



COMMITMENT
RELIABILITY
EXCELLENCE

40⁺ [1973-2015]



INDUSTRIES

- Oil & Gas
- Pressure Equipment Fabrication
- Petrochemical & Fertilizer
- Power Generation
- General Industry
- Public Works



PRODUCTS & SERVICES

- Oil & Gas Plants
- Petrochemical & Fertilizer Industry
- Pressure Equipment
- Skid Units & Modular Plants
- Heaters
- Fuel Storage & Loading Facilities
- Maintenance Services
- Power Generation
- Industrial Projects
- Pipelines
- Special Fabrications



EKME FACILITIES

- Fabrication Plants
- Production Data



ENGINEERING



INNOVATION

- Special Cases - Patents



QUALITY MANAGEMENT



PEOPLE & SAFETY

- Human resources
- Health & Safety
- Environmental Policy

In the field of industrial projects, where advanced technical know-how and adherence to strict quality specifications and safety standards are essential, few companies can demonstrate the efficiency, reliability and experience of EKME.

EKME followed the evolution of the Greek industry since the early 70s in the most technologically demanding sectors such as refineries, petrochemical and fertilizer plants, power generation plants, fuel storage and distribution facilities etc.

The company acquired considerable technical knowledge by undertaking the construction and maintenance of industrial plants, where state of the art production applications were introduced for the first time in Greece by internationally reputed engineering firms.

This provided a stepping stone for the company from the early eighties to advance its manpower's skill level, extend the production capacity of its machinery and structure its organization in a fashion which allows EKME to undertake the execution of complex industrial projects and the fabrication of high specification process equipment.

Through its forty-year course EKME and its staff, have demonstrated an exemplary ethos, reliability and client oriented culture, all of which have distinguished EKME from its competitors. This distinction is best embodied in the following target statement.

Commitment | Reliability | Excellence



Yannis Karyotis
President



40+ years

1973-2015

Commitment

EKME has continuously been servicing primarily the oil and gas industry as a field contractor and as a pressure equipment fabricator since 1973.

Commitment to the highest quality and safety standards and delivery within strict time schedules have earned its reputation as the most reliable industrial contracting and fabrication company in Greece and have enabled the company to expand its operations abroad.

We are proud of having established long term relationships with our clients based on maintaining a high quality of service over a number of diverse and challenging projects. EKME is a reliable partner available 24 hours 7 days a week exhibiting the alertness and efficiency required to successfully carry out the job.

Reliability

The company's organization, human resources, facilities and equipment have been developed for the purpose of increasing efficiency when undertaking demanding industrial projects, maximizing safety, keeping response times to a minimum and meeting tight schedules, maintaining at the same time the highest and strictest quality standards.

EKME has proved it can carry out efficiently any project within the company's scope satisfying demanding customer's requirements such as the use of sophisticated and exotic materials and the application of specialized and demanding processes. Attention to detail, deep technical know-how and a multi-tasking, project-oriented organisation are key factors to success.

Excellence

- Staying focused & committed
- Continuously investing in technology and training of its technical personnel
- Advancing our organizational sophistication and flexibility
- Assisting the client beyond the typical employer-contractor relationship
- Making health & safety a continuous and mandatory priority
- Caring for the environment
- Expanding to new markets/clients

Quality

The company has a quality orientated philosophy that traverses all its activities.

- ASME U, U2 & S
- EN ISO 3834-2 & PED
- PED/97/23/EC
- GOSPROMNADZOR
- GOST

HSE

- ISO 14001
- OHSAS 18001



Awards

We have the honor of being listed among the strongest companies in Greece since the inception of the ICAP award in 2011.



Greek values

In 2014 EKME was presented with an award for its export activity performance by the Federation of Industries of Northern Greece.



Albania
Algeria
Bulgaria
Belgium
Canada
Denmark
France
Germany
Greece
Italy
Iraq
Japan
Libya
Nigeria
Netherlands
Slovakia
Spain
Republic of Belarus
Russia
United Arab Emirates (U.A.E.)
U.K.
U.S.A.
Switzerland

Global presence

The basic body of EKME's clients are found in the oil and gas industry, chemical-petrochemical and fertilizer plants and the power generation industry. We also service industries from a wide range of sectors (cement, aluminium, food and pharma).

EKME has built up a solid reputation as a reliable business partner through collaborations with reputable companies such as Technip, Techint, Merichem, Prosernat, Heurtey Petrochem, Maire Tecnimont, Foster Wheeler, Snam Progetti and many others.

Since 2014 EKME has began its collaboration with the ARCHIRODON n.v. Group - a global partner with decades of experience in large scale infrastructure projects in the Middle East and North Africa regions.



- Product destination map
- Client Locations
- EKME Facilities



Industries

- Oil & Gas
- Pressure Equipment Fabrication
- Petrochemical & Fertilizer
- Power Generation
- General Industry
- Public Works

OIL & GAS

The Oil and Gas sector represents the majority of EKME's operations, both in shop and field related projects. EKME originated from this sector, establishing itself as a maintenance contractor in Thessaloniki's Exxon refinery in 1973. From that point, the company has been continuously serving the industry, always expanding its scope of offered services and technological capabilities.

Nowadays EKME is a trusted supplier and contractor of the Oil and Gas Industry, emphasizing the establishment of long-term co-operations with our clients, who value EKME for its commitment, reliability and responsiveness to all their needs.

The range of projects undertaken by the company throughout its history fall into the following major fields:

Erection of complete Process Units + Revamping / Upgrading of Existing Units

Crude Distillation, FCC, Demineralization Unit, Desulphurization Unit, Ultra Low Desulphurization Diesel Oil Unit, Power Former, TAME, Isomerization units, PP Splitter units, Methanol Extraction, Feed, D.O.D.D. , Sulphur recovery units, Hydrogen, Plant / Instrument Air Unit, Steam Generation, Fuel Oil, Fuel Gas, Flare Unit, Sulphur Handling Unit, Condensate Recovery Unit, Anime Unit, Sour Water Unit, Cooling Tower Unit, Catalyst Reformer (CCR).

Design And Build of Complete Fuel Storage and Loading Facilities (Petroleum, Fuel, LPG)

EKME has long been regarded as a leading storage tank fabricator and erector in the Greek market. With over 70 tanks erected and over 50 serviced in the past 30 years, (all to API or EXXON standards) the accumulated know-how and expertise allows us to consider tank erection as one of the strongest points of our erection activities. Tanks erected include fixed & floating roof, without size limitation.

Installation of Pipelines

Pipelines for petroleum, gas, petrochem and chemicals have been constructed by EKME. Construction of residential gas distribution networks is also part of EKME's scope.

Maintenance (including offshore facilities)

EKME has been a permanent contractor for the maintenance of all Greek refineries for over 40 years. Undertaking projects within production units means that work is frequently carried out with the industry operating, a condition that causes for alertness, understanding the technical parameters and intensive precautions taken.

In addition EKME is the only greek company with extensive experience in the maintenance of offshore oil rigs.



PRESSURE EQUIPMENT FABRICATION

EKME is the leading pressure equipment fabricator in SE Europe with a range of production that includes Pressure Vessels, Heavy Wall Pressure Vessels, Shell and Tube Heat Exchangers, Reactors and Columns / Towers with a wide range of material grades (Cladded, Alloy). ASME U and U2 Certification and a plate rolling capacity of up to 130 mm EKME can cover practically all the needs of the industry in this field.



Reactors

FCC, Hydrogenerators, Desulphurizers, Catalytic Reactors, Reactor Furnaces, Regenerators, Hydrocrackers, CBA Reactors etc.

Columns / Towers

Methanol Extraction / Recovery Columns, Distillation Columns, Strippers, Depropanizers, Crude Fractionators, Vacuum Towers, PP Splitters, Scrubbers, Absorber Columns, Oxidisers Columns, Regenerators, Deethanisers Towers, Debutanizers Columns etc.

Shell & Tube Heat Exchangers

Feed, Sulphur Condensers, Reboilers, Vaporizers, Coolers, Water Coolers, Heaters, Steam Heaters, Condensers, Stacked, High pressure etc.

Pressure Vessels

Surge Drums, Separators, Desalters, Degasifiers, Absorbers, Steam Drums, Demister Drums, Coalescer Drums, Dryer Drums, Knock-Out Drums, Storage Drums, Instrument Drums, Air Drums etc.

Skid-based and Modular Type Process Units

Skid-based units, including all pertinent activities: mechanical, equipment, piping, electrical, instrumentation, tracing, insulation, painting and delivery on site

Heaters

Complete fabrication & erection of Industrial Heaters & Furnaces

Pipe Spooling Prefabrication

Special Fabrications



PETROCHEMICAL & FERTILIZER

Complimentary to the range of services and products offered to the Oil & Gas sector and particular to the Petrochemical field, EKME offers the supply of Spherical Tanks, Aluminium Silos and also the fabrication of pressure equipment in exotic alloy material.

Furthermore, EKME has extensive work experience in Fertilizer plants both as a new unit contractor and in maintenance services.



POWER GENERATION INDUSTRY

EKME offers complete Field Installation services for Thermal, Hydroelectrical and Cogeneration plants, including EPC solutions, or specific services like Electro-Mechanical Erection and Piping Prefabrication and Installation.

Additionally, we offer Pressure Parts & Equipment supply, including High Pressure Heaters, Material Storage and Handling systems and a wide range of Maintenance Services.

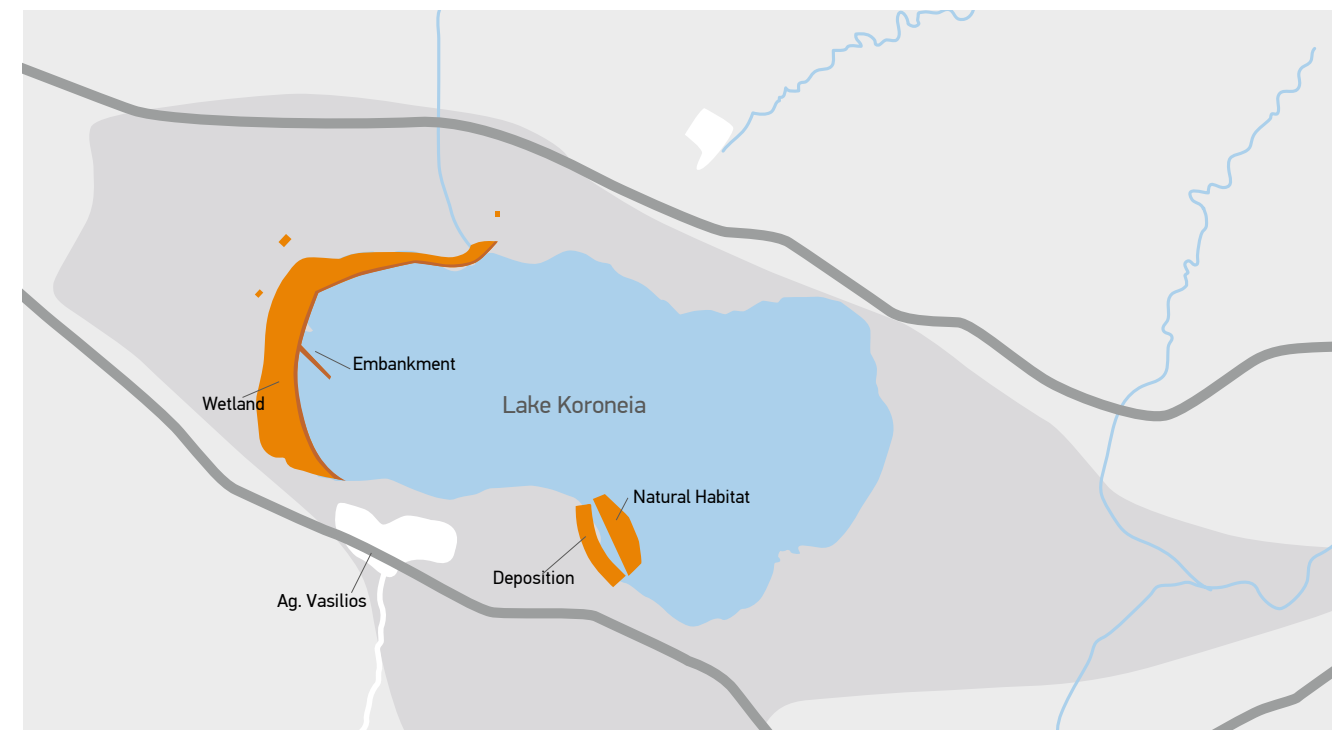
Finally, EKME is one of the largest fabricators of Wind Turbine Towers in SE Europe with extensive experience on supplying even the largest types of conical steel Towers and Foundation sections, including internals.



