

HOT DIP GALVANIZING PROCESS AND TECHNOLOGIES

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OUR COMPANY....

- Eksas A.S. is the first founded company to design and contract surface treatment plants for South East Europe and Middle East in 1969.

Eksas designs and constructs surface treatment plants and auxiliary equipments for technical, decorative, military & aeronautical purposes for the processes phosphating, anodizing, various electroplating, continuous galvanizing & hot dip galvanizing.

Increasing demand on Hot Dip Galvanizing, Eksas decided to establish new facilities

- In 2002 Est Metal Ltd. in Bursa Free Zone
- In 2014 EstGal A.S. in Bursa Cali Industrial Zone

We are designing and constructing manual & full automatic surface treatment plants for racks and barrels, like;

Units for;

- Degreasing
- Electroless nickel plating

Lines for;

- Aluminum anodizing (eloxal) and coloring,
 - Phosphate coating,
 - Hard and decorative chrome plating,
 - Zinc plating and
 - Copper, brass and nickel electroplating for metal & plastics
- with international quality and technological level.

HISTORY OF HOT DIP GALVANIZING OF EKSAS.....

- Eksas started to be active in the sector by partial production and strengthen the position by present experiences and international technical literature.
- We served ;
 - Mitaş, Micha Fayat, Cepaş, Şa-ra, Ece Galvaniz, Kıraç Galvaniz, Kartal Galvaniz, Marmara Siegener Galvaniz in local market,
 - ECC- Egypt, Tsanaidis- BET SA, Liaromatis- Greece, KPLM – Agis Russia, Westech- Smolensk Russia, Westech- Dammam Saudia Arabia – Westech Elektrostal Russia in foreign markets.

For the last 12 years we have been producing Hot Dip Zinc Pretreatment Lines including;

- Pre-treatment Lines
- Enclosures
- Exhausting Systems & Scrubbers
- Dry Unit
- Storage Tanks
- Pumping Stations & Piping
- Heating Systems
- Galvaniz Furnace And Kettle
- Loading-Unloading Station
- Pretreatment Line Automation & Software

HISTORY OF HOT DIP GALVANIZING OF ESTGAL.....

- Mitaş, Micha Fayat, Cepaş, Şa-ra, Ece Galvaniz, Kıraç Galvaniz, Kartal Galvaniz, Marmara Siegener Galvaniz in local market,
- ECC- Egypt, Tsanaidis- BET SA, Liaromatis- Greece, KPLM – Agis Russia, Westech- Smolensk Russia, Westech- Dammam Saudia Arabia – Westech Elektrostal Russia in foreign markets.

TODAY - HOT DIP GALVANIZING OF ESTGAL.....

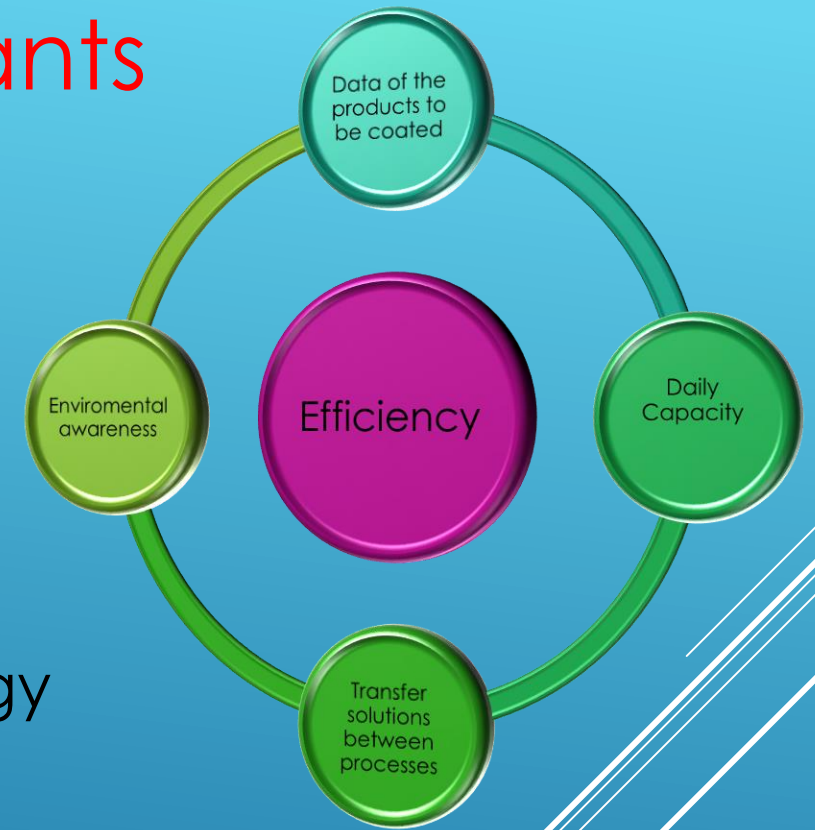
-and started to serve to customers for;
- Design
- Planning
- Analyzing
- Production
- Supply
- Assembling
- Starting-Up & Comissioning
- Training

