HAYMET MAKİNA

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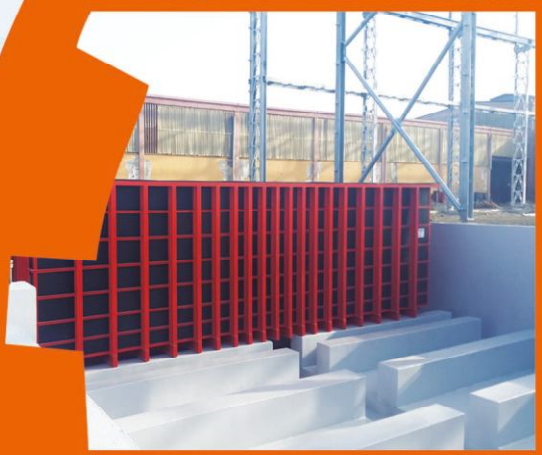
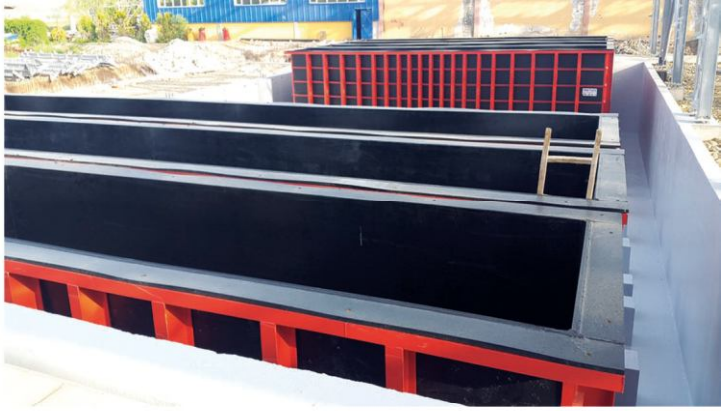
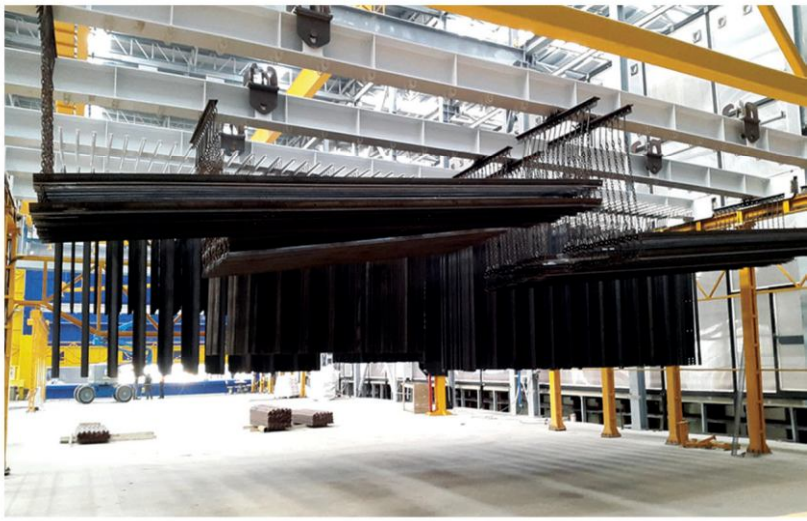
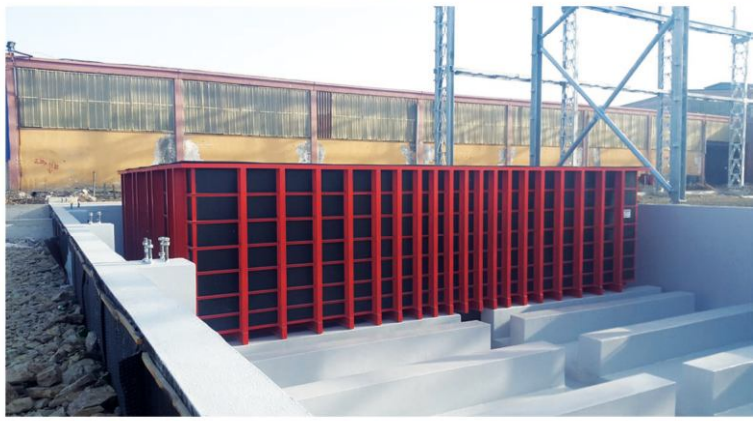