GENERAL INDUSTRY

The portfolio of EKME's field of industrial operations is completed by other industrial sectors such as Cement & Lime, Aluminium, Food & Beverage, Bio-Diesel, Mineral products and others.

Complete plant installations is offered, from Civil Works up to Commissioning services, including Detail Engineering disciplines.



PROJECT

Rehabilitation of Lake Koronia: Creation of deep marine habitats

OWNER

Prefecture of Central Macedonia, Thessaloniki

PUBLIC WORKS

The level of technical and project execution expertise that EKME has attained, classify the company as one of the large construction firms in Greece.

EKME can undertake a wide range of Public Work projects, including those in the fields of hydraulics, electromechanical and industrial-energy.

EKME's current classification for public work projects is as follows:

No	Projects	Degree
1	Hydraulics	E'
2	Electromechanical	E'
3	Industrial - Energy	E'
4	Buildings	D'
5	Roadworks	C'
6	Port	C'
7	Port & Shipyard Projects	A'

EKME is listed among the authorized contractors in the official list issued by the Ministry of Environment, Energy and Climate Change (YPEKA) and is a member of SATE (Association of Greek Contracting Companies).



PROJECT

Adjustment of streams at Municipality of Almopia

OWNER

Prefecture of Central Macedonia, Pella, N. Greece



PROJECT

Extention of District Heating Network in Amynteo, Filotas

OWNER

District Heating Municipal Company of Amynteo s.a.



Products & Services

- Oil & Gas Plants
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OIL & GAS PLANTS

EKME has 40 years of experience in the sector of field erection projects for refineries and Oil & Gas plants in general. As such it is widely considered the preeminent refinery contractor in Greece with an un-matched track record of successful project executions. These projects range from grass-root new plant / units erection to complex, shut-down related unit revamping and upgrade projects.

EKME offers a complete array of field activities from Earthworks and Civil Constructions to Steel Structure supply and installation, Static & Rotating Equipment installation - including heavy lifting operations and internals' installation - Piping prefabrication and installation, Electrical & Instrumentation works, Refractors & Coating works and finally Pre-Commissioning / Commissioning / Start-up operations.

EKME offers services of the highest quality under the strictest health & safety regulations. Our people are accustomed in operating with the required awareness and safety as they are experienced working in live-operation surroundings under hot-permit conditions.

Maintaining high quality and safety standards is not enough if you do not deliver in time in this business, and EKME is very aware of the fiscal damages a delayed project can afflict to our customers. EKME has the organisational flexibility to accelerate its progress when required to meet the client's schedule.

EKME was born in the Oil & Gas industry so we share the same DNA with our trusted and long-term clients. We know the intricacies and demands of this field and we can be a valuable partner to any client, be it an EPC firm, or an Oil/Gas Operator.



PROJECT	LOCATION	CLIENT
Thessaloniki refinery upgrading – mechanical works for equipment and steel structure erection in CCR unit	Thessaloniki refinery	Hellenic Petroleum s.a.



PROJECT	LOCATION	CLIENT / END USER
Elefsina refinery upgrading project - mechanical erection works	Elefsina refinery	Hellenic Petroleum s.a.

OIL & GAS PLANTS



PROJECT	LOCATION	CLIENT / END USER
Unit 100 restoration project	Thessaloniki refinery	Hellenic Petroleum s.a.



PROJECT	LOCATION	CLIENT / END USER
Erection and electromechanical works of ULSADO unit	Thessaloniki refinery	Hellenic Petroleum s.a.



PROJECT	LOCATION	CLIENT / END USER
Unit CDUIII 3H01 A/B Fired Heater replacement	Elefsina refinery	Hellenic Petroleum s.a.

PETROCHEMICAL & FERTILIZER INDUSTRY

As sectors that are very similar to Oil & Gas, EKME is able to offer the same range of services to its clients in these Industries. With extensive experience in executing grass-root and maintenance projects in Fertilizer Plants (Phosphoric, Ammonia), Petrochemical plants (PVC, Polypropylene)

and with knowledge and qualifications in working with the specialty alloy material prevalent in these projects, as well as Aluminium constructions, EKME is a reliable partner for the Petrochemical & Fertilizer Industry.



PROJECT	LOCATION	CLIENT	MAIN CONTRACTOR
Civil Works and Structural Steel Works for a new Silo Plant for 10 silos 450 m³	Thessaloniki	Hellenic Petroleum s.a.	COPERION WAESCHLE GmbH & Co KG



PROJECT	LOCATION	CLIENT / END USER
Construction of PVC Slurry Stripping Unit	Thessaloniki refinery	Hellenic Petroleum s.a. and CHISSO Engineering (Japan)



PROJECT	LOCATION	CLIENT / END USER
Construction - replacement of phosphoric acid unit cubes	Kavala	PFI, Phosphoric Fertilizer Plant s.a

PRESSURE EQUIPMENT

Reactors

The full extent of EKME's fabrication capacity and high technical proficiency are highlighted in the Design & Fabrication of critical equipment such as Reactor vessels. EKME is proud to have supplied a number of reactors to the Oil Refinery industry, including FCC reactors and Hydrocracker reactors.

From large scale items, with vessel diameter exceeding 8 m and shell thickness exceeding 85mm (company's plate rolling limit is 130mm), to Alloy material with stainless internal cladding, built-up internal support rings and complex integral forging parts, EKME is fully capable to supply any type of Reactor vessel within its fabrication range.



PROJECT	Top Section of the FCC reactor K-4101X
YEAR OF CONSTRUCTION	2014
UNIT	U-4100
CLIENT / END USER	Hellenic Petroleum s.a.
HEIGHT (m)	10,53
INTERNAL DIAMETER (m)	6,677
WEIGHT (tns)	80
CAPACITY (m³)	300
DESIGN CODE	ASME VIII Div.1 FEA
DESIGN PRESSURE bar g	3,73
DESIGN TEMPERATURE (°C)	343/580
MATERIALS	SA 516 Gr 70 SA 350 LF2 SA 204 Gr C SA 182 F1 SA 182 F5 SA 312 Tp321H Refractory lining

PROJECT	Top Section of the Regenerator K-4102
YEAR OF CONSTRUCTION	2004
UNIT	U-4100
CLIENT / END USER	Hellenic Petroleum s.a.
HEIGHT (m)	4,55
INTERNAL DIAMETER (m)	8,175
WEIGHT (tns)	80
CAPACITY (m³)	170
DESIGN CODE	ASME VIII Div.1 FEA
DESIGN PRESSURE bar g	4,6
DESIGN TEMPERATURE (°C)	343
MATERIALS	SA 516 Gr 70 SA 240 Tp 304H SA 105 SA 312 Tp 304H Refractory lining



PROJECT	Top Section of the FCC reactor K-4101X
YEAR OF CONSTRUCTION	1999
UNIT	U-4100
CLIENT / END USER	Hellenic Petroleum s.a.
HEIGHT (m)	13,872
INTERNAL DIAMETER (m)	6,677 / 5.800
WEIGHT (tns)	75
CAPACITY (m³)	360
DESIGN CODE	ASME VIII Div.1 FEA
DESIGN PRESSURE bar g	3,73
DESIGN TEMPERATURE (°C)	343 / 580
MATERIALS	SA 516 Gr 70 SA 350 LF2 SA 204 GrB SA 182 F1 SA 182 F5 SA 312 Tp321H



PROJECT	Reactor 34-R-001002 Elefsina	
YEAR OF CONSTRUCTION	2009	
UNIT	Hydrocracker / Elefsis Refinery	
CLIENT / END USER	Hellenic Petroleum s.a.	
HEIGHT (m)	5,5	20,2
INTERNAL DIAMETER (m)	2,4	2,6
WEIGHT (tns)	51	170
DESIGN CODE	ASME VIII Div. 1, PED 97/23/EC, FEA Analysis, API 934	
DESIGN PRESSURE bar g	86.3/F.V.	80.42/F.V.
DESIGN TEMPERATURE (°C)	400/177	420/177
MATERIALS	SA387 Gr 22 Cl 2_87mm	SA 387 Gr 22 Cl 2 + Clad Tp 347_ (84+3) mm

PRESSURE EQUIPMENT

Towers / Columns

Fabrication of Towers & Columns is one of the most important fields of EKME's shop operations. We are very proud to have supplied a number of high-spec, large volume items for our reputable customers, who value EKME's extensive experience and capabilities in this field.

From internally clad towers with multiple alloy materials to large-volume, field erected columns (which EKME can supply fully assembled through the use of our Assembly Yard at Thessaloniki's Port) EKME's ability is second to none in Tower/Column supply.



PROJECT	CLIENT	END USER
C-7102_ Crude Fractionation Column	Technipetrol Hellas S.A.	Motor Oil (Hellas) Corinth Refineries s.a.



PROJECT	CLIENT / END USER
Vacuum Tower 31-C-001 for Hydrocracker unit	Hellenic Petroleum s.a., Elefsis Refinery Upgrading Project



PROJECT
N 4252 A/B PP Splitter Towers
CLIENT / END USER
Hellenic Petroleum s.a., Aspropyrgos Refinery



PROJECT
3-T-102 Stabilizer Tower
CLIENT / END USER
Hellenic Petroleum s.a., Elefsis Refinery



PROJECT
Upgrading and Replacement of Virgin Naphtha Debutanizer T-301 Hellenic Petroleum s.a.
CLIENT / END USER
Hellenic Petroleum s.a., Thessaloniki Refinery



PROJECT
Supply of towers T-1401, T-150 & T-411
CLIENT / END USER
Hellenic Petroleum s.a., Thessaloniki Refinery



PROJECT
Outboard Flash Tower T150
CLIENT / END USER
Hellenic Petroleum s.a., Thessaloniki Refinery



PROJECT
T1401 Stabilizer Tower
CLIENT / END USER
Hellenic Petroleum s.a., Thessaloniki Refinery

PRESSURE EQUIPMENT

Shell and Tube Heat exchangers

S&T Heat Exchangers supply is another of EKME's core business, with a large size portfolio of approximately 300 fabricated items in the past 25 years.

We have experience in practically all type of TEMA-type heat exchangers, without limitations in size, material grades or configuration. Complete engineering studies are carried out in house. Critically important is the fact that we have a deep

knowledge of the details and complexity of heat exchanger maintenance operations, which is transferred into the engineering of the items to allow for ease of bundle extraction. In addition to S&T Heat Exchangers, EKME can also provide solutions to custom applications and fabrication of specialized designs as well as Air-Cooler maintenance and fabrication services.



