

GUNAK PRESENTATION

Last Update: 17.01.2025





Gunak Heavy Industries

- ❖ Established in 1976 by Mechanical Engineer M. Sc. Mr. Nurhan Güneş
- Reliable Manufacturer and Contractor company
- Specialized in the design, manufacturing and erection of process equipment, such as:
 - Pressure vessels
 - ❖ Agitator tanks
 - Storage tanks
 - Reactors
 - Skids
 - Boilers
 - Columns
 - Furnaces
 - Heat exchangers
 - Conveyors & elevators
- Completed thousands of projects





Gunak Heavy Industries has provided his best products & services to over 40 countries











48



Permanent Capacity

Experience Years



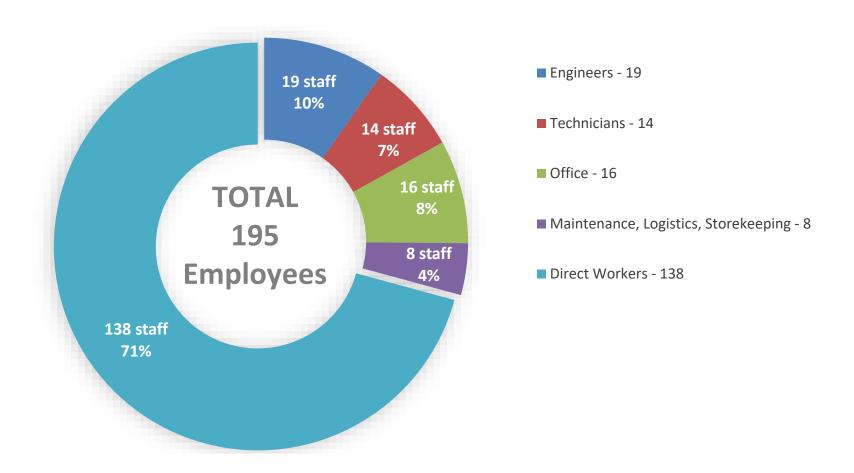
- **≻** Türkiye
- ➤ Germany
- ➤ Qatar
- ➤ Malaysia
- > Turkmenistan
- **>** Oman
- ➤ Nigeria



250.000

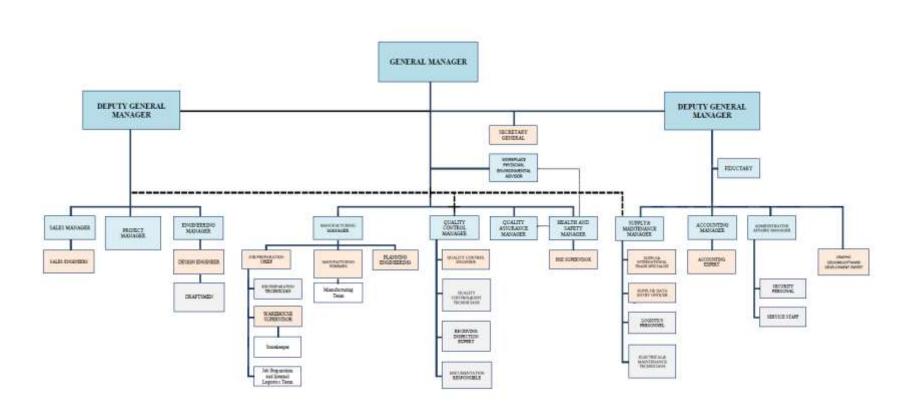
Man Hours per Year





^{*}Ability to expand up to 500 employees without compromising quality





 $[\]ensuremath{^*}$ The site organization is structured according to project requirements.



Company Highligths & Facility

• Headquarter and Manufacturing Shop:

• Located in Dilovası / Kocaeli / Türkiye

• Facility: 5.865 sqm covered area

• Carbon Steel : 3.000 sqm

• Stainless Steel : 3.000 sqm (hard separation)

• Open Area : 4.000 sqm

• Transportation Limit & Access:

Width : 7 meters
Height : 5.9 meters
Length : 35 meters
Weigth : 200 tons

• Distance : 15 km (to nearest seaport)

• Lifting Capacity:

Crane Span : 16.5 metersLifting Height : 10.5 meters

• Overhead Cranes : Various between 10-20 tons • Lifting Capacity : 20 tons with single crane

: 40 tons with double cranes





First Priority : Job Safety

All Gunak staff is aware of the fact that nothing is worth being injured.

