
MEJORADA

FUNDICIÓN

WHO WE ARE

We are a **100% Mexican company** that has evolved over time to offer more and better products through its **BM Models, foundry, and Machining division.**

In this division, we manufacture gray iron and nodular iron parts of all types, ranging from **1.5 kg to 240 kg**, with an installed production capacity of **550 tons** per year.

We offer **computerized machining** that allows for repeatability, reliability, and precision, making our work faster, more accurate, and more accessible. In addition to the above, we also **repair and manufacture models in wood**, plastic, and aluminum.

SEGMENTS WHERE WE OFFER SERVICES

- Sugar industry
- Cement
- Construction
- Electric
- Water pumps
- Telecommunications
- Valves
- Electric motors
- Miner
- Stationer
- Petrochemical
- Parts
- Railway Industry
- Thermal treatments
- Port Infrastructure

OUR CLIENTS

EMERSON

VAMEX

ABB

Regal Rexnord

Appleton

TORREY

CBS M.I.R. COMPRESORES DE AIRE

voestalpine Nortrak-Damy



Infrastructure

- Two induction furnaces with a capacity of 350 kg each
- Spectrometer (chemical analysis of 22 elements)
- HB and RC hardness tester
- Carbon and silicon analyzer
- Sand laboratory
- Molding systems
  - Self-hardening
  - Green sand
  - Shell cores
- **3 and 4 axis CNC (numerical control machines)**
- Milling machine
- Drill
- Grinding machine
- Horizontal and vertical lathes

Nodular
and gray iron

Gray
iron

Gray iron

*ASTM a 48 and *ASTM a 126 in various grades

- From **1.5 kg** to **240 kg**
- One of the distinguishing characteristics of this type of iron is that the **carbon** is generally found in the form of graphite, taking on **irregular shapes** known as "flakes."
- It is one of the most widely used materials in industry because it offers a wide range of **mechanical properties** due to the different heat treatments that can be **performed, combining strength, ductility, heat transmission**, among others.

Characteristics

Good **machinability**

Wear **resistant**

Economically **accessible**

Highly **resilient**

Easy to **weld**

*ASTM- Standard specification for gray iron casting.

*Images are for illustrative purposes only to show general characteristics.They are NOT an accurate representation of reality.

Nodular iron

Nodular iron

*ASTM a 536 and *ASTM a 395 in various grades

- From **1.5 kg** to **240 kg**
- It is characterized by its **spheroidal graphite**. When graphite is grouped in the form of spheroids, it does not break the continuity of the matrix, which significantly increases the mechanical characteristics compared to **ordinary gray cast iron**.
- It achieves **excellent tightness**, polishability, and corrosion resistance. It is resistant to heat and thermal shock and has a good coefficient of friction and **wear resistance**, both dry and with lubrication.
- It can be considered "a steel that is as easy to obtain as **gray cast iron**."
- In addition to **high strength**, it also achieves good ductility and toughness.

Characteristics

Machinability

Moldability

High modulus **of elasticity**

Abrasion **resistance**

Tensile **strength**

*ASTM- Standard specification for ductile iron casting.

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Machining

Machining

- We use **numerically controlled machinery** to remove excess material so that the remainder is the desired shape.
- There are various **machining operations**, each of which is capable of generating a certain geometry and surface texture.

Machinery

3 and 4 axis CNC

Milling machine

Drill

Grinding machine

Horizontal and vertical lathes

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Machining

Machining shop
equipment description

CHEVALIER 40/20

Support: 3306 lb

Axis X	40” (Long)
Axis Y	20” (Width)
Axis Z	25” (Height)

Vf3 HAAS

Support: 3086 lb

Axis X	40” (Long)
Axis Y	20” (Width)
Axis Z	25” (Height)

Vf6 HAAS

Support: 3968 lb

Axis X	64” (Long)
Axis Y	32” (Width)
Axis Z	30” (Height)

VERTICAL LATHE

Support: 3086 lb

42” Full flip

CNC LATHE

Support: 551 lb

Live tools
12" Total Flip x 1 m bed

TITANIUM LATHE

Support: 551 lb

10" Flipping
1 meter of bench

RADIAL DRILL

Support: 2204 lb

Flag Radial Lathe
conventional 1x1 m

MEXICO CNC ROUTER

59" on X, Y, Z
movements

CONVENTIONAL LATHE Sn50

Support: 881 lb

18" Flip x 1 ½ meter bed

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Molding **systems**

Molding **systems**

Molding systems

- We use the most traditional molding process, **which is sand casting**, as sand is a refractory material that is abundant in nature and, when mixed with binders, acquires cohesion and moldability without losing the permeability that allows gases to escape from the mold while the molten metal is being poured.

- Casting with **green sand** will give the surface of the piece a rough texture, but molding with self-hardening sand produces pieces with much smoother surfaces.

- For a better surface finish, the pieces can be **polished or coated** with a residue of oxides, silicates, and other compounds that are later removed through different processes, including shot **blasting**.

Methods

- **Self-bonding**
- **Shell** cores
- **Sand recovery** system
- **Floor** molding
- **Press** molding
- **Green** sand
- **Mixer**
- **Presses of** different sizes
- **Mold** handling

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Design and manufacture

# of models

Design and manufacture
# of models

Models

- A **casting model** is the element used to obtain sand molds. These are achieved when the sand is compressed around the mold and both are inside a molding box.
- When the sand is compacted, the model is removed and, after **closing the mold**, the liquid metal is poured in to fill the cavities.
- The work we do is inspected according to the most widely used quality **standards in the market** to ensure that our customers are satisfied with the result.

We have **models made of**

Aluminum

Plastic

Wood

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