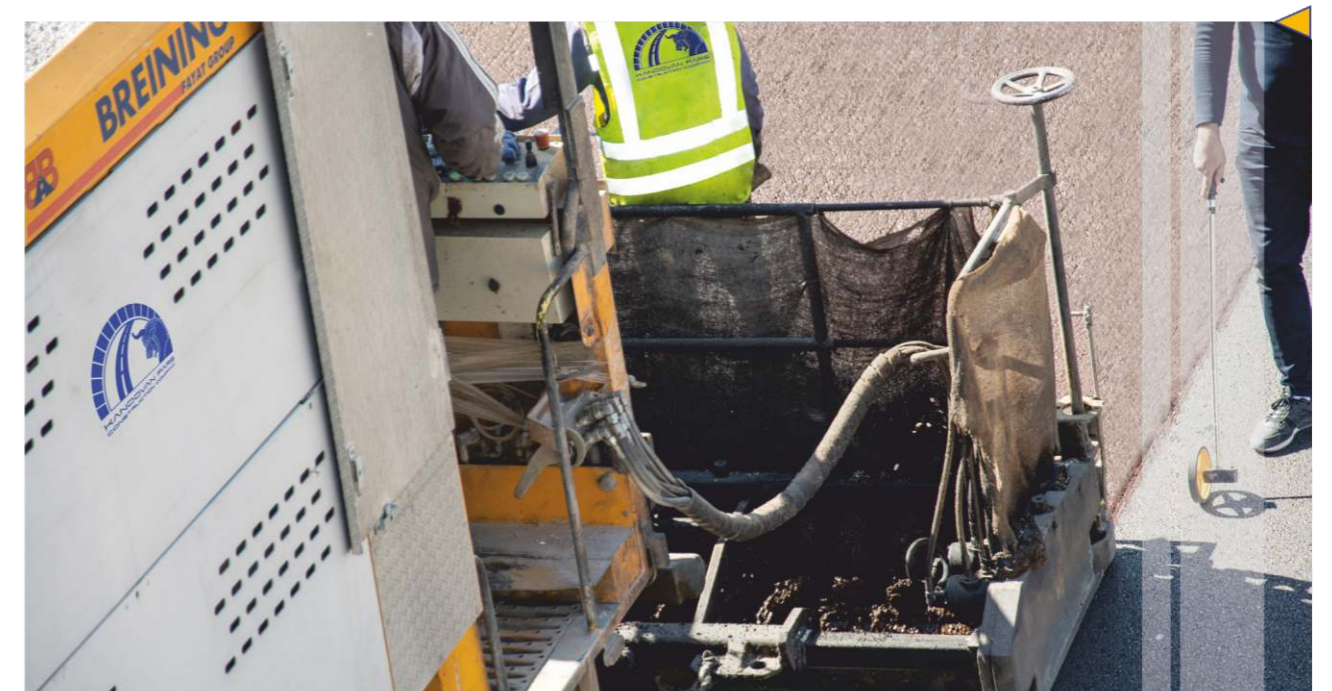
## Bitumen Emulsion Production Plant



## Design & construction of Protective Layers Slurry Seal & Microsurfacing

KandovanPars Company purchased a Microsurfacing machine from Breining in 2015. It is currently used for microsurfacing and slurry seal application projects in Iran. This machine operates electro-hydraulic at the highest possible capacity. It also provides the possibility of adding fiber to the mixture.

Microsurfacing is a thin layer of polymer modified cold emulsion mix which is laid on the surface of the existing pavement. It is a mixture of dense graded aggregate, typically 6-10 mm maximum size, reactive mineral filler such as cement or lime, water, additives to adjust breaking time and polymer modified bitumen emulsion. The mixture sets within 15 to 30 minutes after application and may be trafficked in one hour. This type of emulsion mix provides treatments for raveling, loss of skid resistance and minor cracks. Moreover, using this technology as a preventive maintenance activity increases the lifespan of the pavement and decreases maintenance costs. KandovanPars Company has signed an exclusive agreement with Eiffage Company and is implementing the Microsurfacing projects in Iran under their supervision. Based on this agreement, all stages of design, production, implementation construction and, additive usages are carried out under the French company license.





## Quality Control Unit

### Quality Control Department

By taking full advantage of testing equipment in concrete, asphalt mixture, stone aggregates and, bitumen field, the quality control department of this company has well supervision on all products and materials used in road construction projects. Providing quality assurance is also the main policy of Kandovan Pars so that by defining certain approaches, production of materials at an acceptable level of standards is guaranteed. In addition to satisfy all specifications for produced and used materials, this unit also provides laboratory services to other costumers and all authority needs concerning the usage of modern technologies and new construction materials will be fulfilled. Moreover, new facilities, experienced and highly-educated staff, make wide access to the data and knowledge for our customers.