DURULUMA 2

HAYMET MAKİNA LİMİTED ŞİRKETİ

Is established in 1989. We are the only Turkish company which provides hot dip galvanize plant services, manufacturing and installation and also design and projecting its own plant equipments within the organization since 2007. We prepare plant projects, design machines according to dimensions of galvanize furnace and galvanizing work to be done, we provide consultancy works together with assembly and commissioning works after manufacturing in our workshops. We have proven ourselves in sector with hot dip galvanize plants and equipments which we assemble within country and abroad.

INSTALLATION OF HOT DIP GALVANIZE PLANT

Galvanize plants are established in 3 different forms.
Coating of manufactured products, galvanize coating of products and contracted products.

We plan overall structure of company according to abovementioned commercial production.

Machines and equipments which are located in modern galvanize plant are as following.

Black material suspension stations.
Black material transfer conveyor and transfer trolley.
Chemical pretreatment room and acid tanks.
Drier room and conveyor system.
Galvanize furnace.
Closing system over galvanize furnace.
Dust removal filter system.
Cooling and passivation tanks.
White material transfer conveyor and transfer trolley.
White material removal station.
Acid vapor washing system.
Flux regeneration system.
Chimney gas heat recovery system. (air to air- air top water)
Chemical storage tanks.
Pump station.
Treatment system.

Modern system should have fast and precise crane system in addition to abovementioned equipments.

Internal structure of building should be selected from material which is resistant against acid vapor and corrosion and surfaces which may subject to corrosion should be coated with epoxy paint.
Building should be designed such that it will have high and large storage area as much as possible

START FOR GALVANIZE OPERATION

Material acceptance and suspension.

Materials coming from outside are weighed and if materials are proper for coating, black material is taken to suspension part. Materials are classified and taken into hydraulic stations and prepared for sending to front surface treatment room. This is the first process for galvanize operation. Product of which surface cleaning is realized in acid room is sent to drying room after flux coating. Products of which surface has dried are brought from drying room to galvanize furnace for coating and submersed into molten zinc ladler at 60 degrees and galvanize operation is terminated. Products which are taken from the furnace, are left to the transfer conveyor or the transfer trolley after completing cooling process can be made faster by water. Products which are taken from there are put into hydraulic station for demounting. Materials which are removed in station are packaged after cleaning and quality control operations and sent to storage area for shipping.

HYDRAULIC STATION

Materials are adjusted according to their lengths and forms in hydraulic station and they are suspended to traverses accurately and with angular manner.