For Turn-Key Hot Dip Galvanizing Plants

Design and Project Criteria of Plants

- Data of the products to be coated
- Daily production capacity
- Transfer solutions between processes
- An effecient layout
- Energy efficieny and renewable energy
- Environmental awareness

A long life and efficient plant will be important for competetive market and reduce the cost.



ITEMS WHICH ARE PRODUCED BY ESTGAL

1- CHEMICAL PRETREATMENT

- 1.1 Pretreatment Line Tank Liners
- 1.2 Enclosure Of Pretreatment Line
- 1.3 Waste Gas Collecting And Scrubbing
- 1.4 Fresh / Used Acid Storage Tanks
- 1.5 Chemical Transfer Pump Stations
- 1.6 Chemical Heating Coils And Temperature Control Systems
- 1.7 Flux Regeneration System

2- STEEL AND STAINLESS STEEL UNITS

2.1 Dryer System Units

2.1.1 Dryer Automatic Covers

2.1.2 Dryer Conveyor

2.1.3 Dryer Heat Generator

2.1.4 Dryer Air Channels

2.2.1 Galvaniz Furnace System

2.2 Enclosure(furnace)

2.2 Bag House Filter

2.3 Chimney Heat Exchanger

2.4 Transfer Shuttles

2.5 Exit Conveyor

2.6 Loading and Unloading Systems

2.7 Dross Grab

2.8 Zinc Pump

2.9 Ash Recycling

1. CHEMICAL PRETREATMENT

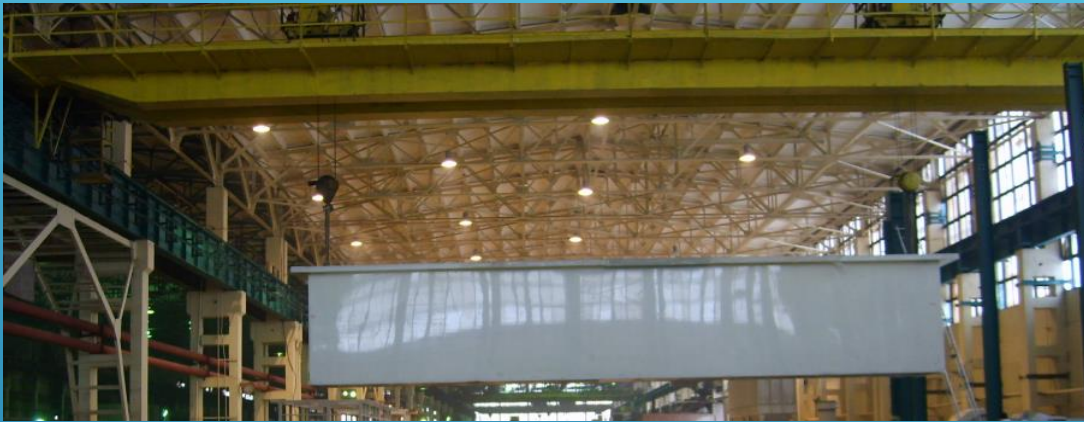
- The recent HDG Plants have been furnished with Engineering plastics. Plastics are elastic, have good impact resistance and can be fusion welded, bended and repaired.
- First, all corners of the tank will be bended with Wegener Bending machinery and then butt welding.
- Butt welding creates fusion welding and it makes molecular bonding between two parts.



- If customer prefers, we can give tank steel construction (Reinforcement) projects.
- These projects are designed according to the hydrostatic loading calculations.

