

# 2016 MIN-TEC Company Capability Statement

Engineering, Consulting , Procurement, Equipment Supply  
&Engineering Management Services



➤ Plant Development

➤ Engineering Consulting

➤ Engineering Design

➤ M.C. Projects

➤ Equipment Supply

## Caspian Minerals Processing Engineering Co.

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**Min-tec**  
Best Solution, Most Efficiency

# who we are?



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## MIN-TEC in Brief

Caspian Mineral Processing Engineering Company (under trade name MIN-TEC) established in 2009 by a group of qualified engineers with many years work experiences in copper & iron mine industries of Iran. MIN-TEC objective plans providing engineering, manufacturing and procurement services as an engineering, consultant or Integrated Project Management Solutions.

MIN-TEC stockholders have sufficient experiences in several main projects of Iranian huge mineral processing plants. The most important of them are as following:

1. Sarcheshmeh Copper Complex
2. Sungun Copper Concentrating Complex
3. Miduk Copper Concentrating Complex
4. Chador-Malu Iron Concentrating Complex.
5. GoL-Gohar Iron Concentrating Complex.



# To find Synergy



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## Min-Tec a New Horizon of Integrated Services in Mineral Processing Plants

Min-Tec (Caspian Mineral Technology Eng. Co.) joined to ALBORZ MINERAL PROCESSING Group when were established in 2010, to find synergy to develop, promote the group business in Mineral Processing field to prepare a complete and full range services to the local and middle east region market.

Joining to ALBORZ MINERAL PROCESSING Group prepared us the situation to develop our activity range to promote our cooperation with well-known equipment manufacturer from Europe and South Africa to prepare a full range availability to supply equipment which are not producing in the group.

Our partners from Spain, Germany, Italy, Turkey and South Africa help us to supply a first class equipment supply in Mineral processing field.



• Process Engineering

• Plant Design

• Project Management

• Plants Audits

# Our Policy



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## World Class Engineering Services, Best Solution for More Efficiency with Qualified Experts and Engineers

MIN-TEC's plans have been identified in the following priority policies:

- ✓ Right recognize our client requirements.
- ✓ Well-organized engineers and staffs to present best services.
- ✓ Continuous Improvement and development in all levels of MIN-TEC's staffs .
- ✓ Develop of cooperation with well-known companies around the world to share abilities.

We believe to catch the above priority policies, effective cooperation and all engineers and staffs have to act in this manner.

Director Manager is responsible to accede the mentioned goals and right recognize and execute the policies. Also our policies will checked and revised by management commission.



• Process Engineering

• Plant Design

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# Management Team



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## A. Mesgar

### C.E.O & Commercial Manager

- Mechanical Engineer
- Designer non-metal processing plants
- Powder production Plants Expert
- More than 22years Experiences



## A. Alibakhshi

### Director Manager

- Mechanical Engineer
- Designer of Copper and Iron
- Plant design
- Material handling systems
- More than 20 years Experiences



## S. Yekrang

### Member of board

- Master of Mineral Processing Eng.
- More than 7 years Experiences
- Designer of Copper and Iron Concentrate plants

# Our Services



## Available Engineering Services of MIN-TEC are as following:

- **Feasibility and Scope Study & Optimization**

The Scoping Study is the first attempt at assessing the business case established by the venture analysis and the basic project parameters such as geological and deposit characterization, mineral resource configuration, head-grade, product quality, production rate, power requirements and water consumption.

- **Conceptual & Basic Design**

The original conceptual plan of the mining operation developed during the Feasibility Study would be extended and include amongst others;

- Design criteria;
- Equipment lists;
- Process description;
- General arrangements and outline drawings

- **Engineering services**

We offer technical advice and engineering solutions adapted to our customers specific applications and requirements

- **On-site start-up service**

We offer start-up service for new or rebuilt jobs on site. Our technicians will witness, advise and help at the start up of the project.