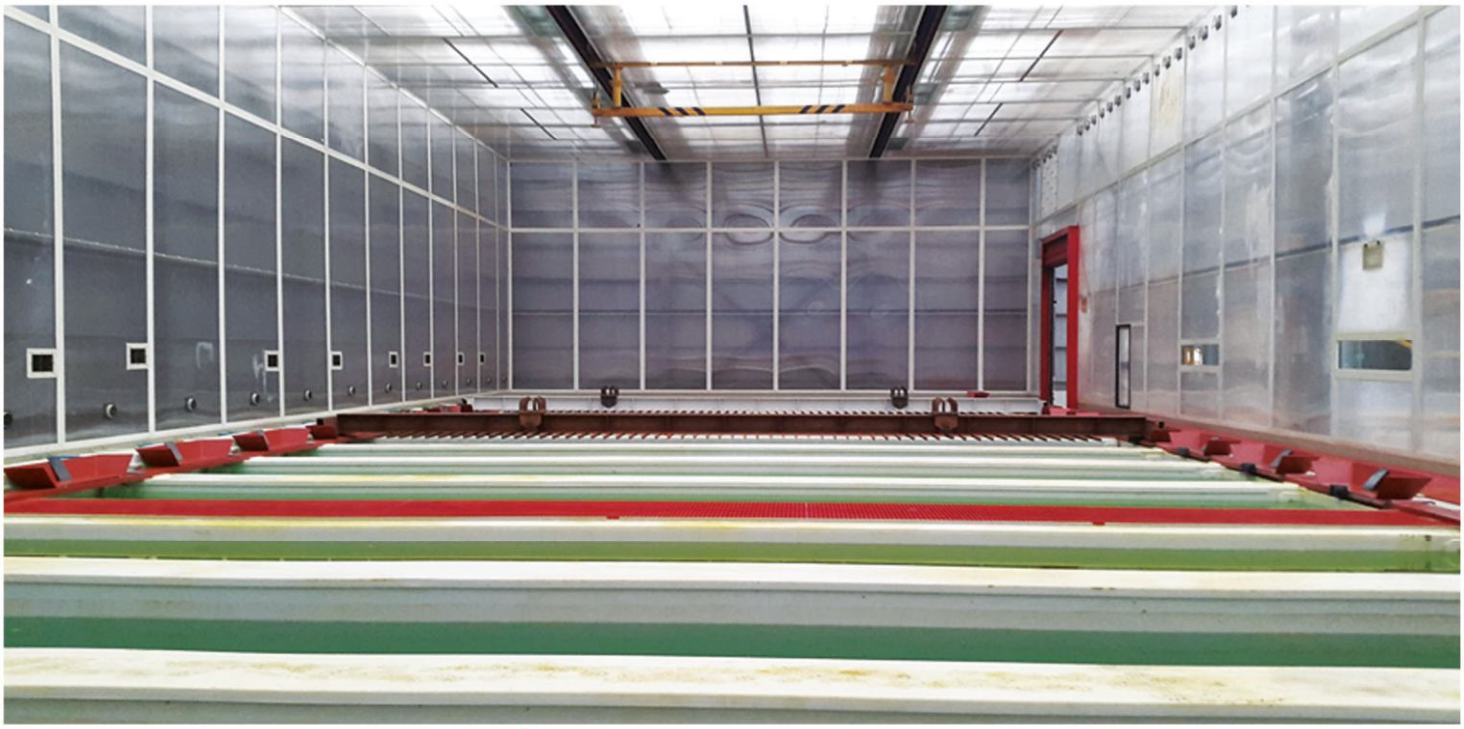
TRANSFER CONVEYOR

Suspended materials are stacked over transfer conveyor for sending to acid room so that ready suspended material is supplied for system also these conveyors are used for passing from one hall to other.

ACID ROOM TRANSFER TROLLEY

Acid room door is opened by passing from transfer conveyor to raft transfer trolley and acid room passing is maintained. Everything is realized automatically in this stage. They can be made manually if desired.

CHEMICAL PRETREATMENT ROOM AND ACID TANKS



Acid room is the place where front surface, that is surface cleaning operations are realized. There should be respectively 1 piece of acidic oil removal acid tank (for shell layer or rust over material surface), rinsing (for purifying acid from surface) tank 2 pieces of , Flux (for providing zinc reaction with material surface) so that there should be total 12 pieces of chemical pretreatment tank. Number of acid tanks may vary in some systems.

FURNACE

External surface of zinc ladle is heated by burners which are located over furnace and furnace provides zinc which is present inside ladle to be heated up to 460 degrees.

KETTLE

Zinc ladle is 50 mm steel ladles where zinc is heated up to 460 degrees. Coating process of materials are realized inside this ladle.

DRYING ROOM

Material which goes out of flux tank is taken into drying room and stored over rafts by means of conveyor and its aims are providing surface to dry without rusting, to assist the furnace by increasing the temperature of material, to provide qualified surface coating for preventing increase of ash and dross. Those are indispensable for system. Sometimes room temperature is kept at 60 degrees by means of flue gas and burners.

GALVANIZE PROCESS

Materials which are taken from drying are submersed into zinc which is molten in ladle at 460 degrees and galvanize coating operation is performed. Holding period inside ladle varies according to type, form and thickness of material to be coated. Coating quality depends on chemical we use and flux as well as performance of drying and holding period. Alloy of molten zinc inside ladle, amount of dross, temperature of zinc are also factors influencing coating quality. Performance of flux and drying significantly effects the amount of ash and dross.

Cooling and Passivation Process

WHITE PARK AND DEMOUNTING PROCESS

Materials which are taken from galvanize process are brought to white park area, removal process is realized in hydraulic station, removal operation is made in hydraulic station, quality control is made and delivered to storage are for shipping.