PROJECT

M-3401D Reactor Effluent/Fresh Feed Exchange

CLIENT / END USER

Hellenic Petroleum s.a., Aspropyrgos Refineries



PROJECT

PERM Sulfur Recovery Unit

CLIENT

PROSERNAT s.a. on behalf of Closed Joint Stock Company "LUKOIL-CHEMOMORY"

END USER

OOO "LUKOIL-PNGP"



PROJECT:

ULSADO Revamp /Feed / Effluent Exchanger

CLIENT / END USER

Hellenic Petroleum s.a., Thessaloniki Refinery



PROJECT:

S&T C.S. Heat Exchangers - VDU Unit Elefsis Refinery Upgrade Project

CLIENT / END USER

Hellenic Petroleum s.a., Elefsina

PRESSURE EQUIPMENT

Pressure Vessels/Drums

EKME's long experience in Pressure Vessel manufacturing spans three decades with more than 310 items having been fabricated in this period. The Company has evolved from simple LPG tank and LP drum manufacturing, to the largest supplier of pressure equipment for the Oil & Gas and other industries in Greece, and one of the largest manufacturers in SE Europe.

Through our Thessaloniki shop we can supply vessels of high specification requirements, of large diameter and length/height, heavy wall thickness items with complex internal and external attachments and nozzle configurations. With an extensive experience in all material grades, vessels can be supplied in uniform or clad material, or in high alloy grades, the latter fabricated in specialized separate areas to prevent contamination.

Desalter vessels and fully dressed Packages, including internals, are also included in our scope of services.



PROJECT

Supply of two desalter vessels with associated accessories and spare parts for OMSK NP2 Project

CLIENT

PROSERNAT s.a.

OWNER

GAZPROMNEFT - MURAVLENKO OF JSC "GAZPROMNEFT-NOYABRSKNEFTGAZ", Omsk, Russia



PROJECT

Supply of ten (10) HIC Drums for Lukoil Burgas Refinery Heavy Residue Process Complex First Stage

CLIENT / OWNER

TECHNIP ITALY S.p.A.

OWNER / END USER

LUKOIL NEFTOHIM BURGAS AD



PROJECT

Supply of heavy wall drums D 1902 (Hot Separator) and D 1903 (Cold Separator)

CLIENT / END USER

Hellenic Petroleum s.a., Thessaloniki Refinery



PROJECT

V3205 Main column overhead receiver

CLIENT / OWNER

MOTOR OIL (Hellas) Korinth Refineries s.a.



PROJECT

Supply of Carbon Steel Columns for Lukoil Burgas Refinery Heavy Residue Process Complex First Stage

CLIENT

TECHNIP ITALY S.p.A.

OWNER / END USER

LUKOIL NEFTOHIM BURGAS AD

PRESSURE EQUIPMENT

Desalters



PROJECT	CLIENT / OWNER	MAIN CONTRACTOR
Supply of two desalter vessels with associated accessories and spare parts for Omsk NP2 project	PROSERNAT s.a.	HEURTEY PETROCHEM, Russia



PROJECT:	CLIENT	END USER
Item: D-150, Supply of Crude Oil Desalter	PETRECO PROCESS SYSTEM	Hellenic Petroleum s.a., Thessaloniki Industrial Complex



PROJECT:	CLIENT	END USER
Two Desalters, Items V-7101 & V-7102	PROSERNAT s.a.	New C.D.U. Complex - MOTOR OIL (Hellas), Corinth Refineries

SKID UNITS & MODULAR PLANTS

The supply of Skid Units and Modular Plants is another core business of EKME. With extensive experience in Pressure Equipment Fabrication, Piping and Structural Steel Works and Electromechanical field work, coupled with our extensive engineering capabilities, EKME is in a unique position to perform in-house all the necessary operations and works to deliver a complete Skid Unit or Modular Plant to the client. Based on the Diagrams of the Unit and information on the skid dimensions, EKME can proceed to the detail engineering and complete fabrication of such a Unit as follows:

- Detail Engineering of all Pressure Equipment, Piping, Structural Steel, E&I
- 3-D Modelling of the unit
- Full procurement & expediting activities.
- Complete manufacturing & assembly within our shop Testing & Precommissioning
- Delivery of the Skids ready for operation, followed by all relevant certification (for example PED, ASME, U, U2 & S, GOST Technical Passport etc)



PROJECT

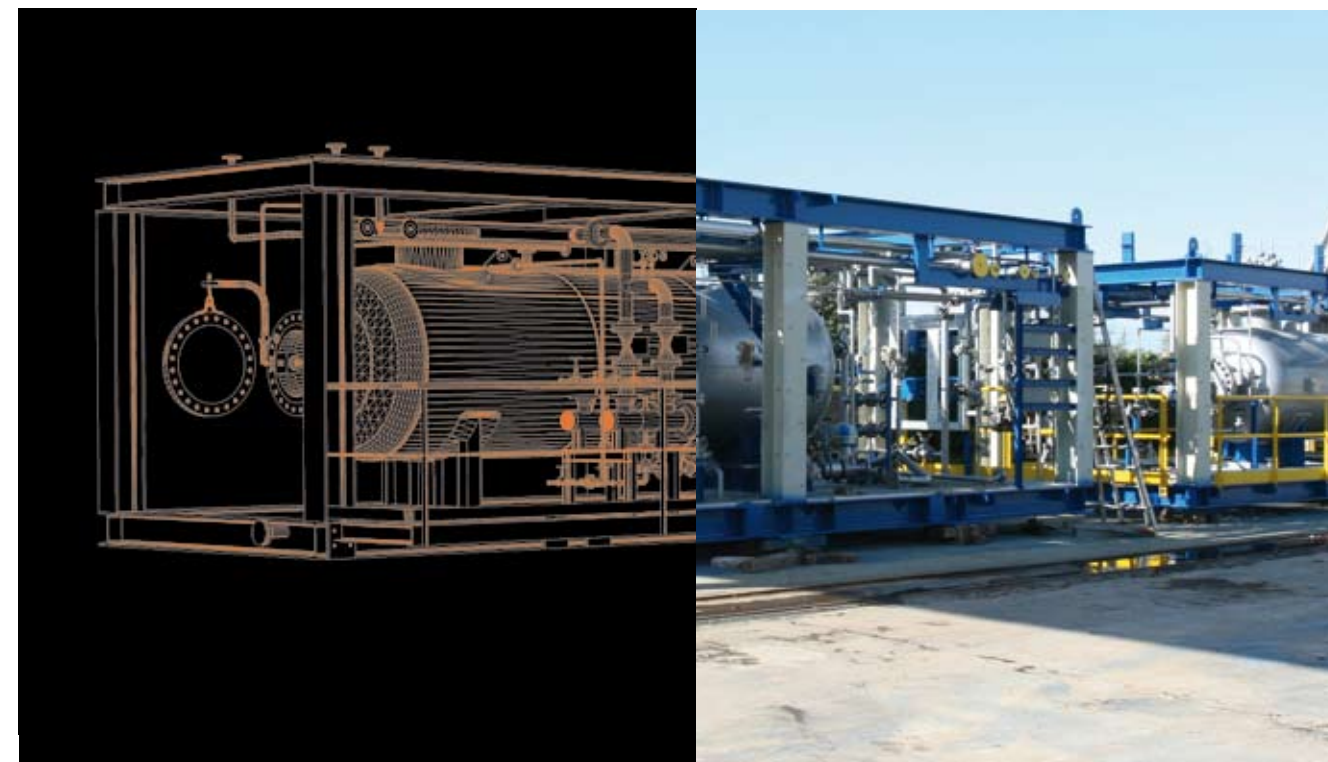
Fabrication of 18 vessels skid mounted & 6 drain tanks

CLIENT

PROGETTI Europa & Global S.p.A.

END USER

Iraq Ministry of Oil / South Oil Co. (SOC)



PROJECT

Modular System Using Proprietary Technology

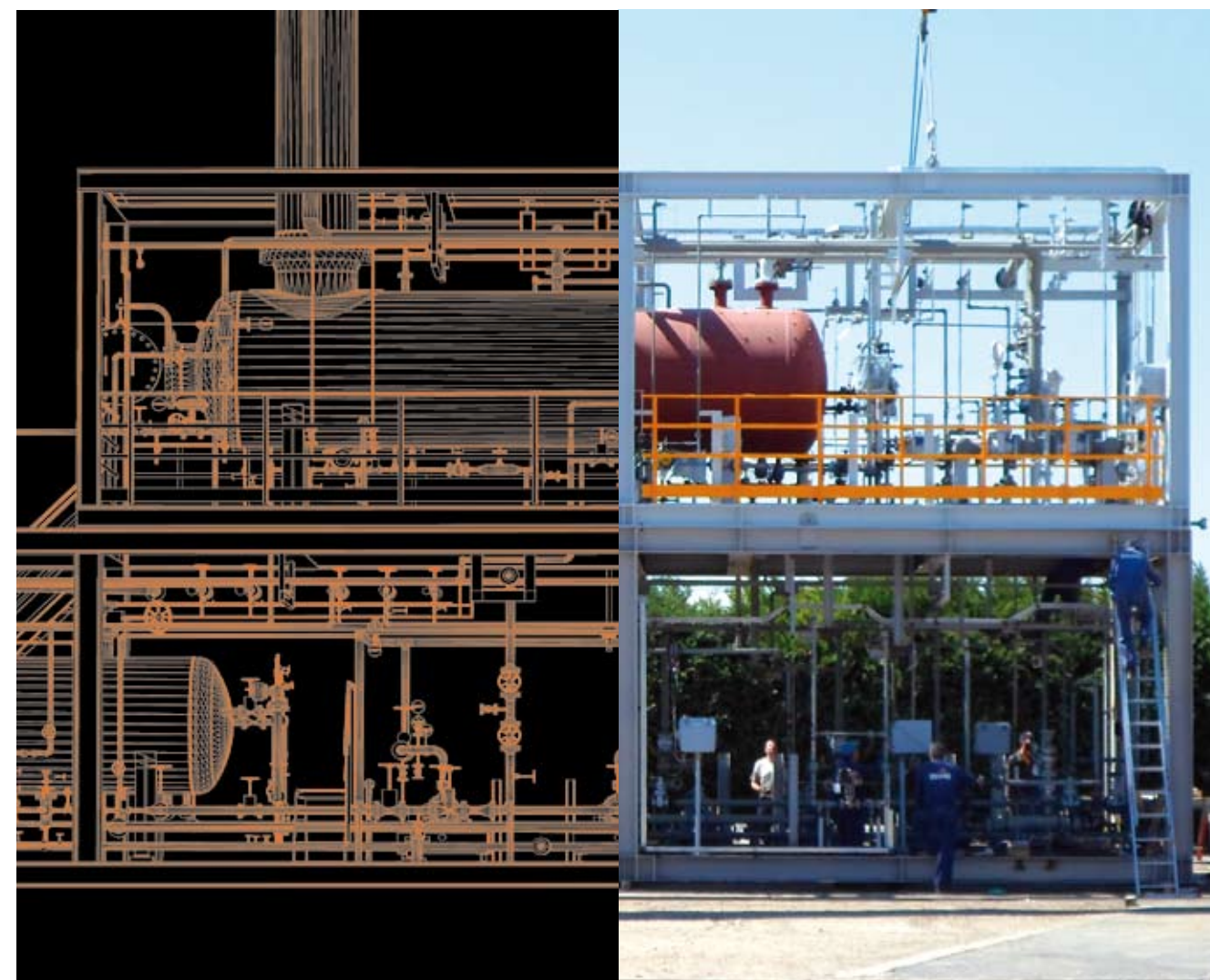
CLIENT

MERICHEM Company

OWNER

Hellenic Petroleum, Elefsina

SKID UNITS & MODULAR PLANTS



PROJECT

Modular system treating 82,4 m³/h of LPG for TAIF-NK Veba Combi Cracker (VCC) project

LOCATION

Russia

CLIENT

MERICHEM Company

MAIN CONTRACTOR

TOYO Engineering

OWNER

Public Stock Corporation "TAIF-NK"

Skid Based/ Modularized Process-Units for:

Refineries
Petroleum Storage
Chemical
Petrochem
Natural Gas
Fertilizer

Including all pertinent activities:

Mechanical
Equipment
Piping
Electrical
Instrumentation
Insulation
Lining / Painting
Delivery to site

HEATERS

EKME has extensive experience in the fabrication and installation of Heaters for Oil Refineries.