1- CHEMICAL PRETREATMENT

1.1 Pretreatment Line Tank Liners



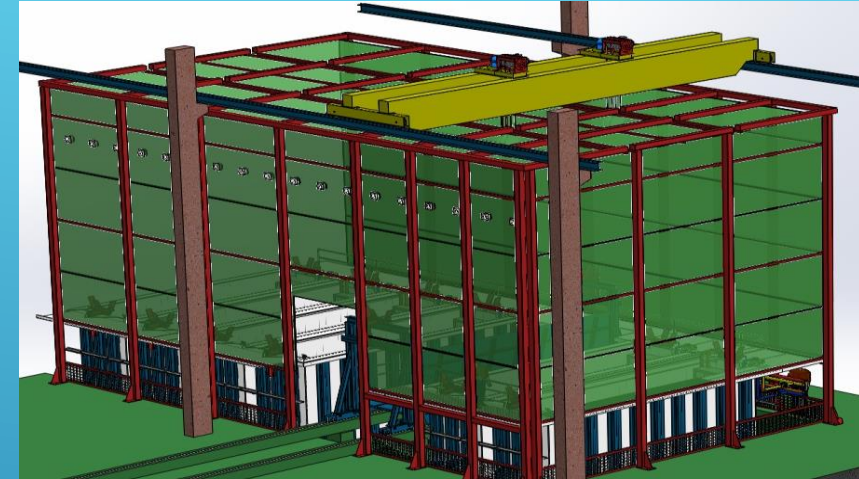
- KPLM Russia
- Liner Dimensions : 14000mm x 1800mm x 3200 (h)mm



- Marmara Siegener Galvaniz
- Liner Dimensions : 16000mm x 1800mm x 3200 (h)mm



1.2 Enclosure Of Pretreatment Line



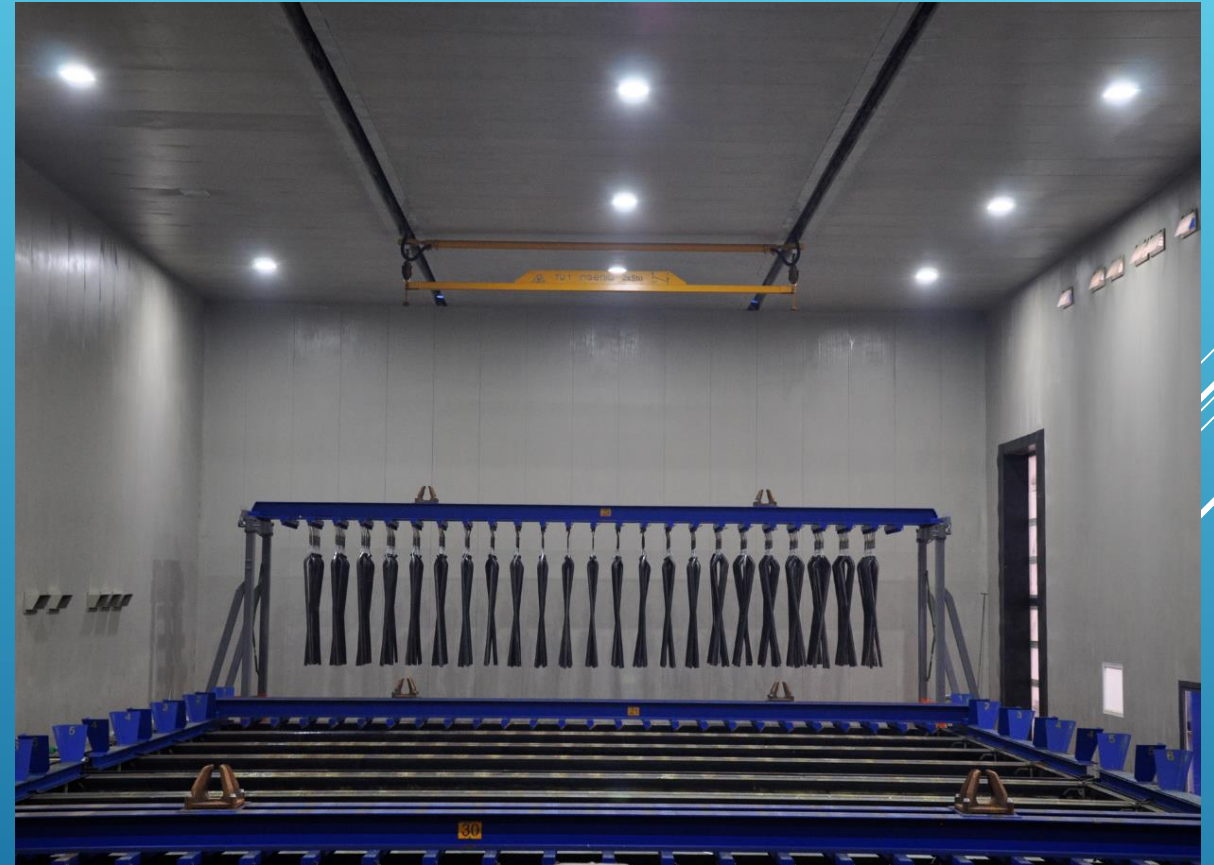
The Applied System in MICHA IZMIR and MITAS IZMIT