The awareness of team is maintained by continuous training and visual warnings both on the field sites and in production facilities.











Gunak Design Services:

- Front-End Engineering Design (FEED)
- Basic Design
- Mechanical Design
- Layouts
- · P&IDs
- Detail design
- Fabrication detailing
- Including 2D & 3D modeling of structure
- Equipment & piping works

Major Design Codes:

- ASME BPVC (Section I, Section VIII Div. 1 & 2)
- ASMF BPF
- * ASME PVHO-1
- ASME B31.1 and ASME B31.3)
- API650 & API620
- ⋆ TEMA
- ◆ EN13445
- ◆ EN14015
- ◆ EN13385
- BS
- CEMA
- AD-Merkblätter & others

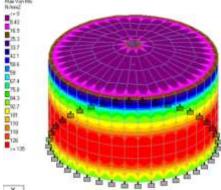


Mechanical, Structural & FEM Design Services for:

- Pressurized/non-pressurized Vessels
- Coded/non-coded Pressure Vessels
- Heat Exchangers
- Columns, Reactors
- Scrubbers , Separators, Drums, Filters,
- Condensers , Evaporators, Economizers
- · Dryers, Crystallizers, Clarifiers, Bleachers,
- Stacks, Ducts, Silos, Bins, Cyclones,
- Bulk Storage Tanks,
- Skids, Steel Piping,
- Agitators, Mixers
- Belt/Screw/Trough Chain Conveyors
- Steel Structures

Licensed Softwares:

- Compress
- Visual Vessel Design (VVD)
- PV Elite
- AMETank
- Staad-Pro
- Ansys
- Solidworks
- 3D Plant AutoCAD
- Custom design Sheets.









Upon receiving Purchase Order;

- Assign a Project Manager
- > Organize an internal Kick-off meeting with participation of all relevant departments
- ➤ Coordinates all the departments and manage the project as Single Point of Contact.
- > Prepare a project schedule coordinated with all involved departments.
- > Closely monitor the project is on track and that the target milestones are reached successfully.
- ➤ Reports to Management and submit progress reports to the Client in agreed periods (weekly, biweekly or monthly).

Used Project Management Softwares







Inspection and Test Plans (ITP)

Prior to commencing any of fabrication, an ITP is prepared according to customer's specification and relevant standards.

WPSs and WPQs

All welding works are performed by Qualified Welders / Welding Operators according to qualified Welding Procedure Specifications (WPSs).

- Gunak is capable of performing the following NDE Examinations and Function Tests:
 - Visual Examination (VT)
 - Dye Penetrant Test (PT)
 - Magnetic Particle Test (MT)
 - Radiographic Examination (RT) outsource
 - Ultrasonic Testing (UT) outsource
 - Hydrostatic / Pneumatic Pressure Tests
 - Leakage Tests
 - Vacuum Tests and Helium Leak Detection Tests
 - Visual Examination and Temperature / Current Measurement during Running Tests of Rotary Equipment
 - Lifting Load Tests
 - Factory Acceptance Tests







Incoming Material Control

Hydrotest



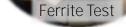
Control















Carbon Steel	S235/S275/S355 P235/P265/P355 S460ML/P460NL 516 Gr.60-70 and others Corten A/B Steels		
Stainless Steel	303, 304, 316, 316Ti, 310, 430, 904L Duplex & Superduplex		
Alloy Steel for Tubes	P9, P11, P22, P91 and others		
Exotic Materials	Alloy 31, Monel 400, Inconel 625, etc.		
High silicon containing austenitic stainless steels	SARAMET®, Sandvik SX and others		
Wear and impact resistant steels	Hardox, Weldox, Creusabro and others		
High-alloy austenitic stainless steel	254 SMO		
Aluminium Alloy	6000 Series		

















CNC Oxy-Plasma Cutting Machines (2 each)
W: 3 m L:12 m
max t (plasma)=55mm, max t (oxy)=150mm