All steel parts are supplied through our Thessaloniki shop, whilst modularization options are also possible through the use of our Assembly Area inside the Thessaloniki Port.

Field installation works for new heaters, or modifications on existing items including tubes replacement are performed by our own staff, thus safeguarding the high quality and reliability of the work.



PROJECT	Steelwork fabrication and montage of Steam Superheater
CLIENT	HEURTEY s.a. / Total Refinery, Gonfreville, France
END USER	TOTAL Refinery Gonfreville, France



PROJECT	New Air Pre-Heater system for L-2101
LOCATION	Hellenic Petroleum s.a., Aspropyrgos
CLIENT	HEURTEY Petrochem s.a.

PROJECT

Construction of one new double shell and convection Crude Oil Heater 3H01AB and the revamping of one existing Hot Oil Heater H101.

LOCATION

Elefsis Refinery

CLIENT / END USER

Hellenic Petroleum s.a.



FUEL STORAGE & LOADING FACILITIES

Fuel Storage & Loading facilities are one of the strongest areas of EKME for all types of fuel: petroleum, LPG, Propane/ Butane etc. As the premier tank erector in Greece in the past 30 years we have the knowledge and the means to Design, Prefabricate and Install any type of Storage Tank, of fixed or floating roof design, in steel or aluminium construction, in rapid progress, highest quality and safety.

Furthermore as the largest fabricator of pressure vessels in the country we can supply any type/size of storage drums or bullets, for either above or under ground use.



PROJECT

Dendropotamos loading terminal modernization- erection of new truck loading station and pump station upgrading

LOCATION

Kalohori depot, Thessaloniki

CLIENT & USER

EKO ELDA s.a.



PROJECT

Departmentalization of an 63.000 m³ overground storage tank into 4 separate compartments

LOCATION

Kalochori, Thessaloniki

CLIENT / END USER

MAMIDOIL – JET OIL s.a.

In addition, we can undertake the complete loading facility construction including interconnecting, fire-fighting, E&I and Automation and Commissioning works, delivering an operating, complete plant to the client. Serving as a one-stop shop, with our own fabrication facilities, we can guarantee the best quality in the minimum possible time.

Finally, the company can undertake specialised projects such as spheres installation and execute patented, novel applications on existing fuel tanks, such as departmentalisation in separate compartments, and specialised maintenance services which entail the lifting of entire tanks, allowing access to the bottom tank section and the underground area.



PROJECT

New storage and loading facilities for petroleum products

LOCATION

N. Anhialos, Thessaloniki

CLIENT / END USER

VITOUMINA s.a.



PROJECT

Demineralization water tank

CLIENT

TECHNIP, Benelux

LOCATION

EKME shop, Thessaloniki

END USER

OJSC- NAFTAN, Belarus



PROJECT

Supply, erection and “ready for use” delivery of two new crude tanks TK 881-TK 882, volume 80000 m³ each & new crude tanks interconnection piping works

LOCATION

Hellenic Petroleum s.a., Thessaloniki Refinery

CLIENT / END USER

Hellenic Petroleum s.a.



PROJECT

Fuel storage tanks and loading facilities

LOCATION

Kalohori depot, Thessaloniki

CLIENT / END USER

SHELL



PROJECT

Erection of three Propylene Storage Spheres New Polypropylene Plant 180 kT/Y

CLIENT

Hellenic Petroleum s.a., Thessaloniki

LOCATION

Thessaloniki Industrial Complex

MAIN CONTRACTOR

TECNIMONT S.p.A., Italy

MAINTENANCE SERVICES

The execution of maintenance works was the first type of job that was undertaken by EKME in the early days of the company's operations. We are proud that this sector still represents a significant part of our activities with EKME having evolved to a major maintenance contractor, the one our clients trust with the most difficult and demanding jobs.

From replacing top head sections of FCC reactors at a height of 70m, to executing the bundle extraction and maintenance of more than a hundred shell & tube heat exchangers within a 20 days shut-down, to being able to mobilize more than 500 of specialised personnel in a limited day time period, EKME's ability for General Shut-Down Services is second to none.

We also undertake permanent maintenance contracts on a daily basis, and that includes any type of industrial plant, from refineries, power plants, even off-shore platforms -where the company has more than 30 years of continuous experience.

- General Refinery Shut Down Projects including:
FCC Reactor & Regenerator Replacement / Revamping Works, Shell Bundle Retubing, Heater's Coil Replacement & Revamping
- Annual Maintenance Contracts
- Offshore Maintenance Services
- Pressure Equipment Verification, Repair and Releveling
- Power Plant Maintenance Services
- Non Destructive Testing & Control



KAVALA OIL FIELD OFFSHORE & ONSHORE FACILITIES

Over a period of 35 years the Kavala oil field offshore & onshore Facilities has found in EKME an entrusted /reliable partner to assist in new constructions and the continuous daily maintenance of the premises.



PROJECT

Erection and Maintenance Works For the FCC Unit

LOCATION

Aspropyrgos Industrial Complex

CLIENT / END USER

Hellenic Petroleum s.a.



PROJECT

Heat Exchanger Maintenance Works on Units U-2000 & U-2100

CLIENT

Hellenic Petroleum s.a.

LOCATION

Aspropyrgos Refinery



PROJECT

Tanks (-4 /- 18 /-24 /-36 /-48 /-59 /-77 /-78) repair works

LOCATION

Elefsina refinery

CLIENT / END USER

Hellenic Petroleum s.a.



PROJECT

2nd Degree Inspection of steam Turbine and Generator, Combined Power Plant

CLIENT

ELPEDISON

LOCATION

Thisvi Power Plant

POWER GENERATION INDUSTRY

The Power / Energy Industry covers a wide range of fields, from large-scale plants such as Thermal (Coal / Fuel / Gas –fired), Hydroelectrical and Co-Generation plants, to Renewable Sources applications such as Wind Energy, Solar and Hybrid Systems. EKME has a long history of servicing the Power Industry, which is second to only Oil & Gas in the frame of the company's experience extent. From new plant field erection, to modification projects, to Shut-Down maintenance services, EKME's top quality and commitment are ever present as the hallmarks of the company.

Examples of Power related projects include:

- Co-Generation plant construction.
- CHP plant construction.
- Mechanical Erection of Thermal plants.
- Prefabrication of Steel Parts, Heavy Wall & Alloy Piping.
- Supply of Wind Turbine Towers and Foundations.
- Mechanical installation in Hydro Plants.
- Fabrication & Installation of Silos & Tanks.
- Fabrication & Installation of Pressure Vessels.
- Fabrication & Installation of Heat Exchangers including H.P. Preheaters
- Maintenance of Gas-Fired Power Plants.



PROJECT

Fabrication of Towers & Foundations for V52 & V90 Vestas Towers

CLIENT

VESTAS Wind Systems A/S



PROJECT

Fabrication and erection of 6 fly-ash storage silos, each of 600 m³ capacity and their associated steel structures and fluidification system

CLIENT

J/V Platanovryssi

LOCATION

Platanovryssi, Drama, Northern Greece

END USER

Public Power Company, Platanovryssi



PROJECT

Main feed water pipe and sections – Thessavros Hydroelectric Power Plant

CLIENT

Client J/V AEGEK s.a. - METON s.a.

LOCATION

Nestos river

OWNER

Public Power Company



PROJECT

Pressure Vessels supply, Open Cycle Power Plant at Hassi R Mel, Algeria

CLIENT

METKA s.a.

END USER

Societe Algerienne De Production De L'electricite



PROJECT

Piping Prefabrication and Erection, Lavrio V power station

CLIENT

METKA s.a for Public Power Company S.E.S., Lavrio



PROJECT

Fabrication of Towers & Foundations for V52 & V90 Vestas Towers

CLIENT

VESTAS Wind Systems A/S



PROJECT

Prefabrication of large bore BOP Piping for Power Production Plant

CLIENT/END USER

METKA s.a./RWE & TURCAS GUNEY ELEKTRIK URETİM a.s. (Turkey)

INDUSTRIAL PROJECTS

EKME is a trusted partner as an Industrial Contractor and Fabricator for a number of industrial projects in fields like:

- Cement Plants
- Steel Mills
- Metallurgical Plants
- Aluminium Plants
- Lime Plants
- Industrial Gas Plants, etc.

EKME is able to provide general contracting services for complete new unit, or revamping projects, coupled with its ability to perform structural steel or machinery fabrication in its Thessaloniki & Kavala shops. Such machinery includes:

- Kilns & Furnaces
- Pressure Equipment
- Storage Tanks & Silos
- Conveyor Belt Systems, etc.



PROJECT	
a.	Installation of the No 5 mill and new cement storage and distribution facilities
b.	New Klinker production Unit - Installation of mechanical equipment
c.	New Coal and Additives Plant

LOCATION	CLIENT
Thessaloniki Plant	TITAN CEMENT s.a.



PROJECT	CLIENT
Tropical Bauxite Sweetening Unit Installation	Aluminium s.a.

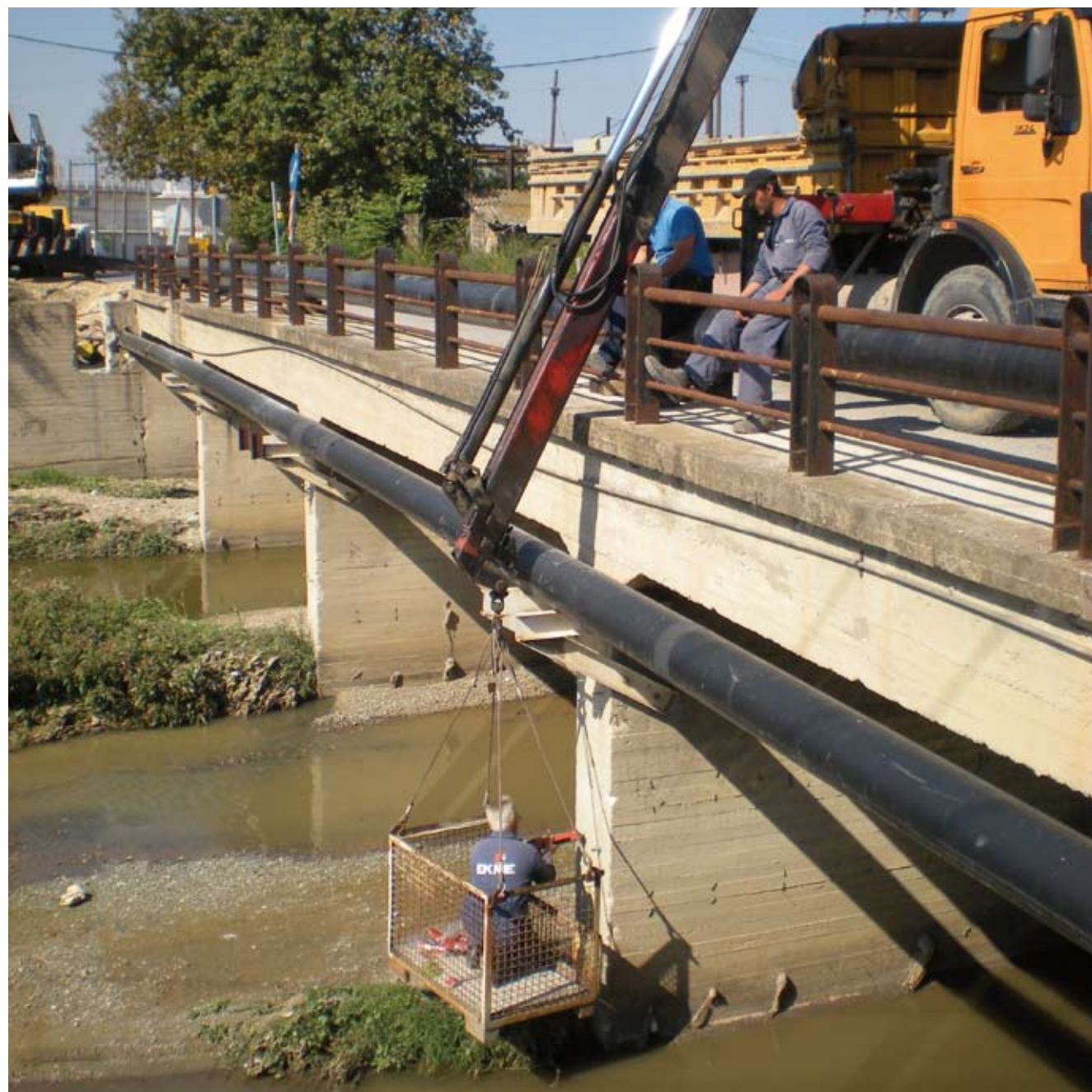


PROJECT	LOCATION	CLIENT / OWNER
New rock wool plant	Terpni, Serres	FIBRAN s.a.