- Sara Enerji – Adana
- **Liner Dimensions : 13000mm x 1800mm x 3500 (h)mm**



- Marmara Siegener Galvaniz_Çorlu
- Liner Dimensions : 8500mm x 2050 mm x 3500 (h)mm



- Mızrak Galvaniz _Ankara
- Liner Dimensions : 13500mm x 1900mm x 3500 (h)mm

1.3 Waste Gas Collecting And Scrubbing



MICHA IZMIR and MITAS IZMIT

The parameters of scrubbers are calculated by the data of temperature of the chemicals, surface of the tank and the amount the product on every dip.

The scrubber is a program controlled unit.

- Automatic pH sensing
- Automatic discharge
- Automatic fresh water feeding
- Automatic level controlling



Fabal-Istanbul



Mızrak Metal
2 x 60.000 m³



**HEAVY DUTY – OIL BEARING
WASTE GAS FANS**



The corrosive gasses has to be sucked not to have corrosion in the factory.

It is needed to be used corrosive resistant fans and mist eliminators to take the waste gasses out.

- Housing and propeller completely made of PP
- V Belt Driving
- Fully oiled two roller bearing

1.4 Fresh / Used Acid Storage Tanks



Tosyalı Holding – Osmaniye Adana
2 X 50 m³



Konkap Galvaniz - Konya
4 x 30 m³

1.5 Chemical Transfer Pump Stations



Pump Station



CPVC Pump Station



PVDF Pump Station

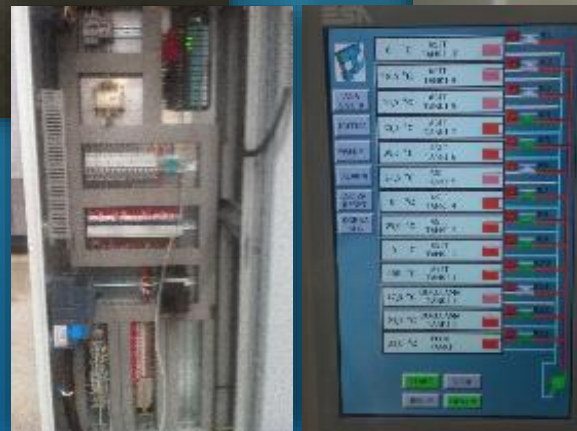
1.6 Chemical Heating Coils And Temperature Control Systems



Gülmelet Galvaniz _ Gebze



Mitaş & Micha Galvaniz



PLC Temperature Control Systems

1.7 Flux Regeneration System



This system helps ;

Standard quality production,
pH adjustment and no need increasing flux concentration
by reducing the quantity of iron in flux process tank.