NC/CNC Rolling Machines (4 each) W: 2.5 m t: 40 mm Ø: 0.75 m



Plasma Welding Machine I: 1,000 A t: 10 mm



Column-Boom Submerged Arc Welding Machines (4 each) I: 1, 000 A



Automatic Girth Welders I: 1,000 A Ø: 5.0 m (min)







Hapag-Licyp

Bigging

Control



Vertical Lathe
Dia:2200 mm H: 1000mm

Lathes & Milling Machine Up to Dia:600 mm L: 3000mm



Press Brake 400 Ton / I: 4050 mm



Profile and Pipe Rolling up to 5" tube / NPU 200



CNC Section/Profile Cutting
H: 800 mm



Radial Drilling (3 each)



Machinery and Equipment



Orbital Welding Machine up to 3" t: 2mm



TIG, MIG Welding Machines (100+ each)



Pickling & Passivation W: 8 m L: 14 m







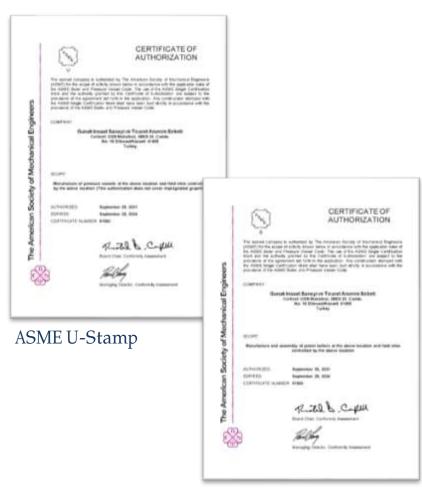




Painting Room
W: 7 m H: 7 m L: 20 m







ASME S-Stamp



National Board R Stamp





AD 2000 Manufacturing Conformity Certificate

ISO 3834-2 Welded Construction Conformity Certificate

EN 1090-2 Structural Steel Conformity Certificate









ISO 9001-2015 Quality System Certificate

ISO 14001-2015 Enviromental Management System Certificate

ISO 45001-2018
Occupational Health and
Safety Management
System Certificate

































































































































































Türkiye Petroleri A.O. (2020 - 2021)

Turn-key Project Engineering, Procurement, Manufacturing and Commisionning of 2 ea Hydrocarbon Dew Point Control Units











Turn-key Project Engineering, Procurement, Manufacturing and Commisionning of 5 ea 3 Phase Heater Separator Skids









2 each Coker Heaters Erection Total Weight: 3,200 tonnes





Emerson (2017-2021)

Metering Systems for Natural Gas and Petroleum:

- 1. Egegaz project
- 2. Ghana project
- Polisan project
- Tüpraş project
- 5. Bsog Midia project

Scope

- Procurement
- Manufacturing
- Trial Assembly
- Site Installation (upon request)
- FAT
- CE Marking and PED Compliance

Operating Pressure: 40-81 bar(g) Design Pressure: 92 bar(g)





















Metering Skid	LTCS	Design/Test Pressure	5-55 / 7-82 bar
Cartridge Filter	CS	Design/Operating/Test Pressure	27-45 / 55 / 78 bar
Drain Tank	CS	Design/Operating/Test Pressure	5 / 1 / 7 bar
Gas_Coalescing_Filter	CS	Design/Operating/Test Pressure	5 / 1 / 7 bar
Natural Gas Filter	CS	Design/Operating/Test Pressure	5-6 / 8 / 12 bar
BEU Gas Heat Exchanger	LTCS	Design/Vacuum/Test Pressure	S: 10 / 1 / 14.3 T: 60 / 1 / 85.8 bar
Knock Out Drum	CS	Design/Operating/Test Pressure	27-45 / 55 / 78 bar



Engineering, Procurement, Manufacturing and Commisionning of 2 ea Water Bath Heaters