PIPELINES

EKME can undertake the construction of buried or above ground pipelines either in cross-country projects or within plant boundaries. Complete services include site surveying, earth and civil works, pipe laying and welding, coating, hydraulic testing, gauging and commissioning activities.

Offshore pipelines to breasting islands or mooring connections to on-shore facilities are also areas of significant experience and know-how.



PROJECT	LOCATION	CLIENT
Interconnection of CORAL, Fuel Storage premises (with offshore anchorage point of 873A/K), 12" pipeline	Kalochori, Thessaloniki	J Motor Oil Hellas s.a.



PROJECT	LOCATION	END USER
Installation of a 10" Propylene line (5 km total length, 0,8 km submerged part, connecting the breasting island loading facilities to the plants' boundary	Polypropylene Plant, Thessaloniki Refinery	Hellenic Petroleum s.a., Thessaloniki



Relevant projects:

- Extension of Natural Gas Medium Pressure Transmission System at the greater area of Drama for the supply of industrial consumers at Prosotsani Industrial Park Public Power Company
- Natural gas Low Pressure Distribution System Network Development at the Urban areas of Kilikis – Drama – Kavala

PROJECT:	
DEPA natural gas pipeline	
LOCATION:	CLIENT-ENDUSER
Region of Drama, Northern Greece	DEPA s.a.

SPECIAL FABRICATIONS

Our technical expertise enables us to achieve the construction of highly demanding special items such as wind tower columns, mills, kilns, headers and transfer lines with refractory lining, heating modules, aluminum silos, and in general, specialized industrial/mechanical steel items, including machining works.



PROJECT	CLIENT
Fabrication of Towers & Foundations for V52 & V90 Vestas Towers	VESTAS Wind Systems A/S



PROJECT	Feed nozzle cone
LOCATION	Aspropyrgos Refineries
CLIENT / END USER	HELLENIC PETROLEUM s.a.
TOTAL LENGTH	3.850mm
I.D.	1470 x 825mm
WEIGHT	5.500 kgs
SHELL MATERIAL	A516 Gr 70 thickness 13mm
THIRD PARTY INSPECTION	Moody Tottrup Hellas S.A.



PROJECT	LOCATION	CLIENT / OWNER
Pre-heat rotary kiln in a new rock-wool plant Study, design, fabrication and erection	Terpni Serres	FIBRAN s.a.



PROJECT	CLIENT
Construction of aluminium silos for Polypropylene Unit at Hellenic Petroleum s.a., Thessaloniki Refinery	Hellenic Petroleum s.a.



EKME Facilities

- Fabrication Plants
- Production Data

FABRICATION PLANTS

EKME's plants offer complete mechanical fabrication and assembly services and include all the necessary facilities for the execution of the company's fabrication orders in-house.

EKME facilities include:

- Machinery works
- Plate manipulation & Rolling shop
- Welding shop (manual & automated, including heavy-wall application, cladding and weld-overlay applications, alloy-welding and specialty welding)
- Large assembly halls
- Piping prefabrication facilities
- Sandblasting & Painting hangars
- Post Weld Heat Treatment Furnaces
- Trial Assembly & Storage Yards

● EKME Facilities



EKME's main fabrication facilities are located in Thessaloniki, Northern Greece and cover 6000 m² of production units, 1000 m² of office space and total available storage space of 10900 m², in a 35000 m² lot. Transportation of goods is easily carried out through the national road network as well as through Thessaloniki's railway and main seaport located in close proximity.

The branch office and its manufacturing facilities (1500 m²) are located in the city of Kavala, 150 km to the east of Thessaloniki. Transportation is accommodated through the national highway's network (in close proximity) and the city's port.

In 2015, EKME in cooperation with ARCHIRODON n.v. established ARCOMET RMC FZC, a fabrication shop with significant modularisation capabilities due to its sea-front location, in the Ras Al Khaimah emirate in the U.A.E. ARCOMET facilities at Ras al Khaimah's Free Zone Area include Pressure Equipment, Piping and Machining fabrication halls, automated Coating facilities and Heat Treatment facilities. They cover the total range of fabrication requisites for Oil & Gas shop-related projects.

The 100m wide quay front and the spacious Assembly Yard allows ARCOMET to execute large-scale Modularisation projects, including supply of fully dressed process units and offshore plants.



ARCOMET FZC RMC is a joint ARCHIRODON - EKME venture



EKME MAIN FABRICATION FACILITIES - THESSALONIKI, GREECE



ARCOMET FZC RMC FABRICATION FACILITIES RAS AL KHAIMAH UAE

PRODUCTION DATA

Material Range & Grades

The variety of fabrication materials in which EKME is experienced, include carbon steel and low carbon steel, stainless steel, specialty alloys (duplex, incolloy 600/800, hastelloy), copper and nickel alloys, titanium and clad materials.

Material	Min.Thk. (for economical competitiveness)	Max. Possible Thk.	Min.Weight (for economical competitiveness)
Carbon Steel	10 mm	130 mm	2.5 tns
Low Alloy	10 mm	130 mm	2.5 tns
High Alloy	6 mm	100 mm	2.5 tns

The size/weight limitations applicable to EKME's Thessaloniki plant production are shown below. For larger items, EKME, in agreement with the Thessaloniki Port Authority (TPA s.a.), utilizes a dedicated area within the port (the Port Assembly Area) where final assembly or modularization works are carried out by EKME's shop personnel. This allows EKME to deliver even extreme size modules or equipment near the loading dock of the port, from where they can be shipped to final destination.

Max vessel diameter	9,5 m
Max length	40 m @ shop
Maximum plate rolling capacity	100m @ Port Assembly Area
Maximum plate cutting thickness	130 mm @ 2000mm width 250 mm
Weight Limit (per single item)	200 ton @ shop >1000 tons @ Port Assembly Area

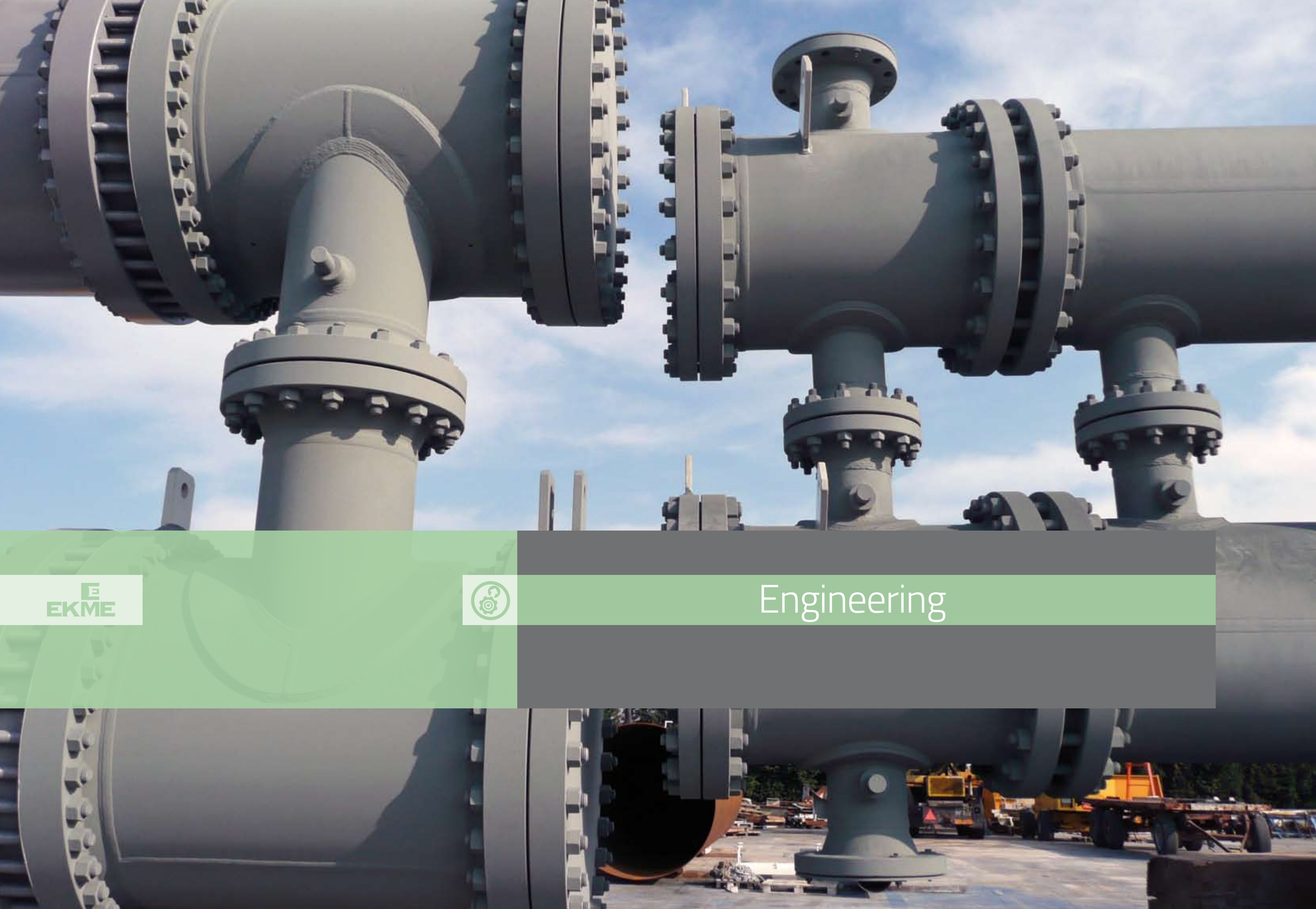


Production Capacity (annual – single shift)

EKME's Thessaloniki plant has the following annual capacity, per different product categories. Please note that these figures represent capacity under a single-shift work schedule, therefore they can be increased by the application of a second work-shift.

Vessels/Towers:	5.500 tns
Reactors:	1.800 tns
Shell&Tube H.E.:	3.000 tns
Piping:	6.500 tns
Storage Tanks:	15.000 tns
Steelworks:	7.000 tns





 EKME



Engineering

EKME's Engineering capabilities cover the entire scope of the company's field and shop fabrication operations, from Pressure Equipment to Modular Units to Tanks & Piping. Our ability to provide these services in-house allow us to optimize our design work, execute faster and offer advance control over project execution parameters.