2- STEEL AND STAINLESS STEEL UNITS

2.1 Dryer Units

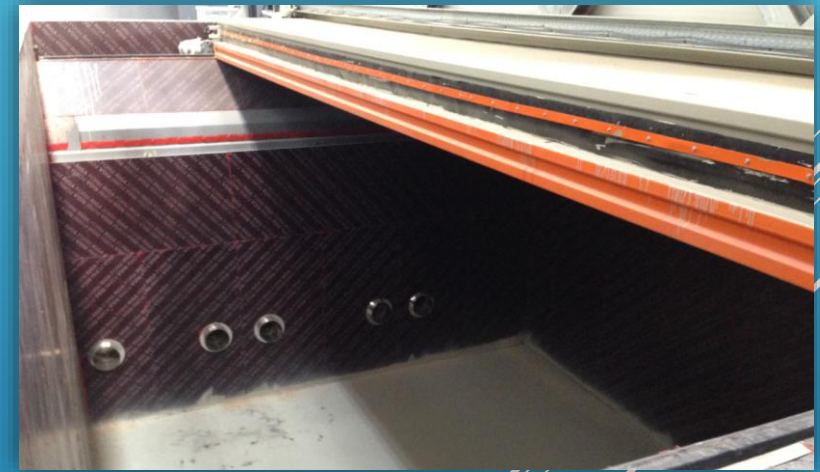
2.1.1 Dryer Cover System



Dryer Cover Production



Dryer Cover Assembling
Step



Dryer Units start up

2.1.2 Dryer Conveyors



Eksas Production Area – Bursa



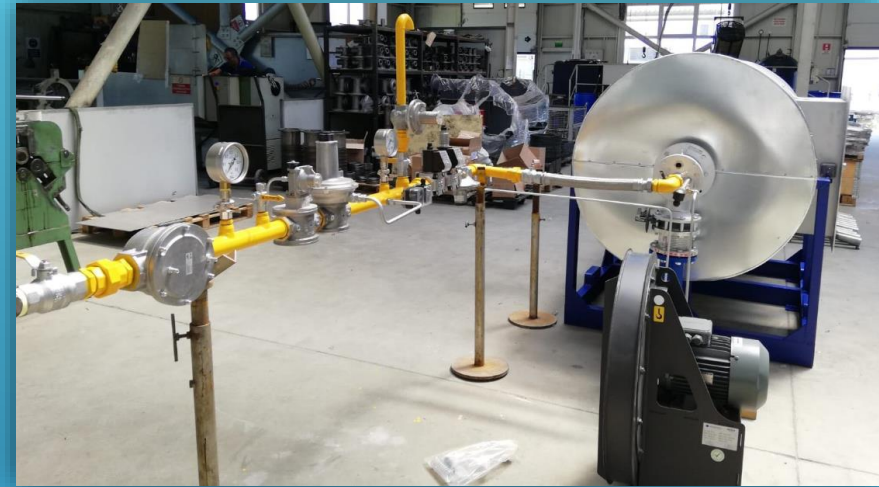
Assembling Area – Konkap Galvaniz Konya

2.1.3 Dryer Heat Generator



Eksas Factory - Bursa

- Stainless Steel,
- Heat insulation
- Burner system from Germany
- High Velocity Burner in generator
- Pannel suitable to Automation