VAPOR FLUSHING SYSTEM (SCRUBBER)

In this system gases which are generated in acid room and occurs as result of reactions which are harmful against environment and system are absorbed by fan and ventilation ducts and delivered to cylindrical tanks, they are flushed by pressurized water and so that fresh air is released to atmosphere. Scrubber materials are made from polypropylene or polyethylene materials which are resistant against acid.

Turkey's major gas flushing and smell removers are made by our company.

CHEMICAL STORAGE TANKS AND PUMP STATION

Pump station is used for taking the chemicals which are spoilt and lost their feature in time and delivering to waste acid storages and delivering to tanks which are cleaned by new coming acid and chemicals. This process is realized by opening and closing the valves and enabling the pumps.

FLUX REGENERATION SYSTEM

It is process of regeneration of chemical by adding some flux after filtering with filter press and sedimentation of flux which has lost its function by increase in iron ratio and becomes acidic in time.

DUST EJECTOR

It is bag filter system which is used for preventing the damage which is caused by smoke and zinc oxide vapor which occur during submersion into galvanize furnace against environment and equipments inside building. Also recycling is possible since generated zinc oxide can be used in some sectors. It is bag filter system which starts with opening gates of furnace by operation of filters and cleans itself after stopping vacuum after a while after opening side windows. Here aim is the automation to protect environment against gases and automation for providing energy saving

FLUE GAS SERPENTINE SYSTEM

Flue gas having approximately 550 degrees is utilized by serpentine and circulation pumps and 90 degrees water is used for heating tanks. Waste flue gas is utilized and high amount of energy saving is obtained.

TANK HEATING SERPENTINES

It is pex pipe serpentines which is used for heating flux tanks 40-50 degrees and acid tanks 20-30 degrees. Reaction and holding periods are particularly shortened in winter months by increasing the speed and activity of reactions which occur between material and chemicals.