Engineering covers the following sectors;

- Pressure Vessel mechanical detailed engineering and strength calculations
- Heat Exchangers thermal and mechanical detailed engineering
- Storage Tanks mechanical calculations
- Structural Steel detailed engineering
- 3-D Modelling of Skid & Modular Units
- Finite Element Analysis
- Piping detailed engineering & spooling
- E&I Detailed engineering
- Lifting studies
- Civil Construction detailed engineering

EKME designs and fabricates its equipment in accordance to the following codes:

- ASME VIII Div. 1, Div. 2
- PED 97/23/EC
- AD Merkblätter
- TEMA
- BS 5500
- API
- CODAP
- ISPESL
- GOST

Client's special specifications can also be adopted

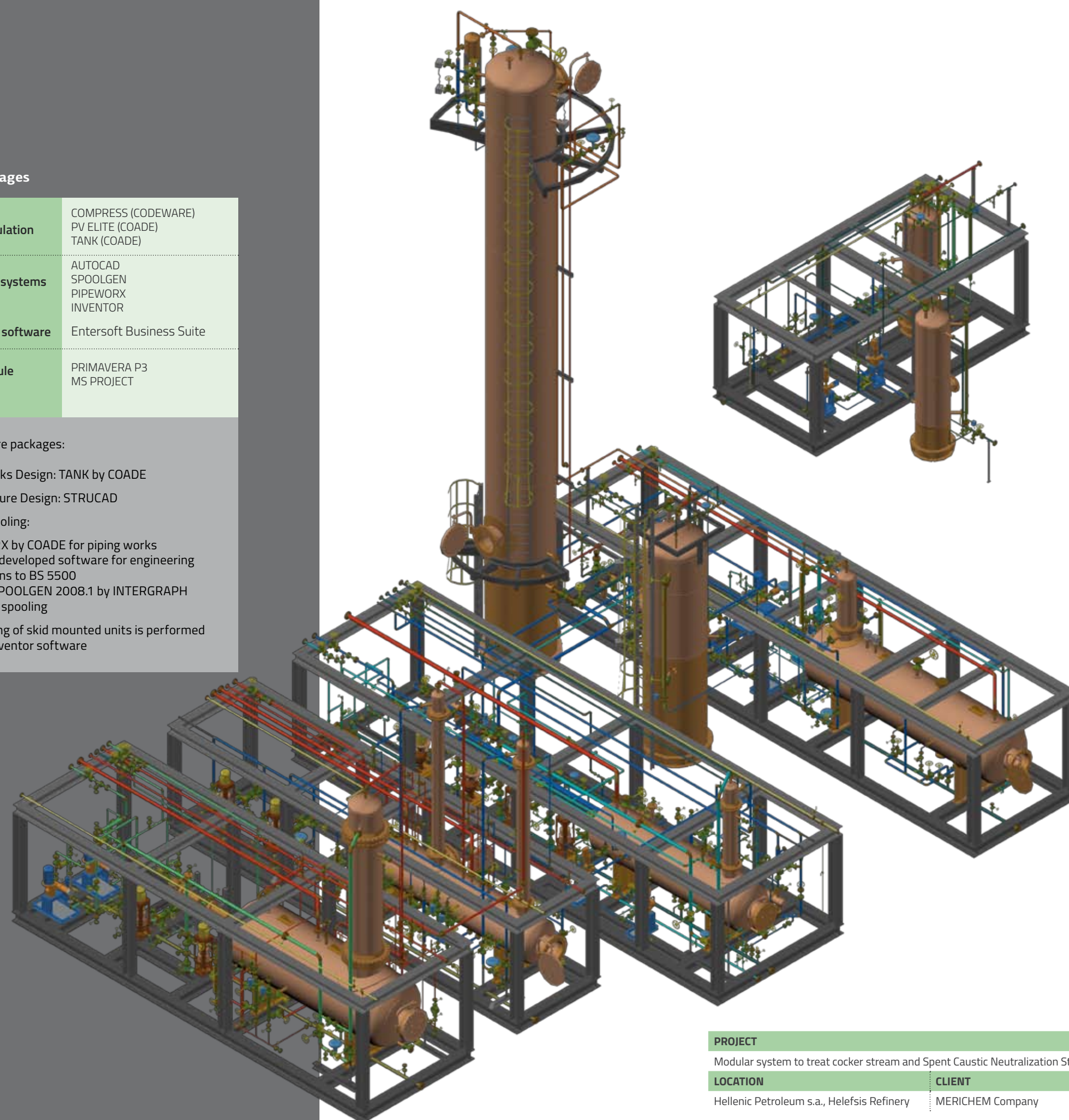
The detailed engineering of the process equipment is carried out by EKME using the Compress software by Codeware or PV Elite by COADE for ASME vessels. 3D visualization and isometric drawings of the units under construction, enable the efficient organization of the production procedure from the prefabrication to the final erection / assembly.

Software Packages

Available calculation systems:	COMPRESS (CODEWARE) PV ELITE (COADE) TANK (COADE)
Available CAD systems	AUTOCAD SPOOLGEN PIPEWORX INVENTOR
Company ERP software	Entersoft Business Suite
Project Schedule software:	PRIMAVERA P3 MS PROJECT

Other software packages:

- > Storage Tanks Design: TANK by COADE
- > Steel Structure Design: STRUCAD
- > Piping / Spooling:
 - PIPEWORX by COADE for piping works
 - in-house developed software for engineering calculations to BS 5500
 - SMART SPOOLGEN 2008.1 by INTERGRAPH for piping spooling
- > 3D-Modelling of skid mounted units is performed using the Inventor software



PROJECT

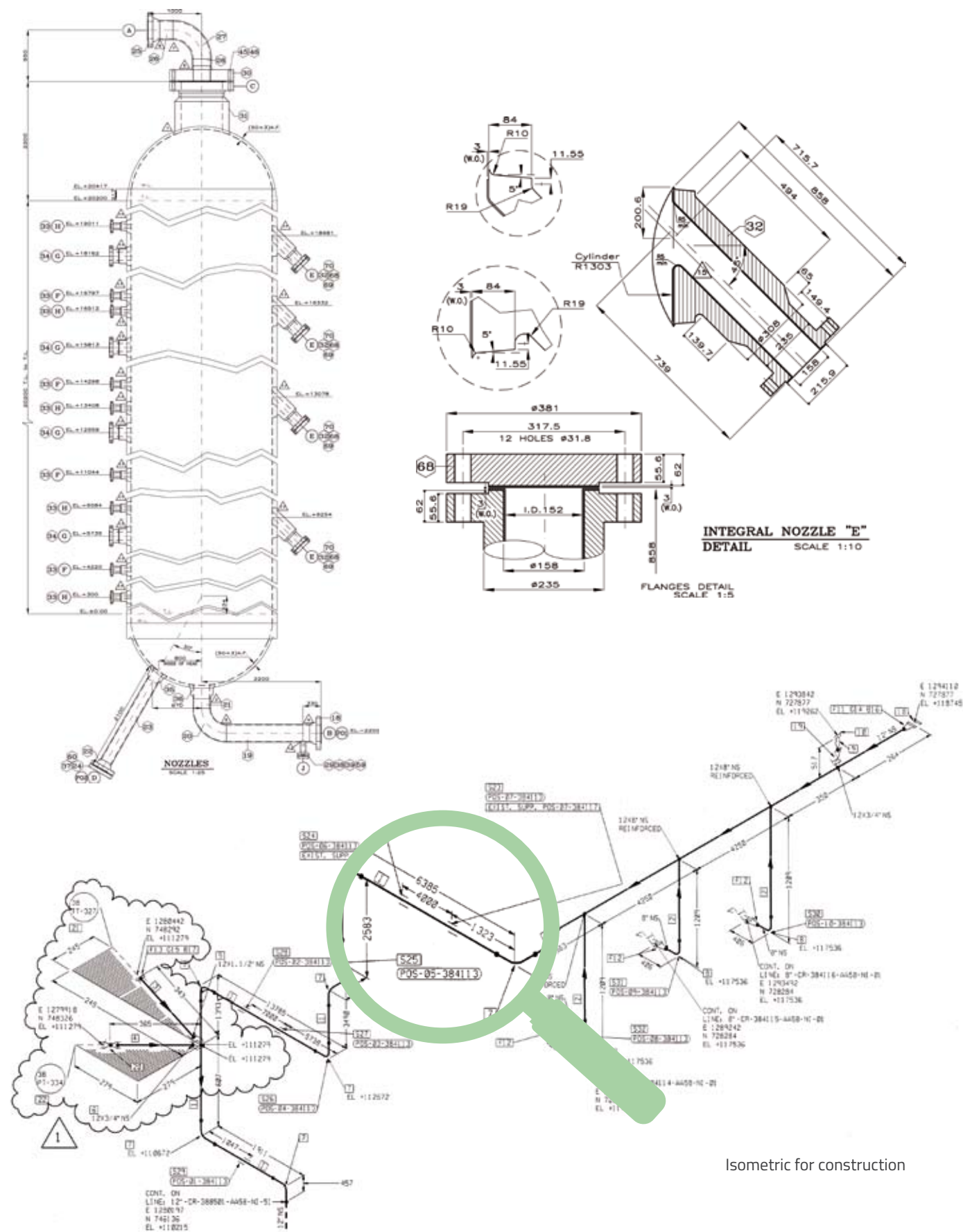
Modular system to treat cocker stream and Spent Caustic Neutralization Stream

LOCATION

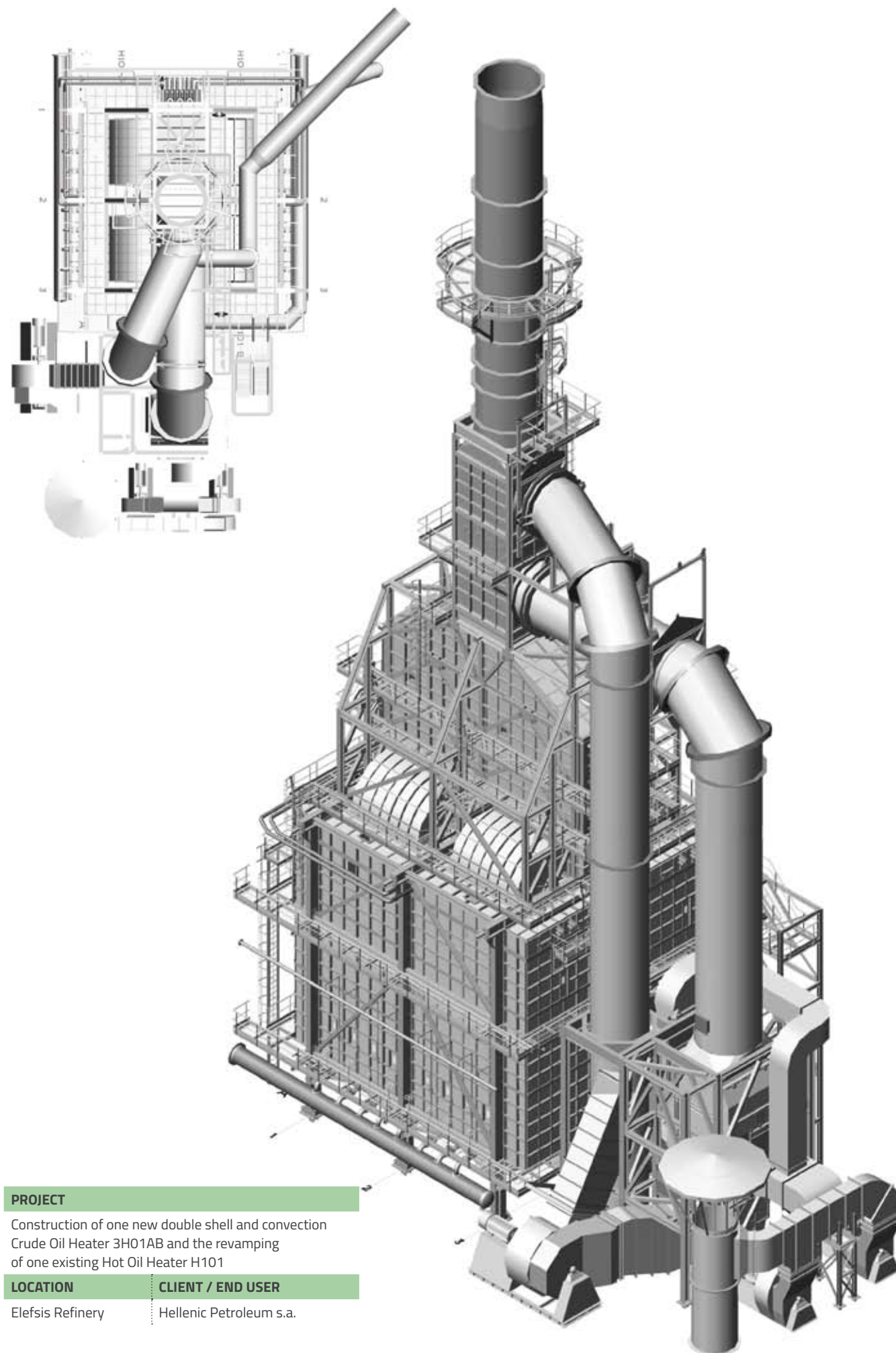
Hellenic Petroleum s.a., Elefsis Refinery