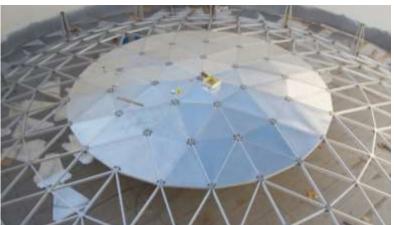






Construction of Refinery Tank (50,000 cbm) including Pre-fabrication, Field Erection, Welding, NDE, Hydrostatic Testing, Fire-fighting System, Agitators, Staircases, Platforms and Handrails













Tecnicas Reunidas / Bahrain Petroleum Company (2019)

Manufacturing of CDU & VDU Heaters (Convection + Radiant's pressure parts)



Operating Pressure: Design Pressure:

210 psi(g) (Process) 100 psi(g) (Steam)



Tüpraş (2019-2020)

Pressure Vessels for **Tüpraş** Izmit and Batman Refineries:

- LPG Chloride Threater Drum (Tag No: 36C-123)
- Knock-Out Drum (Tag No: D-105)
- Stripper Overhead Receiver
- Knock-Out Drum Blow Case (Tag No: 6C-212)
- Knock-Out Drum (Tag No: D-950)
- Fuel Gas Drum (Tag No: D-1110)
- Drum (Tag No: 10D-946)
- Heat Exchangers







Aksed Kortaş Sega JV / TPAO (2015)



Design and Manufacturing of 6 ea Equipment:

- 1 ea Condensate Tank
- 2 ea Glycol Tank
- 1 ea Closed Drain Tank
- 2 ea Knock Out Drum Tank



Operating Pressure: atmospheric Design Pressure: 1 bar(g)



Design and Manufacturing of LPG Storage Vessel (200 cbm)



Design Pressure: 8.8 bar(g)



Design, Procurement and Manufacturing of 8 each Pressure Vessels:

- 4 ea Adsorbers w/ Bed Supports
- 2 ea Methanisator
- 1 ea Separator w/ Bypass
- 1 ea CO-Shift





Operating Pressure: 16.5 bar(g)
Design Pressure: 22.0 bar(g)



Design (ASME BPVC Sec. VIII Div. 1) and Manufacturing of:

- 12 ea Odorizers (100 liters capacity)
- 12 ea Storage Tanks (220 liters capacity)







Operating Pressure : 2.0 bar(g)
Design Pressure : 3.6 bar(g)



Modül Çelik / Tecnicas Reunidas / Tüpraş (2013)

Fabrication of Steam Superheater (ASME S-Stamped)



Operating Pressure: -

Design Pressure : 14.3 bar(g)



CCC (Consolidated Contractors Company) / Kuwait Oil Company (2016)

Engineering & Procurement & Pre-fabrication & Shipment to Kuwait & Site Supervision for;

- 2 ea Fire Water Storage Tanks (ID: 24.0 m x H: 13.5 m / Fixed Cone Roof / API 650)
- 2 ea Potable Water Storage Tanks (ID: 6.0 m x H: 5.2 m / Fixed Cone Roof / API 650)
- 2 ea Raw Water Storage Tanks (ID: 9.0 m x H: 9.0 m / Fixed Cone Roof / API 650)







Design, Fabrication and site installation of Kettle 5 vessel with its Planetary agitator





Operating Pressure : 1.5 bar(g) / Full Vacuum Design Pressure : 6.0 bar(g) / Full Vacuum





Manufacturing of:

- Filters 32" Natural Gas (2 each)
- Filters 32" Syngas (2 each)
- Filters 24" Final Filters (2 each)









Santek / Tecnicas Reunidas (2009)

Heat Exchanger w/ Surface Area of 2,000 sqm





North Iraq / Gama / Khabat Power Plant (2014 - 2015)

Fabrication of 23 pressure vessels







Operating Pressure: up to 6.5 bar(g) Design Pressure : up to 10 bar(g)