Assembling Area

2.1.4 Dryer Air Channels



Heat Insulated Air Channels



Stainless Steel Fume
Exhausting Chimney



2.2.1 Galvaniz Furnace System



Galvaniz Furnace System and Kettle

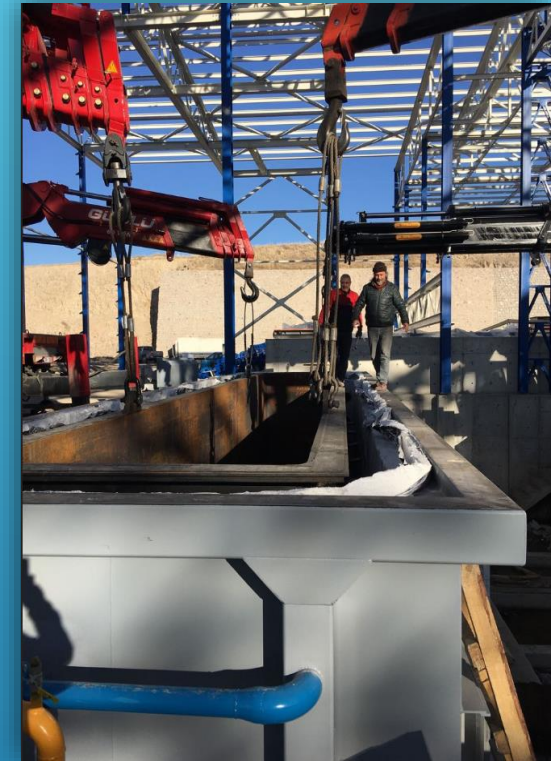


Galvaniz Furnace System and Kettle

2.2.1 Galvaniz Furnace System



Galvaniz Furnace System Assembling

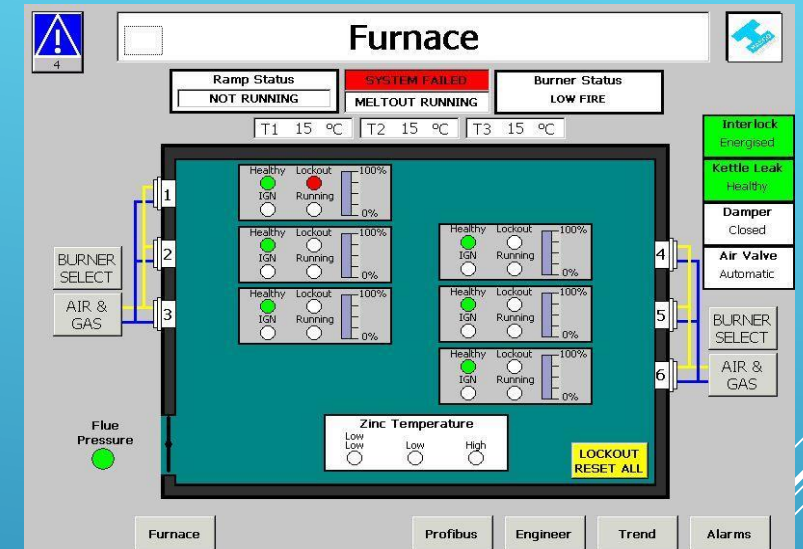
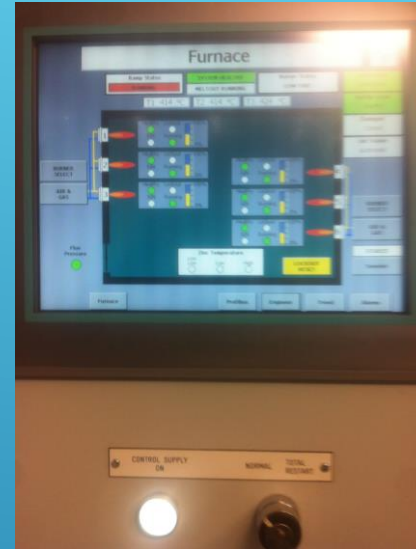


Kettle Assembling

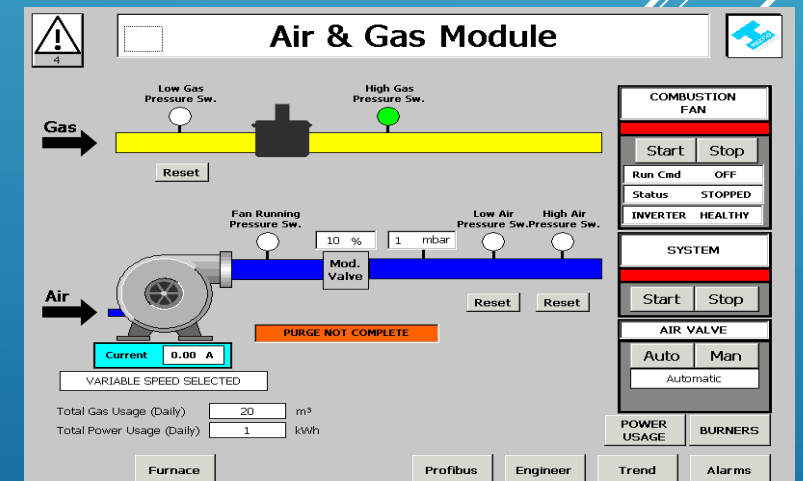
Galvaniz Furnace System PLC Control System