CLIENT

MERICHEM Company



Isometric for construction



PROJECT

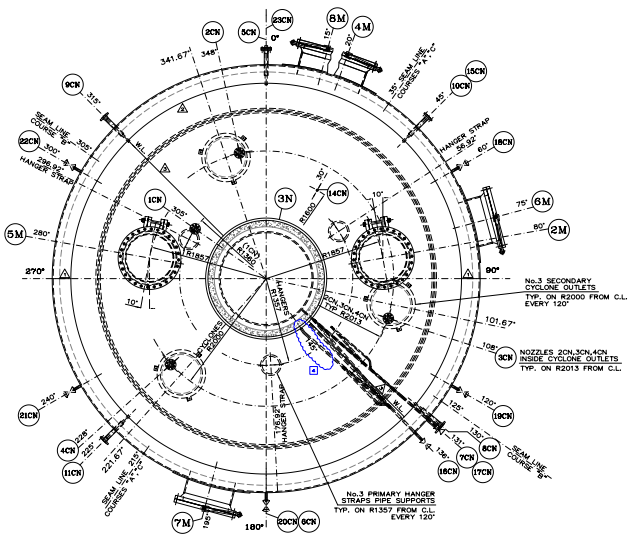
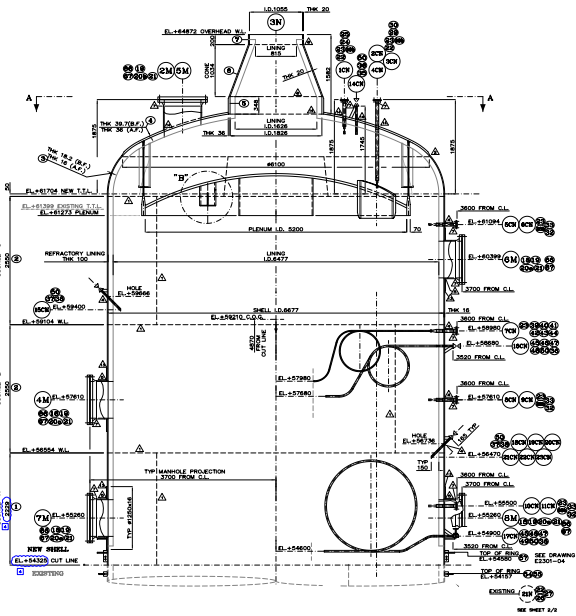
Construction of one new double shell and convection Crude Oil Heater 3H01AB and the revamping of one existing Hot Oil Heater H101

LOCATION

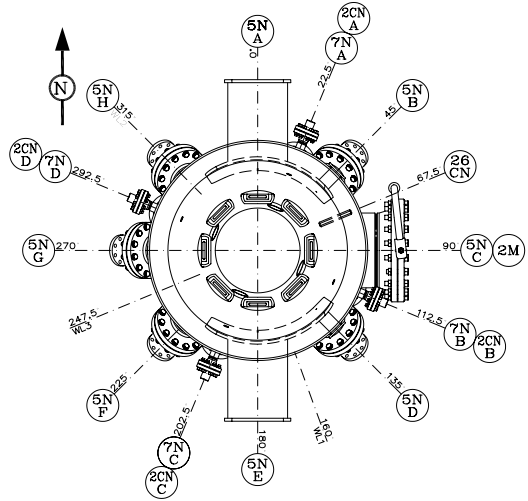
Elefsis Refinery

CLIENT / END USER

Hellenic Petroleum s.a.

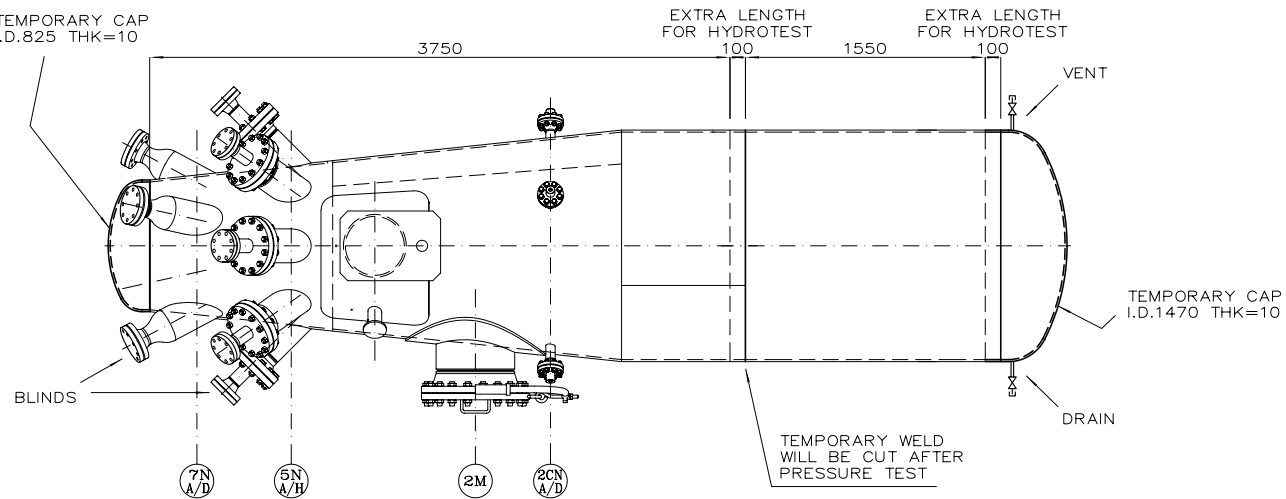


Finite element Analysis of top part reactor included

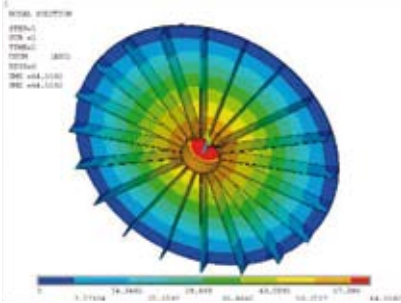


PROJECT	Feed nozzle cone
LOCATION	Aspropyrgos Refineries
CLIENT / END USER	HELLENIC PETROLEUM s.a.
TOTAL LENGTH	3.850mm
I.D.	1470 x 825mm
WEIGHT	5.500 kgs
SHELL MATERIAL	A516 Gr 70 thickness 13mm
THIRD PARTY INSPECTION	Moody Tottrup Hellas S.A.

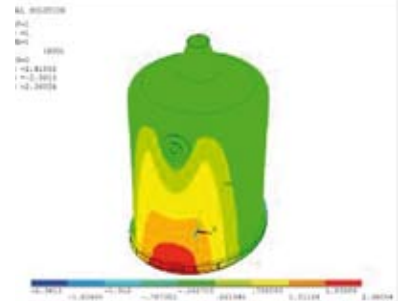
Feed Nozzle Cone detail



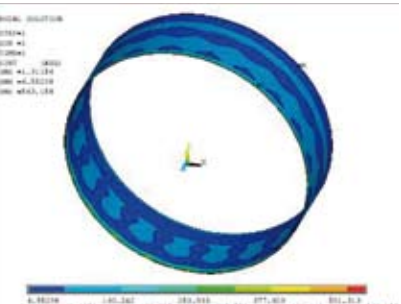
Design detail of New Feed Injector Cone & Straight Spool for Existing Feed Riser Line



Thermal FEA



Trunnion of the new FCC Top Part



FEA of Bottom Flat Head with Radial Reinforcement Ribs



PROJECT	Top Part of 4101X FCC Reactor
UNIT	Fluid Cracking
LOCATION	Elefsis Refinery
CLIENT USER	Hellenic Petroleum s.a.



Innovation

- Special Cases - Patents

SPECIAL CASES – PATENTS

Tank lifting method (OBI reg.no 1006960)

The method can be used during maintenance and repair works on storage tanks in cases of severe erosion of the subsoil condition under the bottom of the tank. The patent can be used on both floating roof and fixed roof tanks and have been applied so far on tanks of approx. 45 m diameter. It is a practice that prolongs the life span of the tank and also prevents from leakage from the tanks shell that could result to serious environmental accidents.

Detailed description:

Using high-power hydraulic jacks coordinated through common pump units and controls, the entire tank is lifted to the desired height and is safety secured by means of guy ropes and appropriate tacking.

The lift creates a workable space underneath the tank in order to execute the necessary works to improve the subsoil conditions by removing and applying fresh layers of material and then compacting it to the desired degree.

Furthermore, tank bottom plates can be sandblasted and re-coated very effectively to improve their corrosion resistance.

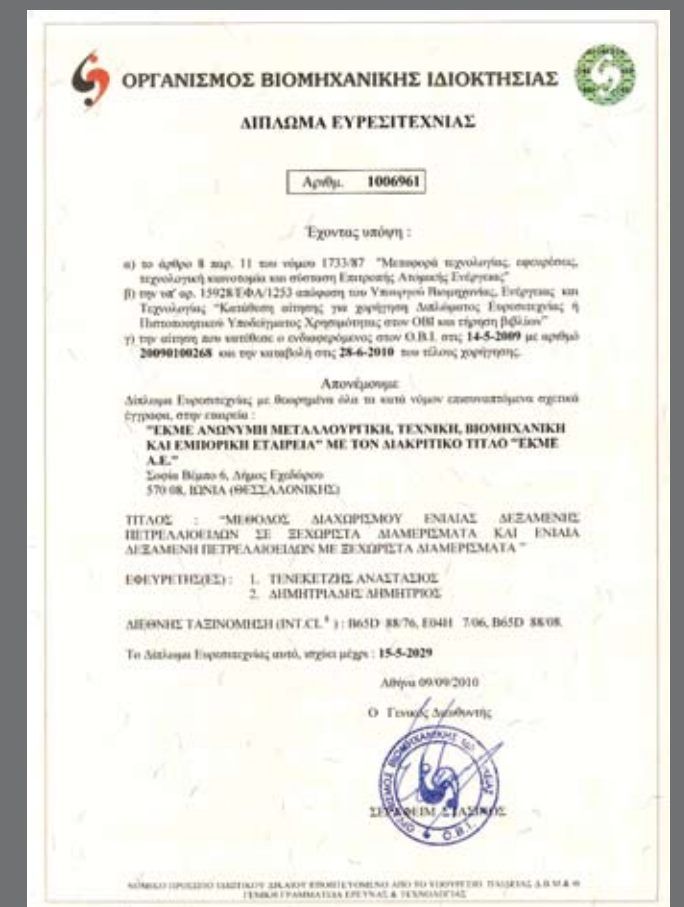


Tank Departmentalization method (OBI reg.no 1006961)

The method can be used in existing storage tanks that have to be departmentalized in order to create four separate compartments within a common tank shell. This is achieved by installing an internal cross type steel diaphragm which partitions the tank into four equal compartments.