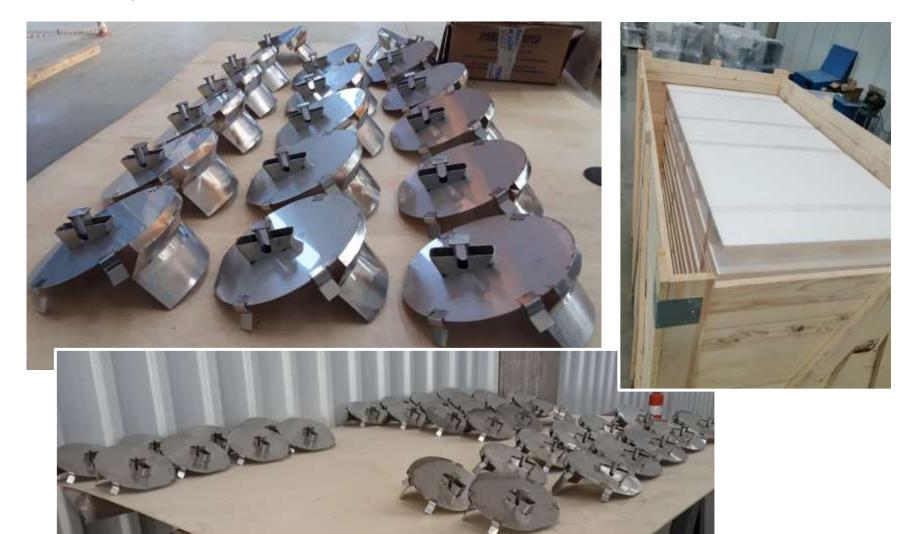


Design, Procurement and Manufacturing of 31 ea Caissons and Transportation to France (2016 - completed) Design, Procurement and Manufacturing of 70 ea Caissons and Transportation to France (2019 - ongoing)





Manufacturing of Cover Parts and Transportation to France





Manufacturing of SEM650 and Transportation to France





Manufacturing of Panier Perdu and Transportation to France





Design, Procurement and Manufacturing of 3 ea Hyperbaric Chambers (ASME PVHO & ASME U-Stamped)





Operating Pressure: -

Design Pressure : 6 Bar





Botaş LNG Import Terminal (2016 - 2017)

Renovation of heat tracing system for 3 ea 85,000 m³ capacity LNG storage tanks:

• Design



C



Manufacturing of;

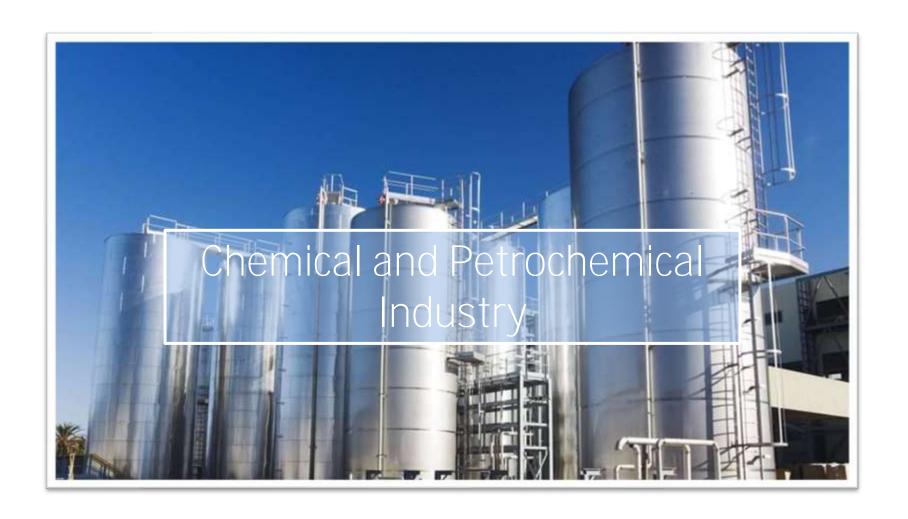
- Gas/Glycol HEX: 14-138 NEN TEMA 'C', 1380 PSIG DP w/ SS Tubes
 Glycol Flash Tank: 30" O.D. x 7'-6" S/S, 150 PSIG DP













Evyap Sabun Malaysia (2013-2014)

- Evyap company is Gunak's client since 1998. In year 2012, Evyap invested in a big oleochemical plant in Johor / Malaysia.
- Gunak was awarded for the tank farm fabrication and erection works. Gunak constructed 68 field tanks (52 stainless steel, 16 carbon steel tanks).
- Gunak established a local Malaysian company in Malaysia, named Gunak Industrial Construction Sdn. Bhd.
- Gunak constructed a temporary workshop inside Evyap plant's borders, in order to fabricate the field tanks.
- Total capacity: 90,000 m3