Furnace Pit And Chimney



Main Panel



Air Gas Module

2.2 Enclosure (Furnace)



Eksaş Production Area – Bursa



Assembling -Konkap



Mızrak Galvaniz - Ankara

Enclosure Systems depending on the layouts

2.3 Bag House Filter



Assembling Area



Enclosure and Bag House Filter

2.4 Heat Exchanger System from Chimney



Heat Exchange System Air to Water

2.5 Transfer Shuttles



Transfer Shuttles for Double Dipping

2.6 Conveyor Systems



Sara Enerji – Whiteware Exit
Conveyor System

2.6 Loading-Unloading Stations



Konkap – Start up
Total Capacity : 12 Tons

2.7 Çinko Pompası



Zinc Pump

2.8 Dros Kepçesi



Dross Grab



Dross Removing

2.9 Ash Recycling



Melted Zinc



Ash

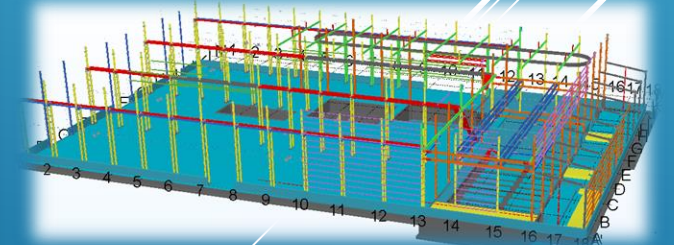
Mızrak Galvaniz- Turkey

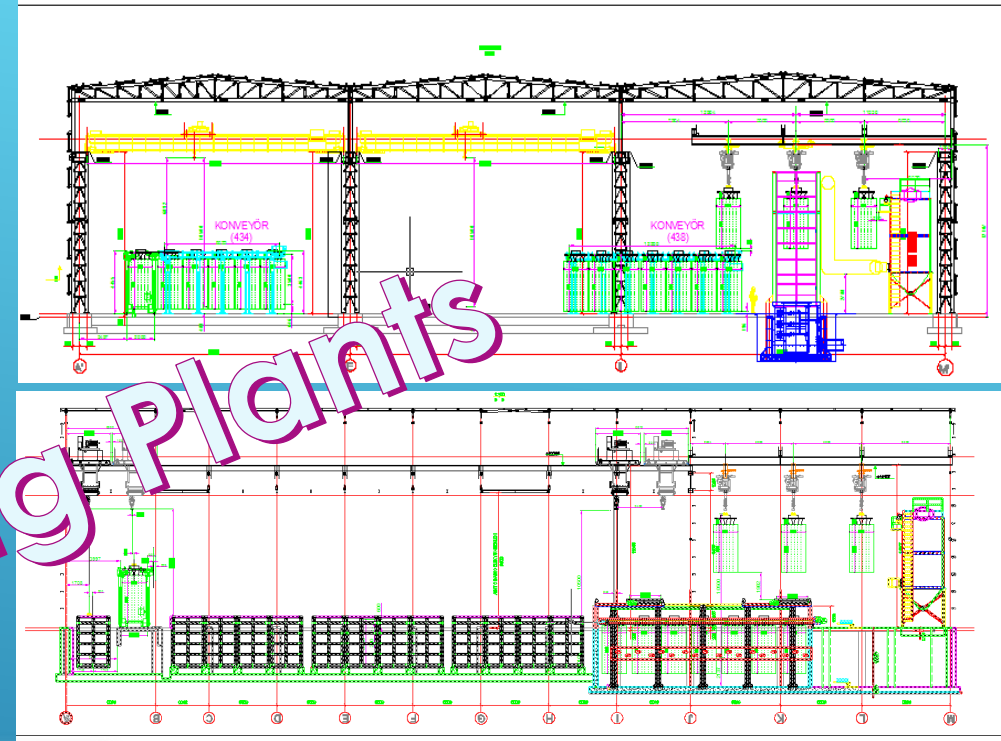
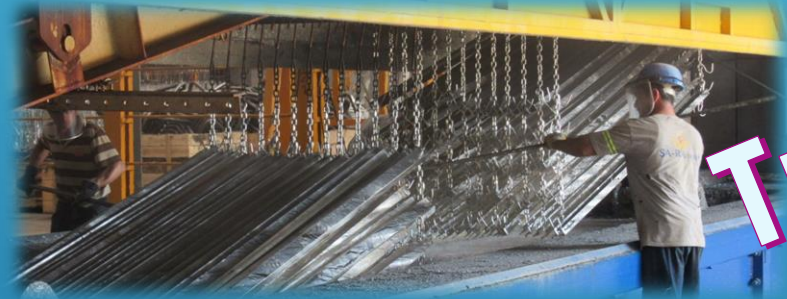
16000 * 1800* 3200(h) mm