Those can be used autonomously loaded and unloaded thus increasing the flexibility of the storage facility. The activities that are carried out are the following:

- Gas cleaning and "Gas Free" certification of the tank.
- Dismantling and removal of existing roof structure.
- Construction of concrete foundations for the steel diaphragm walls.
- Repair and replacement of bottom plates.
- Prefabrication of diaphragm wall, new roof structure (if needed) in EKME's Thessaloniki shop.
- Installation of new structures.
- Installation of new interconnecting piping between the four new tank compartments and loading facilities.
- Hydrostatic testing of all four (4) compartments.
- The storage tank has now four (4) separate compartments that can be autonomously used, loaded and unloaded thus increasing the flexibility of the storage facility.





EKME



Quality Management

QUALITY MANAGEMENT

EKME's commitment to quality, in all aspects of its operations, has always been one of the company's trademarks and the main reason behind its sustained success and growth through the years.

Certifications according to ISO standards (9001/3834-2) and ASME U, U2, S stamps cover all operations.

Responsibility for the implementation of the Quality Policy falls on all departments within the company's organization. This approach promotes the concept of a company-wide quality culture, essential for achieving final product quality.

Project quality is controlled through a mandatory, job-specific Quality Assurance / Quality Control Plan issued by EKME's Quality Management Department and applied to all stages of production process. Through extensive knowledge of the codes' requirements and attention to client's demands, all quality control activities and acceptance criteria are clearly defined and scheduled.

EKME's Quality Management Department overviews these activities, directs and controls our specialized subcontractor in the execution of the quality tests and then interprets the results. Final acceptance of the test reports falls under EKME's responsibility.

Furthermore, the client has always the option of appointing a third party inspection agency to ensure compliance to the applicable codes and standards. EKME can easily accommodate such an arrangement by incorporating third party inspection (T.P.I.) in the QA/QC plan and providing full access to inspectors during production and testing.

EKME can perform the following QA/QC activities in-shop:

- PWHT in furnace
- Local PWHT
- VT (with or without aids)
- UT Conventional
- UT thickness
- UT Phased Array
- PT conventional
- PT fluorescent
- MT conventional
- MT fluorescent
- Painting DFT measurements
- PMI (Including Light Elements and precious metals)
- Ferrite checking
- Hardness test (both UCI and Rebound)
- Radiographic Interpretation
- Ferricyanide Test
- Ferroxyl Test
- Pickling / Passivation



Hydraulic Test Recording Chart

Depending on the needs, the QA/QC activities could also be subcontracted. Other sub-contracted activities are:

- Radiographic Testing (x-ray, γ-ray)
- UT T.O.F.D.
- Laboratory Chemical Analysis
- Disbonding Tests of Bimetallic Materials and Welds (ASTM G146)
- Laboratory Destructive Tests (incl. Elevated Temperature Tensile Test)
- Pitting / Crevice tests (ASTM G48)
- Ferrite count by metallographic examination (ASTM E562)



ASME Certification

EKME is certified by ASME's Joint Review Committee and holds the U, U2 and S Certification Marks



ISO 9001:2008



EN ISO 3834-2 (EN 729-2)

Quality Requirements for Fusion Welding of Metallic Materials- Comprehensive quality requirements



Non Destructive Testing Equipment

Equipment:	Manufacturer	Type / Model
Hardness Tester	G.E.	MIC-10
UT Thickness Gage	DANATRONICS	EHC-09
UT Conv. & Phased Array	G.E.	PHAZOR XS
MT Yoke	MR CHEMIE	MR52
UV Lamp	HELLING	
LUX Meter	MR CHEMIE	LX1330B
FILM Viewer	KOWOLUX	
Densitometer	NDTES	DDS-2
PMI	ELVATECH	PROSPECTOR LE
Coating Thickness Meter	KARL DEUTSCH	Pocket - Leptoskop
Coating Thickness Meter	ELCOMETER	456
Ferrite Meter	DIVERSE	MF300F+
Pressure / Temperature Recorder	ROTOTHERM	SENTINEL

N.D.T. Operators' Certifications

ASNT and/or EN/PCN Level II certifications of EKME's personnel.

ASNT VT MT PT RT/RI UT conventional UT Phased Array





EKME



People & Safety

- Human Resources
- Health & Safety
- Environmental Policy

HUMAN RESOURCES

EKME's personnel is its greatest asset and the driving force behind the company's growth and development.

As such, a great emphasis is put on maintaining a strong leadership team capable of fulfilling both technical and administrative responsibilities and being familiar with the particular demands of this industrial environment in matters of proficiency, safety and quality.

Equally important for the company is its production manpower. Specialized personnel and skilled technicians with many years of experience in manufacturing and field construction of industrial installations, are employed by EKME. They are highly flexible and responsive, capable of performing complex construction tasks safely and effectively. Through in-house training and external seminars, the workforce remains informed and capable of meeting the requirements of the projects at hand.

The most important factor of the personnel's high safety awareness and performance, is their continuous training and work in operating under demanding conditions.



HEALTH & SAFETY

EKME, a Safe Workplace for the employee and the client. We believe in protecting the occupational health and enhancing the well being of each of our employees or associates. We believe a safe workplace is consistent with efficient operations that produce a high quality product while maintaining a minimum environmental footprint. The company is qualified to ISO 14000 and OHSAS 18000.

Our main safety principles are:

- * Safety is everyone's responsibility
- * All injuries can be prevented
- * All accidents can be avoided
- * Concern and care for the employee is demonstrated by Leaders
- * Employees shall be trained to work safely
- * Working safely shall be condition of employment





Every job shall be assessed for the risk involved and shall be carried out as per authorized procedures / checklist / necessary work permit and using necessary personal protective equipment.

EKME performs on a constant basis a safety and health informative, training, monitoring, recording program, in cooperation with senior third party companies specialized in training and advisory of personnel, along with internal supervision and audits.

In this health and safety awareness program the focus is on the most serious hazards that account for the majority of lost time injuries like man-machine interface, loading and unloading and working at height. EKME instils in our associates a zero tolerance for risk, meaning all associates watch out for themselves and for each other.

We provide the necessary training so every job is done the right way, the safe way, every time.

Every job is done the right way, the safe way, every time.

Alongside with the occupational safety, EKME performs a scheduled medical attendance for all involved personnel on a weekly basis. A dedicated occupational doctor visits all workfronts every Friday (currently) ensuring safe work performing ability of the personnel. An initiative action, concerning health, is the blood bank EKME maintains in cooperation with public authorities, by blood donations of all EKME personnel performed twice a year.

ENVIRONMENTAL POLICY

Environmental awareness is continuously promoted within the company. We maintain a very high degree of recycling the production by-products and residual materials as well as the office activities waste.

Our Main Environmental Principles are:

- * Commit the necessary resources to comply with all applicable environmental laws, regulations, permits and agreements
- * Reduce environmental risks through operating practices and emergency preparedness programs
- * Encourage and implement recycling, recovery and reuse of residual materials, as well as the reduction and prevention of emissions and releases to the environment

A Safe Workplace for the environment too

Our first priority is to remain fully compliant with the conditions of our environmental permits and with any other legal requirements that apply within our business.

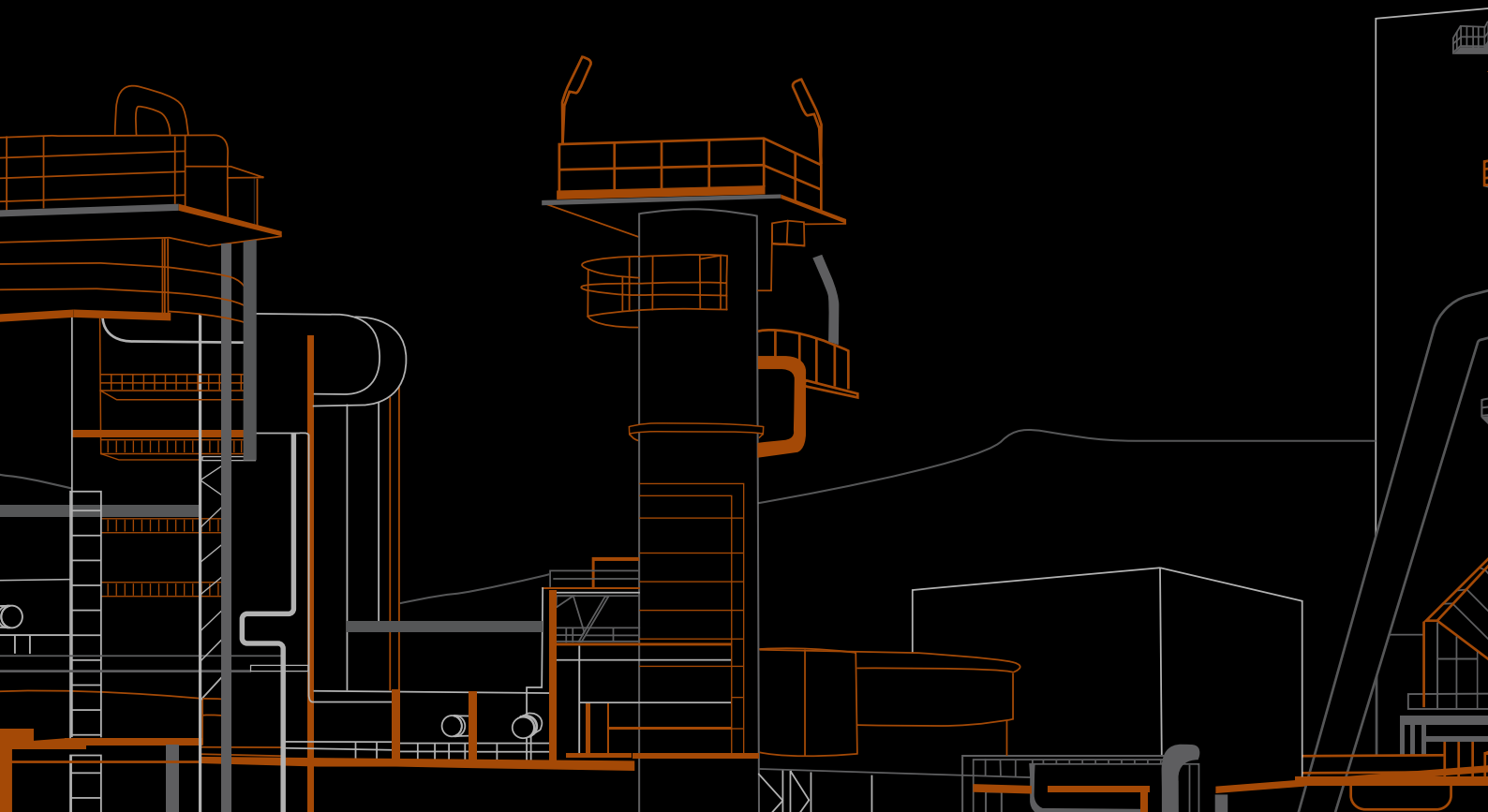
At all of our work fronts (workshop and sites), we have implemented environmental management actions. These actions provide a framework for managing compliance and achieving continuous improvement.

Our main potential environmental impacts come from remaining materials (scrap), emissions to air of particulates as a result of the welding process, and generally vehicles emissions and consumables such as motor oils and tires. We monitor all of these impacts, together with energy usage and waste treatment and completely recycle and manage all waste.

Additional to the above EKME has incorporated the use of natural gas instead of diesel for the needs of operating the annealing furnace, offices heating and hot water production. Rain water is managed to irrigate plants and trees in the premises.





**EKME s.a.**

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