Please watch the video:







Construction of the Spray Towers including Installation of HP Lines and Spray Nozzles, Cone Cleaners, Shell Scrappers and Burners including Stacks

Manufacturing and Installation of Belt Conveyors, Screw Conveyors, Elevators, PWS, Tanks, Agitators, Cyclones, Bins, Hoppers, Filling Stations, Ducts, Fans and BH Cabinets

Global Supplier





Ukraine



Manufacturing of Static / Rotary Detergent Plant Equipment



















- Erection of a Bleaching Liquid Production Plant
- Mechanical and Electrical installation of Bleach Bottle Filling and Packing Lines (3 lines), Commissioning and Start-up
- Design, Procurement, Manufacturing and Site Erection of 6 each Process Tanks (SS)









Design, Procurement and Manufacturing of SS & CS Process Equipment (Total 110 each; Tanks, Agitators, Cyclones, Hoppers, Bins, IBC Stations)

Design, Procurement, Pre-fabrication and Erection of Spray Tower





Gemlik Urea Plant Project

- Design and manufacuring of total 32 each shop fabricated equipment including CS & SS & Duplex Pressure Vessels, Bins, API Storage Tanks, Metallic Stack
- Design, manufacturing, installation and insulation of 7 each field erected tanks including CS & SS API Storage Tanks

Scope:

- Mechanical Design as per ASME Sec VIII Div.1 + API 650 + PED 2014/68/EU +
- Good Process & Thermal Design only for Degasifier











Reactors for Mons













Eti Bakır, Mazıdağı Plant (2016 – 2018)

Design, Manufacturing and Site Erection of (CS, SS, Duplex, Super Duplex) Fertilizer Plant Equipment:

- Scrubbers & Stacks
- Process Tanks
- Cyclones
- Hoppers and Bins
- Ducts





Colgate-Palmolive (2010-2014)



• Construction of (including Civil Works, Steel Structure, Equipment Installation, Process Piping, Instrumentation, Insulation, Electrical Works, Cladding and Commissioning):

• Bleaching Plant (Year: 2010-2011)

• Deodorizing Plant (Year: 2012-2013)

• Talk Plant (Year: 2014)

• Fabrication and Erection of Storage Tanks made of AISI SS304 and CS Material











Oschatz / Outotec & Gama / Ma'aden (2011 - 2013)

Supply of Services according to the Requirements of National Board, R-Stamp Certificate including Quality Assurance and Quality documentation at Ma'aden Plant in Saudi Arabia (December 2011 – January 2013)













Şişecam Elyaf Sanayii (2018)

- Manufacturing of Glass Fiber Fabric Furnace including Conveyor Line
- Disassembly of Existing Furnace
- Site Installation of New Furnace and Utility Equipment in Balıkesir
- Electrical & Instrumentation Works





Manufacturing of Heat Exchanger w/ Surface Area of 2,500 sqm



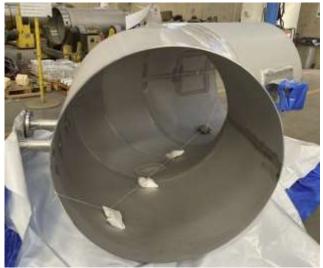






Manufacturing of Duct



















Assan Alüminyum (2008)

- Fabrication and Erection of 10 each Melting and Holding Furnaces (5 each Melting & H5 each holding furnaces)
 - o 800 tons of Fabrication
 - o 9,000 meters of piping works









Sistem Teknik / **Asaş** Al**üminyum** (2011 - 2013)

Fabrication and erection of 9 each furnaces of Asaş Aluminum's Akyazı plant

- 5 each melting furnaces, 4 each holding furnaces
- Total 735 tons of fabrication





HMC PLC / Siemens VAI (2014 - 2015)



Design, Procurement and Fabrication of 12 ea Pressure Vessels











4



HMC PLC / Primetals (2018)

Manufacturing of

- 15 each Sand Filter Tanks,
- 2 each Agitator Tanks,

- 1 each Degasser Tank,
- 1 each Oil Skimmer Tank









HMC PLC / Primetals / JFE Steel - Sinter Project) (2016)

Fabrication of air ducts Total weight: 387,400 kg.