# Engineering Services

## Mineral processing

### > Mineral Processing

- Pre-Feasibility and Feasibility studies of mining & industry projects
- Design & perform of laboratory and pilot plant metallurgical test works
- Selection & sizing of crushing, grinding, flotation & dewatering equipments
- Flow sheet development
- Conceptual Design and Study
- Basic & detail design of copper, iron and Lead-Zinc concentration plant (flotation, leaching, magnetic separation)
- Basic & detail design of industry minerals such as gypsum, limestone, sand, barite and etc
- Project Development
- Project Audits
- Design of performance And Acceptance Test
- Commissioning

- **Mineral processing**
- Mechanical & Piping Engineering
- Engineering Design
- Project Management

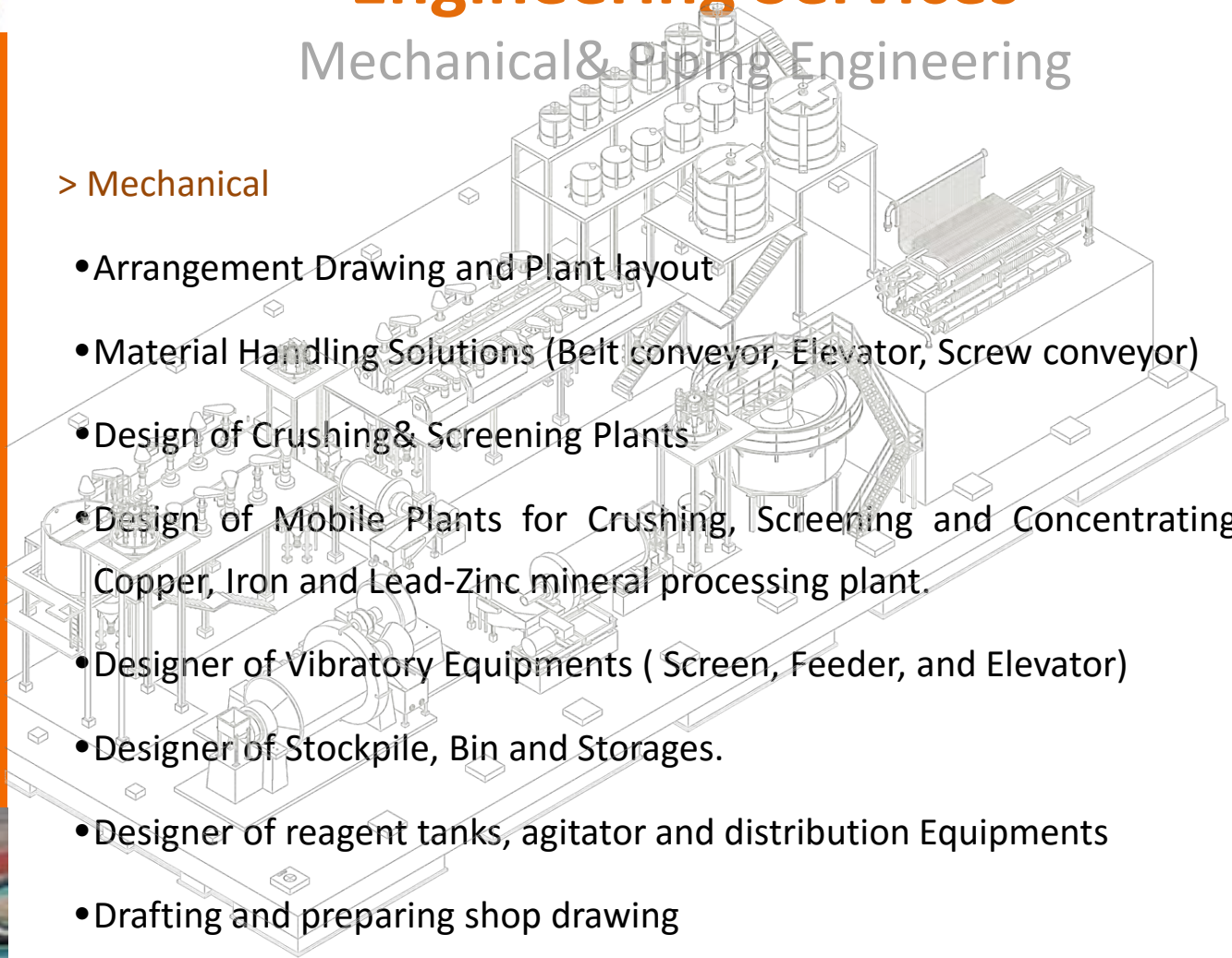


# Engineering Services

## Mechanical & Piping Engineering

### > Mechanical

- Arrangement Drawing and Plant layout
- Material Handling Solutions (Belt conveyor, Elevator, Screw conveyor)
- Design of Crushing & Screening Plants
- Design of Mobile Plants for Crushing, Screening and Concentrating of Copper, Iron and Lead-Zinc mineral processing plant.
- Designer of Vibratory Equipments ( Screen, Feeder, and Elevator)
- Designer of Stockpile, Bin and Storages.
- Designer of reagent tanks, agitator and distribution Equipments
- Drafting and preparing shop drawing