Turn Key
Galvanizing Plants

Hot Dip





Turn Key
Galvanizing Plants
Hot Dip

13000 * 1800* 3500(h) mm Turn-key - year 2014

Sıcak Daldırma Galvaniz
Hepsinin Üstünde...
Hot Dip Galvanizing
Above All Others

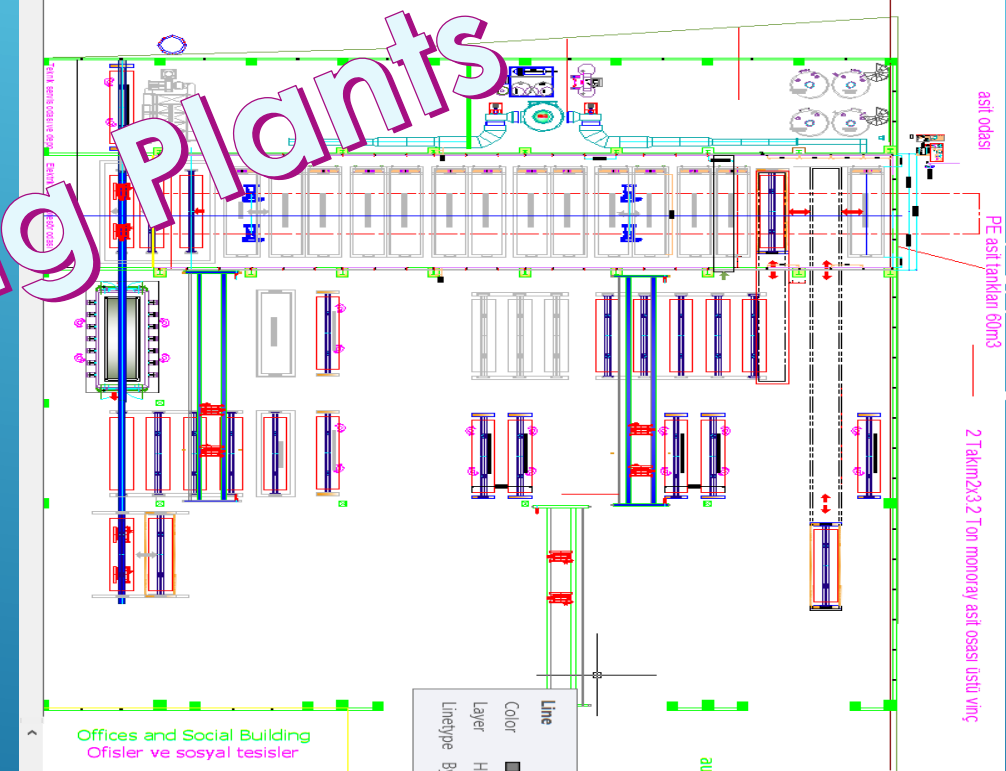
Türkiye'nin
En Büyük Galvaniz Tesisi



Marmara Siegener Galvaniz – Çorlu-Turkey

8000 * 2050* 3500(h) mm

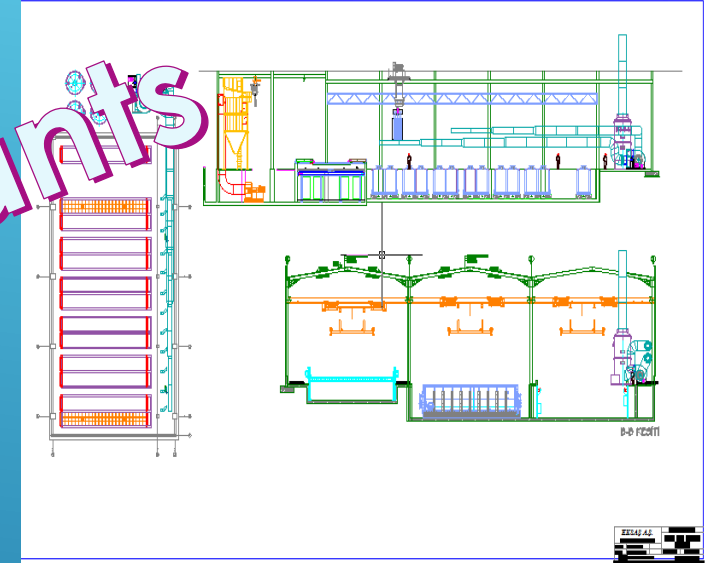
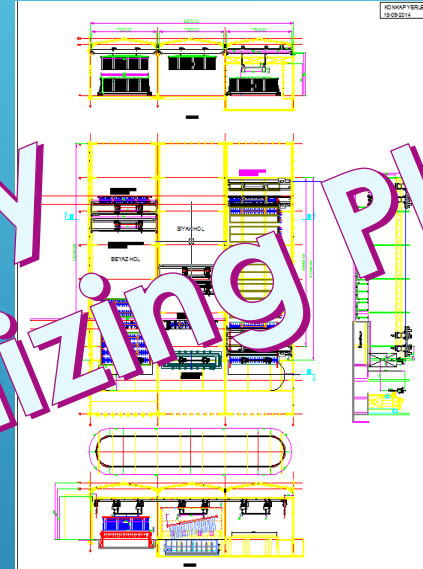
Pretreatment Line Process -2013
Assembling-2015



Konkap Galvaniz – Konya-Turkey

12500 * 1500* 2700 (h) mm Turn-Key

year 2014-2015



Hot Dip





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