Manufacturing of 3 ea Converters with a capacities of 200 ton each, including:

- Converter Ring (Ø12 m, made of P460NH, 80 mm at ring and 120 mm at Shaft Connection Points) w/ Shaft (made of forged steel)
- Bottom Part (55 mm thick)











Various fabrication, installation and piping works have been performed for Tezcan.











Manufacuring of:

- Silos (SMS Germany)
- Cooling rings, Charging Tubes and PRV (SMS Germany)
- Process Tank (SMS Germany)
- Furnace Water (SMS Italy)
- Duct and Hoods (SMS Germany)

















- Fabrication of 12 ea Flotation Cell and its auxiliaries. Rubber lining of cells.
- Manufacturing of 1 ea Uranus 52N+ (1.4507) Scrubber Unit for Eti Plant in Samsun U-Stamp or CE-Marking
- Design, fabrication, preassembly, piping, instrumentation, electrification, FAT test of 3 ea Steel Tanks, 3 Skids
- Fabrication of 2 each stainless steel thickener tanks (h:7.5 m, dia: 32 m, material: Duplex stainless steel)













Minerals Technologies (Former Amcol) (2011 - 2012)











The below listed works were done for 2 plants, with one year gap.

Türk Ytong Sanayi A.Ş. (Saray / Tekirdağ) Güneydoğu Ytong Sanayi A.Ş. (Gaziantep)

- · Manufacturing and Erection of Equipment
- Erection of Present Equipment
- Manufacturing of Raw Material Producing Systems (Silo and Transport Systems)
- Manufacturing and Erection of Crane Rail Carcase System and Rail System with Gear Rack











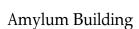


Fabrication and Erection of Edible Oil Tank Farm (48 each tanks);

- 18 each, 20 m Dia and 5.000 m³ capacity SS304L grade
- 6 each, 14 m Dia and 2.500 m³ capacity SS304L grade
- 6 each, 4,5 m Dia and 250 m³ capacity SS304L grade
- 8 each, 5 m Dia and 150 m³ capacity SS316L grade
- Total weight: 3,000 tons total volume: 107,700 m³







- Design, Manufacturing and Installation of Static Equipment,
- Piping, Instrumentation, Insulation
- Commissioning















Manufacturing and erection of storage tanks:

- 2 each 3,350 m3 capacity
- 1 each 2,300 m3 capacity
- 2 each 500 m3 capacity

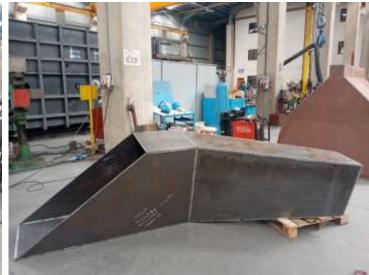






- Extraction Building Renovation Works
- Extraction Rotocell
- İzmir Aliağa Conveyor Installation











Ashgabat Cottonseed Oil Plant - This project was completed only in 8 months (including mobilization)

- Turn-key construction of an oil plant in Ashgabat, Turkmenistan in year 2009.
- Günak opened a branch in Turkmenistan and mobilized in the site only in 3 months. The scope of the project was:
- Construction of Extraction, Refinery, Hydrogenation Plants
 - o Fabrication and Erection of 750 tons of steel structure (including pipe racks)
 - o Piping works: 20,000 meters of piping works
 - o Equipment Installation Works
 - o Instrumentation Installation Electrical Works
 - o Conveying Equipment Design, fabrication and erection of 850 meters of conveying systems (belt conveyor, screw conveyor, bucket elevator, chain elevator)

















Ashgabat Cottonseed Oil Plant Turkmenistan

Process Piping, Instrumentation, Electrification, Insulation. The total length of process piping approaches a vast 20,000 meters.