# Engineering Services

## Mechanical & Piping Engineering

- Mineral processing
- **Mechanical & Piping Engineering**
- Engineering Design
- Project Management

### > Piping

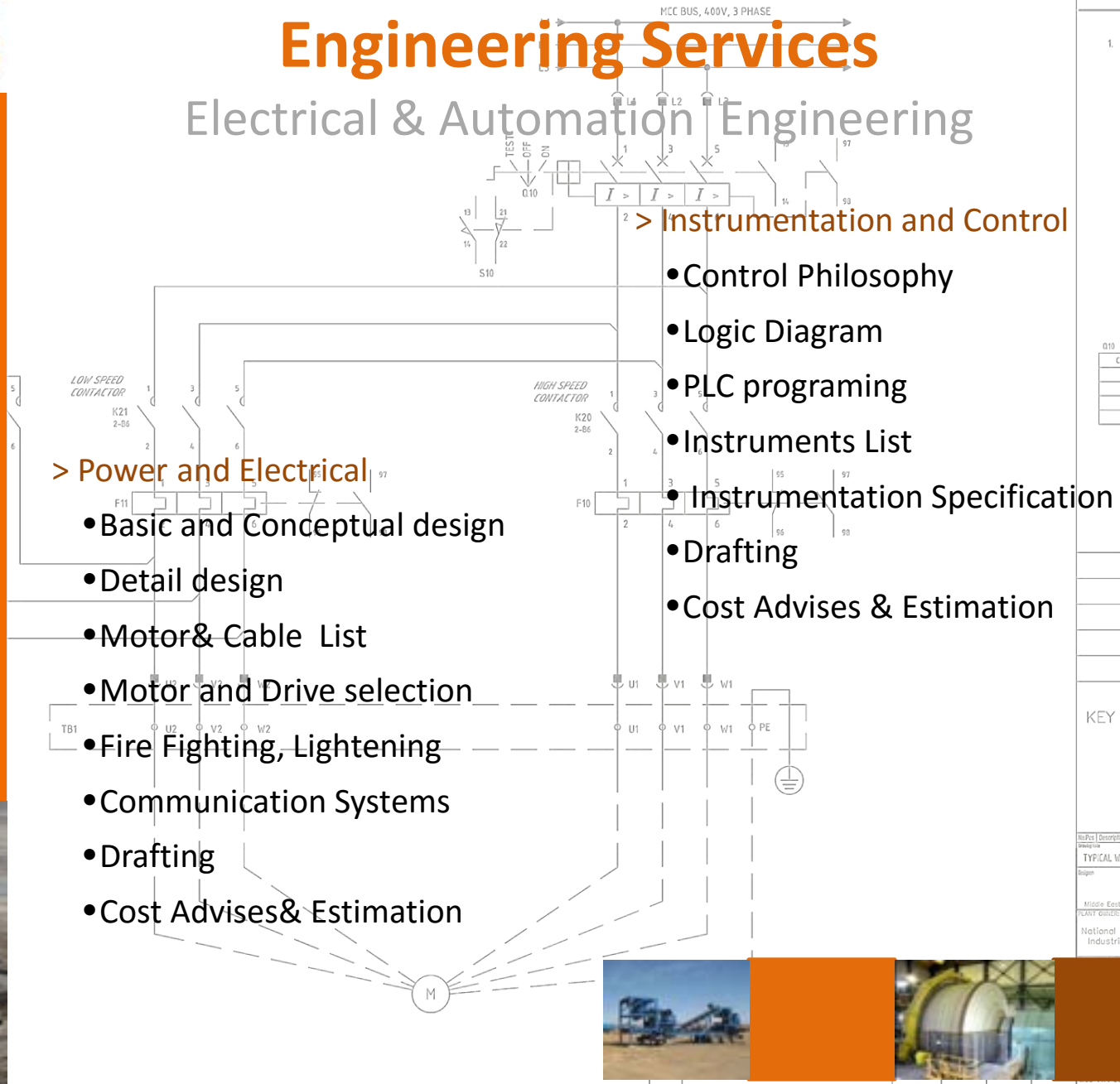
- Piping Lay-out
- Arrangement Drawing
- Isometric Drafting
- Materials selection
- Designing Slurry, Process and potable water pumps