### Laboratory services:

- Preventive Maintenance Mixture tests
- Bitumen Tests
- Producing Bitumen Emulsions and Modified Bitumens
- Asphalt Mix design and Quality Control Tests of Production and Laydown
- Moisture Durability of Asphalt Mixtures
- Recovery of Bitumen Testing
- Mineral aggregate and Soil Tests
- Concrete Mix Design and Quality Control Tests

This unit has the ability to perform tests & mix design of slurry seal & microsurfacing based on ISSA, ASTM & EN standards. The laboratory Equipment is supplied by Cooper from England, and Benedict from the USA.

Variety is one of the main features of bitumen in road construction. All performed quality control tests on bitumen are as follows:

- Neat Bitumen
- Cutback
- Bitumen Emulsions
- Polymer Modified Bitumen

In order to evaluate and optimize the specification and performance of emulsion, producing unmodified and polymer modified emulsion in the laboratory is possible by using Atomix device made by Emulbitume from France. Moreover, bitumen modification with polymer and other additives is done by the high shear mixer.

Asphalt mix design is a process to specify the bitumen and aggregate type and properties and determine the optimum content of each one. Different methods are available to specify mix properties. Marshall method is the most common method in Iran and other countries. Dense-graded (HMA), open graded and gap-graded mix design is provided and All tests during production and laydown for volumetric and stability characteristics are performed at this unit.

Furthermore, following tests are performed to evaluate moisture susceptibility of asphalt mixtures:

- Determining Tensile Strength Ratio (TSR)
- Determine Marshall Stability Ratio
- Determining Compressive Strength Ratio
- Boiling Water Test

Concrete mix design is a process to determine optimum properties for concrete components so that the concrete is produced as affordable as possible and meet the necessary requirements including compressive strength, workability, and durability. Concrete mix design, compressive strength and, slump tests on fresh concrete is also performed in this unit.



## Research & Development Department

Research and development is a coherent and creative activity which is used to increase technical knowledge and also used in innovation and design of new applications. The research and development process involves identifying needs, emerging ideas, designing, manufacturing, and introducing a new product or technology. Relying on its technical team and experienced consultants, the research and development department of KandovanPars company has the ability to analyze and develop appropriate solutions to the activities related to the company and is able to do a variety of research and applicable projects especially in the field of modern technologies, materials. This company has also a great record in providing scientific articles, holding seminars, and training courses. The main tasks of Kandovan Pars Research and Development department are as follows:

- Development research
- Materials production management and reducing production costs
- Developing the products based on qualitative criteria
- Designing and manufacturing new products considering their functional advantages
- Increasing the use of domestic materials and resources in material production
- Optimization of processes by emphasizing on the improvement of office automation in projects.
- Increasing productivity by measuring and promoting the factors affecting production and construction

A part of Kandovan Pars activities carried out recent years have been engaged in the purpose of product development and production management, which are as follows:

- Preventive Maintenance Treatments of Asphalt Pavement Such as Cape Seal, Chip Seal, Microsurfacing & Scrub Seal
- Hot Polymer Modified Thin-layer Asphalt
- Polymer Modified Asphalt (PMA)
- Porous Asphalt
- Stone Mastic Asphalt (SMA)
- Using Geosynthetics and Geogrids in Pavements
- Evaluating Benefits of Using Limestone Aggregate in Asphalt Mixes
- Asphalt Recycling Methods, hot and Cold In-Place, Using RAP
- Modified Asphalt Mixes with Non-polymeric Additives
- Producing and Laydown Cold & Warm Mix Asphalts
- Fiber Reinforced Asphalt Mixes
- Manufacturing Methods of Colored Asphalt Mixes
- Producing and Construction of RCC
- Producing SCC, High Strength and Fiber Reinforced Concrete

Stone crushers & crushed aggregate stock - Asb Cheran site



### Advantages of Crushed Limestone in Asphalt Mixes

The superiority of using gravel and sand with mountain origin as a replacement for river aggregates is clear to everyone. Insofar as in all references, using aggregates with mountain origin is recommended if available, otherwise, the use of river aggregates is allowed while at least 90 percent of fractured faces is supplied and lime filler and special additives are used.

### Some of the advantages of Crushed Dolomite (Limestone):

- More Moisture Durability
- Compressive and Shear Strength Increase
- Environment Adaptive Because of the Light Color
- Permanent Deformation Reduction & Rutting Resistance Increase
- Bitumen Properties Improvement Caused by Using Lime Filler
- Higher Stability & Durability of Asphalt Mixes and Lower Reflective Cracks
- More Compatibility with Asphalt Mix Design in Long-term because of the Homogeneous Source
- Higher Performance in SMA & PMA
- No Need to Use Antistripping Additive
- Less Optimum Bitumen Content
- Less Water Absorption
- Cost Effective in Long-term

### Ready to Use Cold Asphalt

KandoPatch is a high performance, polymer-modified, ready to use, cold asphalt capable of providing a simple, fast, and permanent solution to potholes repairs. KandoPatch can be utilized in any weather conditions and is the most cost-effective and the easiest way for a smooth and integration repair to bituminous or concrete surfaces.