Kristal Oil (2008 - 2010)

- Fabrication and erection of refinery plant (150 tons/day capacity)
 - o Erection of equipment supplied by Desmet Ballestra
 - o Process piping Works (7,000 meters, CS and SS)
 - o Steel construction fabrication and erection (300 tons)
 - Insulation Works
 - Flectrical Works
 - Instrumentation works
- Fabrication and erection of 6 each refined oil storage tanks (300m3 capacity each, CS)
- Fabrication and erection of 1 each raw oil storage tank (2,000m3 capacity, CS)
- Fabrication and erection of 2 each raw oil storage tanks (1,000m3 capacity each, CS)
- Fabrication and erection of 1 each storage tank (1,000m3 capacity, AISI 316)
- Fabrication and erection of 1 each storage tank (200m3 capacity, AISI 316)











- Fabrication and erection of 1 each oil tank (CS, capacity: 3,000 m3)
- Fabrication and erection of 8 each oil tank (CS, capacity: 1,550 m3
- Welding works of the conveyor chutes
- Fabrication of stack
- Process piping works













TOPRAK OIL (Lice)

- Turn-key construction Works of Extraction and Refinery Buildings in Oil Plant
 - o Erection of Mechanical Equipment
 - o Stainless and Carbon Steel Piping Systems
 - o Insulation Works
 - o Manufacturing of Acid Tanks
 - o Manufacturing of Pneumatic Conveying Lines
 - o Electrical and Instrumentation Works
 - o Manufacturing and Erection of Pneumatic Pulp Moving Lines for Oil Plant Extraction Unit









İzmit Bay Suspension Bridge - Tower welding works, Fabrication of 4 each Anchor Frames, Tower Crane Support Structure, and 228 each Doors / Hatches



Please watch the video:





Fabrication of rocker link, wind tongue, 120 each lower gusset plates, main rope stanchion, inner tower handrails; replacement of hanger plates; replacement of expansion joints for 1st and 2nd Bosphorus Bridges





Golden Horn Bridge Works – IHI and KGM

Various projects have been completed in the last 20 years for the Japanese Industry giant IHI and Karayolları Genel Müdürlüğü (Highways General Directorate).

Some of the jobs completed for IHI / KGM are:

Design, Fabrication and Installation of the Service Gantry for GH Bridge. Fabrication of Seismic Reinforcements for GH Bridge.





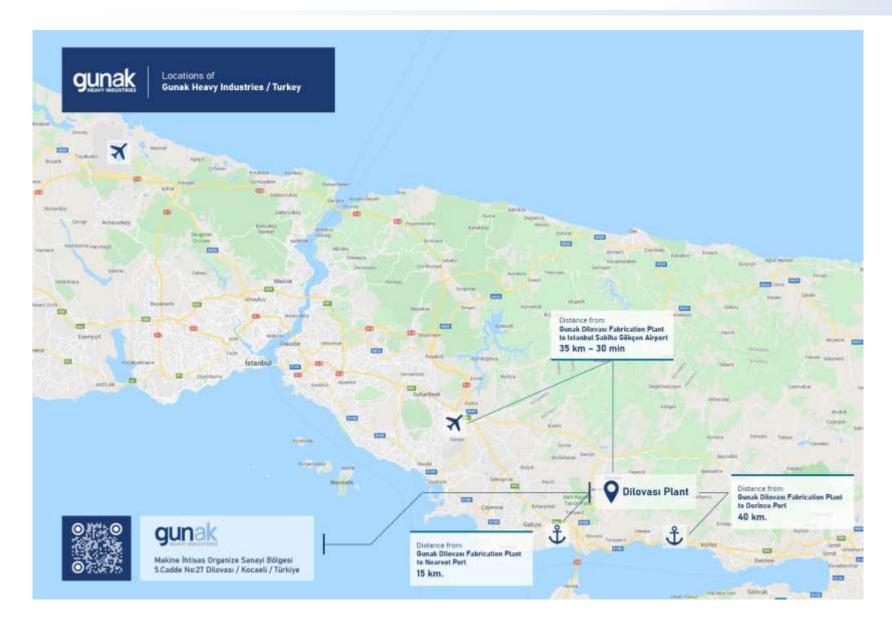




Third Bosphorus Bridge Erection and Welding Works









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Thank you for reading