- Mineral processing
- Mechanical & Piping Engineering
- Engineering Design
- Project Management

# Engineering Services

## Electrical & Automation Engineering



### > Instrumentation and Control

- Control Philosophy
- Logic Diagram
- PLC programming
- Instruments List
- Instrumentation Specification
- Drafting
- Cost Advises & Estimation

### > Power and Electrical

- Basic and Conceptual design
- Detail design
- Motor & Cable List
- Motor and Drive selection
- Fire Fighting, Lightening
- Communication Systems
- Drafting
- Cost Advises & Estimation

1. SEE DRAWING SHEET  
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REFERENCE

KEY PLAN

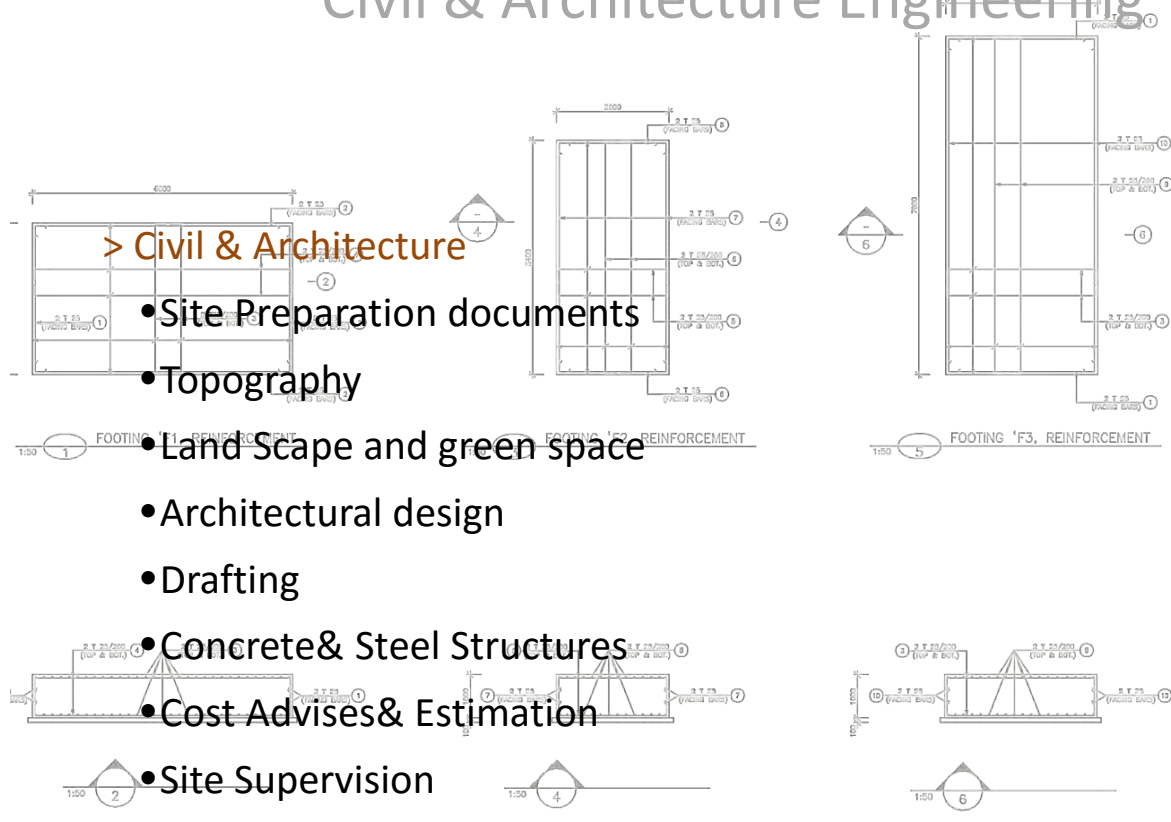
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**TYPICAL WIRING DIAGRAM FOR LV**  
Budget  
**KF**  
Middle East Mineral Processing Eng.  
PLANT OWNER  
National Iranian Copper  
Industries Company



# Engineering Services

## Civil & Architecture Engineering

- Mineral processing
- Mechanical & Piping Engineering
- Engineering Design
- Project Management



- Site Preparation documents
- Topography
- Land Landscape and green space
- Architectural design
- Drafting
- Concrete & Steel Structures
- Cost Advises & Estimation
- Site Supervision