## Exclusive Distributions

Kandovan Pars Company, in addition to continuous activity and effort in construction of successful large-scale projects around the country, is honored to hold exclusive distribution contracts with the world's leading companies in asphalt additives, and by providing end to end technical support of the material usage in projects, we have always tried to provide valuable and worthwhile services for the construction and development of the road network.

### ➤ Roadway Solutions Company



EIFFAGE company, with more than 72,000 employees and a turnover of 20 billion Euros a year, is one of the greatest French companies in the construction industry and is leading the construction of the largest projects in Europe. Roadway Solutions is one of the EIFFAGE subsidiary companies which produces the new generation of polymer additive. Direct introduction into the pugmill at the asphalt mixing plant is the main feature of these additives which leads to solving the logistical and construction problems of polymer modified bitumen. These additives are an appropriate alternative for polymer modified bitumen produced in production plants. The asphalt pavement of Millau bridge Deck, the world's tallest cable bridge in the south of France with 343 meters of height, is done using Roadway Solutions additives which is one of EIFFAGE company honors.

#### RWelast E ◀

SBS and bitumen granules  
Increase Fatigue, Rutting, and Thermal Crack Resistance, Increase stiffness Modulus



#### ➤ RWplast

plastomer granules  
Increase Rutting Resistance



#### RWkerosafe ◀

Increase the Resistance to Hydrocarbons  
(Kerosene, Gasoline, Gas oil)



#### ➤ RWwarmix

A Wax and Polymers Pellet Used for  
Manufacturing Warm Mix Asphalt



#### RWcolor ◀

Colored EVA Pellet Used for  
Manufacturing Colored Asphalt



## KAO Corporation



KAO is a Japanese corporation which is one of the world's oldest and largest manufacturer of chemicals with over 130 years of experience and more than 40,000 personnel worldwide, the company has been developing and producing raw materials for various industries such as cosmetics, sanitation, food, medicine, oil, and gas. Antistrippers, warm mix asphalt additives, and emulsifiers for bitumen emulsion production are some of the raw materials and additives produced by the company for the road construction industry, and their production plant is located in Spain.



### ASFIER

Kao Corporation has provided its emulsifiers with ASFIER brand to produce bitumen emulsions for hot & cold in-place recycling, preventive treatments such as Microsurfacing, Slurry seal, Chip seal, Tack coat, Prime coat, and Fog seal.

### KAO WAX

The warm mix asphalt additive produced by KAO enhances the bitumen's performance grade, increases softening point and reduces penetration of bitumen and its viscosity at high temperatures of asphalt mix production and laydown. This additive confers warm mix asphalt properties, decreasing mixing and compaction temperature, which allows to extend asphalt season in cold weather, increase asphalt mixture transport distances, and decrease greenhouse emissions.



### GRIPPER

Antistripper additive produced by KAO improves the raveling resistance by forming a chemical bond between bitumen and all kinds of aggregates. This additive also has significant long term stability while storing at high temperature. Considering its lubricating properties (without any effects on the viscosity, softening point and penetration of the bitumen), it decreases the compaction energy.



### DANOX

Rejuvenating additive for aged bitumen properties enhancement. This additive is used in hot & cold in-place asphalt recycling and, Reclaimed Asphalt (RAP)



## Ruthmann Company



Ruthmann is a German company which was established in 2002 and since then its products are used regularly worldwide. Cellulose fibers for SMA (stone mastic asphalt) and, warm mix asphalt (WMA) additives are some of the raw materials and additives produced by this company for the road construction industry. Ruthmann's factory, with more than 300 staff and an area of 44,000 square meters, is capable of producing 75,000 million tons of additive per year.

### INNOCELL F3000

Pure cellulose fiber with high efficiency. Ideal for stabilizing the bitumen in asphalt mixture. The drain-down of the bitumen from the aggregates is prevented. This additive is used in SMA, porous asphalt and, asphalt mixture with high bitumen content. The recommended dose is 0.2–0.3 % by asphalt mixture weight.



### INNOCELL FG3000

Cellulose Fiber pellet made from pure cellulose fiber and mixed with special bitumen. Ideal for automatic dosage and long-term storage. The drop in-out system guarantees an ideal dispersion in the pug mill. The recommended dose is 0.2–0.3 % by asphalt mixture weight.

### INNODUR 25AD

Product range of any combination of INNOCELL F3000 cellulose fiber pellet with specialized additives for enhancing bitumen performance and properties and easy handling at the asphalt plant. According to its special combination, it will improve bitumen lifetime, decrease the production and compaction temperature which allows an easier compaction process. Perfect for the production of high performance and durable asphalts. The recommended dose is 0.2 – 0.3 % by asphalt mixture weight.



### INNODUR 100AD

Special multipurpose wax additive. Ideal for the modification of bitumen properties enhancement. Perfect combination of low viscosity and high stability. INNODUR 100AD will improve pavement lifetime and, decrease the production and compaction temperature which allows an easier compaction process. The recommended dose is 1.5–3 % by bitumen weight.



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