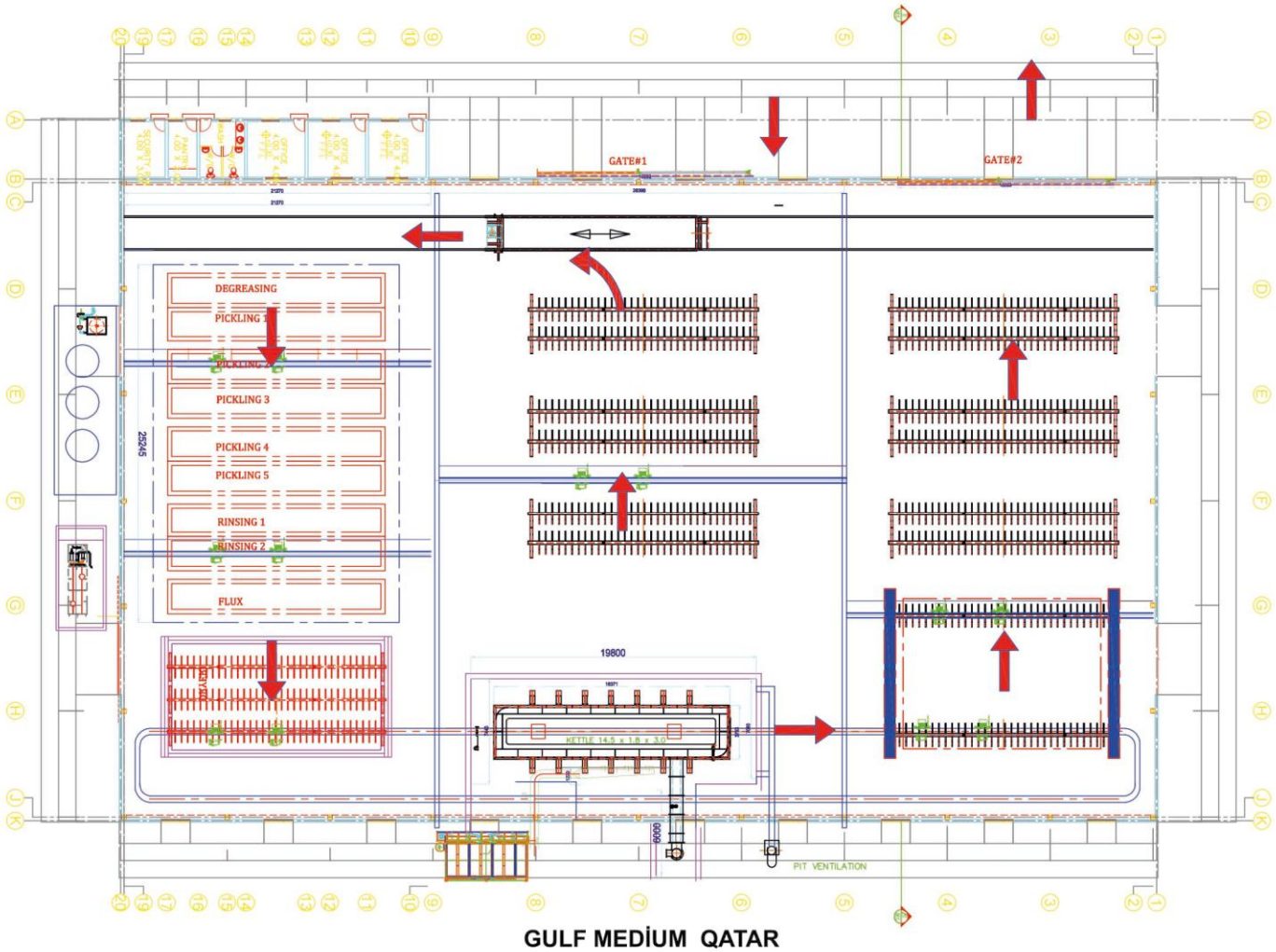
PNEUMATICAL DROSS BUCKET

It has easy to use and durable structure since it is operated by penumatic cylinder. It provides opportunity to take dross rapidly. Fluid zinc can easily be separated from dross by means of holes at bucket. Parts which fall down into furnace can be taken easily since bucket can close completely.

ZINC PUMP

We have two types of zinc pumps having 7,5 HP and 15 HP power. They are designed for delivering zinc with capacity of 20 m3/h and 40 m3/h. They are produced with different sizes for ladles having ladle height from 1m to 5 m. It maintains delivery of zinc from 5 m to 15 m by extending the outlet pipe. Its body has been manufactured from completely stainless steel material. Impellor shaft and bearing has been manufactured from materials which is resistant against high temperature and friction.

HOT DIP GALVANIZE PLANT MACHINE LAYOUT PLAN



GULF MEDİUM QATAR

ERSAN ENERJİ AŞ.

REFERENCES

DİLER

İriler Makina

sismat

HASTAVUK

DSC ARK OTOMOTİV

GALMETSAN Galvaniz ve Çelik Konstrüksiyon San. Tic. Ltd. Şti.

EEC. Galva

ER-SAN A.Ş.

MİTAS GALVANİZ

DORUK GALVANİZ SANAYİ VE TİCARET LTD.ŞTİ.

Uzmanlar Platform

TEKFEN HOLDİNG

NAMAK MAKİNA İMALAT İNŞ. PAZ. SAN VE TİC. LTD. ŞTİ.

ANI

GALMETSAN Galvaniz ve Çelik Konstrüksiyon San. Tic. Ltd. Şti.

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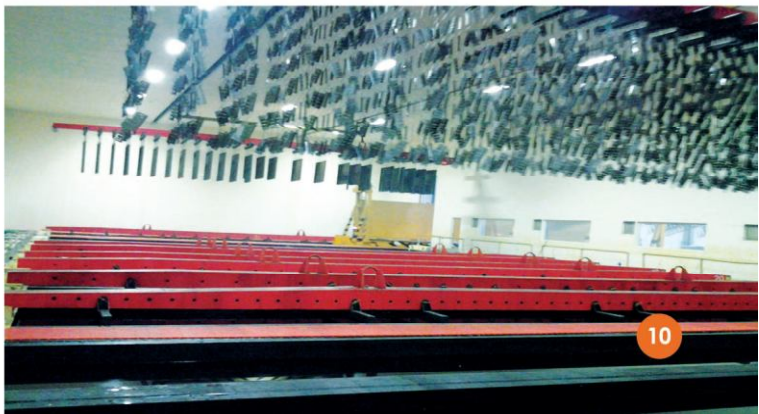
КОНТАКТНЫЕ СЕТИ СИБИРИ



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