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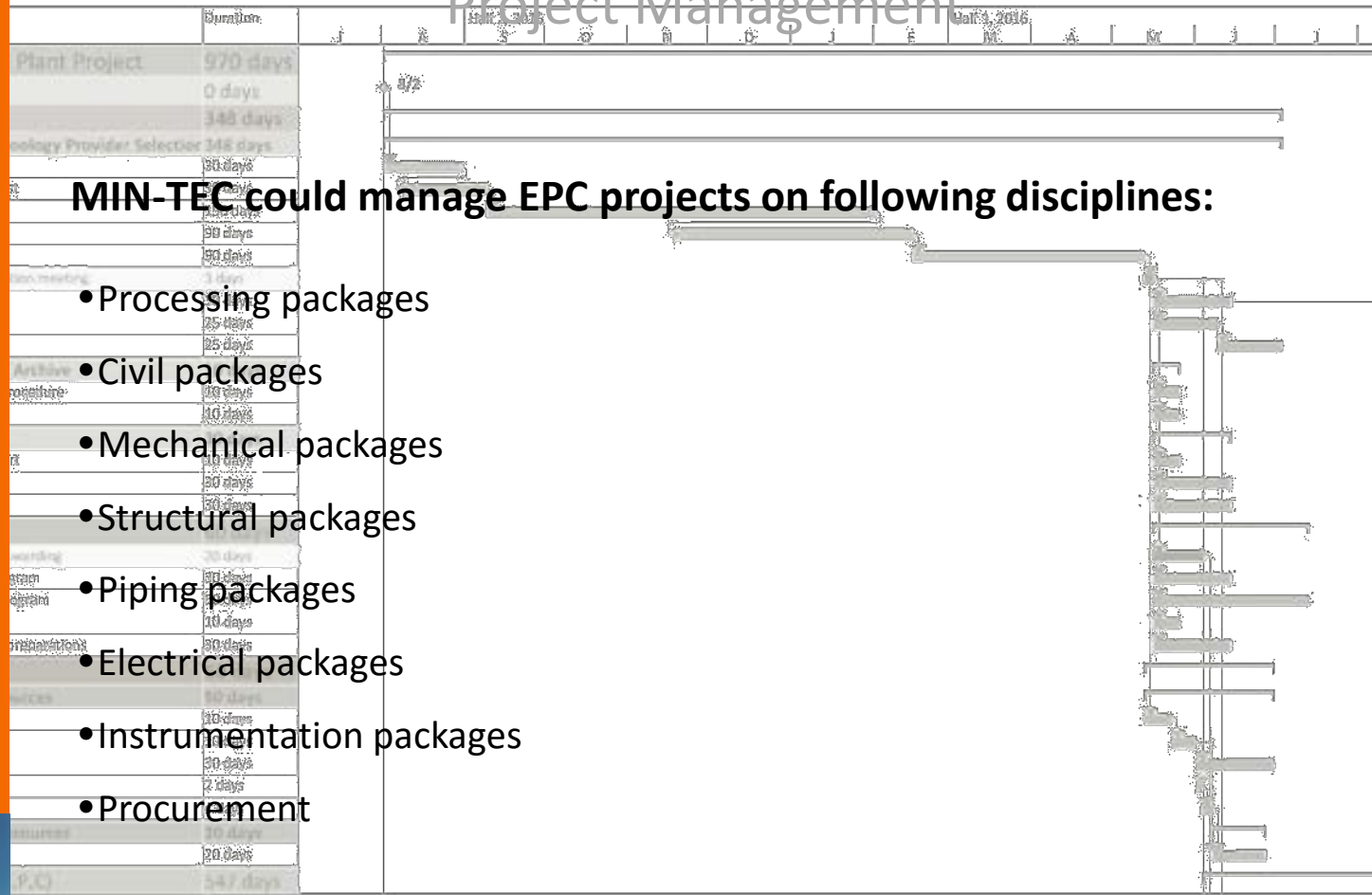
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National Irontron Copper Industries Company
CONSTRUCTION COMPANY OF MINING



## Project Management



**MIN-TEC could manage EPC projects on following disciplines:**

- Processing packages
- Civil packages
- Mechanical packages
- Structural packages
- Piping packages
- Electrical packages
- Instrumentation packages
- Procurement



# Procurement & Supplying



**Min-tec**  
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MIN-TEC capable to supply a wide range of mineral processing equipments for use in Copper, Iron and Lead-Zinc plants and other metal or non-metal mine industries.

- Grinding equipments: ball & rod mills.
- Classification equipments: special screens, hydro-cyclone, spiral classifier and air classifier.
- Material handling equipment
- Dewatering equipments: thickener & filtration systems.
- Slurry and water pumps.
- Slurry and Control valves
- Steel works such as Chute, Gate, Bin, Hopper and Pump box



# Installation & Commissioning Services



**Min-tec**  
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MIN-TEC able performing a range of services related to Installation, Pre- Commissioning, Commissioning management for Mineral Processing plants.

- Erection and Installation Supervision
- Mechanical Supervision
- Design and Perform Performance tests
- No-Load Tests for Mechanical Equipments
- Preparation Commissioning, Operation & Maintenance Manual
- Training Programs



•Process Engineering

•Plant Design

• Project Management

•Plants Audits

# Our Experiences



## >Feasibility Studies

Technical and economical studies

1. 25 & 50 t/h copper concentrator plant (flotation)
2. 1000 & 5000 t/year cathode copper (heap leaching) (Iran Itok)
3. 22 million m<sup>2</sup>/annual Plaster Board gypsum plant. (Sepid Gatch co)
4. 300,000 ton/annual Precipitated carbonate calcium (Persian Holding)
5. 150,000 ton/annual lime& hydrated lime plant (Hormozgan Cement Co)
6. 25000 ton/annual Paper stone (Persian holding)
7. 7500 ton/year copper concentrated tank leaching plant
8. 1700 ton/annual copper concentrated tank leaching plant



# Our Experiences



## > Mineral Processing

1. SARCHESHMEH Copper concentrator project 500 ton /day ore feed (EP):
  - Design & perform of laboratory & pilot plant test works.
  - Basic & detail design of crushing, grinding, flotation & dewatering units.
2. CHIROOK Foundry Sand Co. 150.000 ton/year foundry sand plant.(E)
  - Design & perform of laboratory & pilot plant test works.
  - Basic & detail design of crushing, grinding, Washing, classification & dewatering units.
3. Basic design of Sungun molybdenum plant. (E)
  - Design review and endorsement.
4. SARCHESHMEH anode furnace expansion plant. (E)
  - Design review and endorsement.
  - Detail design
  - Procurement supervision
5. SANAT ROY ZANGAN Zinc-Lead Flotation plant 175000 ton/year. (E)
  - Basic & Conceptual Design
  - Detail design





# Our Experiences



## > Mineral Processing

### 5. GOLGOHAR tailing disposal project 1800 m<sup>3</sup>/hr tailing feed (EPC):

- Basic & detail design of crushing, grinding, flotation & dewatering units.
- Procurement and equipment supply
- Construction , Installation
- Commissioning and operation

### 6. MIDUK copper Complex Flocculant Preparation Plant 280 m<sup>3</sup>/day (EPC)

- Design & perform of laboratory test works.
- Basic & detail design.
- Automation
- Procurement and equipment supply
- Construction , Installation
- Commissioning and operation

### 7. SEPID GATCH SAVEH Plaster Board Plant 22million m<sup>2</sup>/year (EMC)

- Basic & detail design.
- Technology provider selection study
- Procurement and equipment supply Management
- Site Supervision & Installation
- Commissioning and operation



# Benefits of Cooperation with Us



1. Collected experiences of many well-known mineral engineering consultant and general contractor companies of Iran in one company.
2. Well-organized company that result optimum services and costs.
3. Comprising one of the most qualified & experienced engineering team in all disciplines.
4. Capability of wide range of services; Engineering, procurement, manufacturing, installation and commissioning together.
5. Engineered order equipment solutions
6. Special designed equipment to ore dressing and mineral processing



# Our Software



A wide range of soft-wares are used in MMPE, they take us toward best services and accuracy

## >Mechanical & Piping

- MDT 2009
- Auto Cad
- Solid works 2009
- PDMS
- Nawis works 2009
- Belt analyst 07
- Ansys12
- Pumpdim(for slurry pumps)

## >Civil

- SAP 2011
- SAFE 2011

## >Electrical & Instrumentation

- Pascal
- Delphi
- Network

## >Planning

- PRIMAVERA3
- MS Project

## >Processing

- USIMPACK
- J.K.SimMet

