

Manufacturas Estampadas S.A. de C.V.

## About us

Founded in 1988 by Belgian Ing. Willy Kerckaert European-Mexican management

#### What we offer:

Metal stamping (progressive, semi-progr., transfer)

Process simulations & product development cooperation

Tool & die design and fabrication

Sheet metal fabrications

Tumble-deburr and industrial cleaning

E-coat and powder coating

Welding (MIG, spot, seam – robotic and manual)

Hardware insertions, assembly, tox, tapping,...

#### Main sectors:

All-Terrain Vehicles

Automotive industry

Lighting industry

Telecom & server technology





#### Certificate of Registration

OUALITY MANAGEMENT SYSTEM - IATE 16949:2016

This is to certify that:

Manufacturus Estempodes S.A. de C.V. Juan Ruiz de Alarcon No. 305 Complejo Industrial Chibushua Apartudo Postal 1-74, Chibushua Chibushua CP 31135 Mexico.

operates a Quality Management System which complex with the requirements of IATF 16545-2016 for the followin scope:

The manufacture of stamped and painted products including progressive dies, secondary consistors.

Permitted Exclusions: Product Design

For and on behalf of RSI:

Curus Planya. Cred Operating Conf. Resistance - Americas

852 Certificate Number: 88379 SATP Number: 0320251





Latest house: 2018-00-0

making excellence a habit' Exply Date: 2021-06-01

The conflictor service the property of the end stell on encount recognists open request, to abstract participates are to estimate to reveal

to expense particular in incommence again. The property of the estimate is now augmented continuously. It is easi to commence with the scape above or the abstract agreement, or just a property of particular and the estimate and the estimate of just a particular and the estimate of just a particular and the estimate and the estimate of just a particular and the estimate of just a particular and particular an

Americal Managements (St., America Inc., 1270) minings (rose, Sales St., America, St. 2019-800) cold. A Section of the MIC Colons of Contractor.

## Main Customers













## **Bühler** Motor

































## Automotive customers



























**BOSCH** 

















Some numbers (2020)

32 years experience

450 employees

51 million USD sales (2019)

2016 \$27M; 2017 \$43M; 2018 \$49M; 2019 \$51M; (2020 \$39M – 2021 \$56M)

2 plants + 3rd plant being developed (25,000m2 in total)

45 stamping presses

2 turrets, 3 press brakes

4 MIG Weld robots, 13 spot weld centers

2 Paint lines (e-coat & powder)





# Manesa plant 1

MANIESA

- Started in 1988
- 10,000m2
- Stamping presses 400T and 600T
- Tumble deburr & industrial cleaning
- E-coat black and gray
- Robotic MIG welding
- Spot welding, Tox Pressotechnik, tapping, hardware insertion and assemblies
- Tool design and process simulations
- Product development in cooperation with customers

# Manesa plant 1









Plant 1 Manesa
Lean Manufacturing
Continuous Improvement
5S Program



Tumble-deburr automotive safety parts



E-coat black and gray (Ford, GM, Chrysler,...)



Robotic MIG welding (4 units)



Resistance welding (VW, GM, BRP, Ford,...)

# Complex stampings

















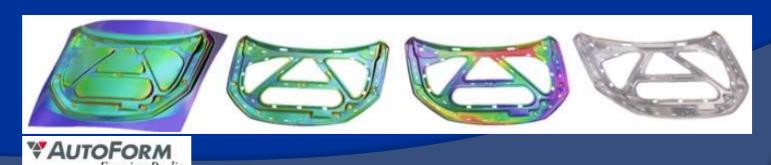
>60 parts developed with Advanced High Strength Steel - Dual Phase Steel DP980 550 MPa min. yield strength; 1000 MPa min. ultimate tensile strength

# Complex forming of parts made with HSLAS-F grade 50 steel ASTM A1011



# Metal Forming Simulations -

- MANIESA
- The simulation calculates stresses and strains during the forming process.
- Simulations allow for the recognition of errors and problems (wrinkles or splits) as well as results (strength and material thinning).
- Simulations permit springback predictions (elastic behavior of material after forming).
- Quality and cost improvements through fast reviews of alternative concepts.
- The number of tool tryouts is reduced, and tryout time is shortened.
- Forming simulation also provides valuable information about the influence of process variations on stamping robustness.



### Example 1 Manual stamping process simulation

Gray color: Forming results













Blue color: Thinning results



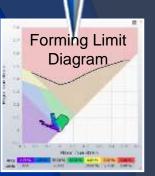
**OP40 Emboss OP50 Pierce** 









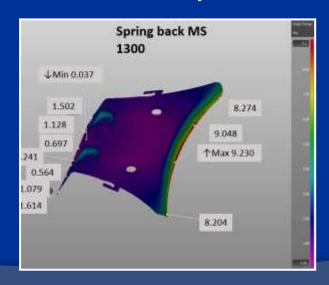


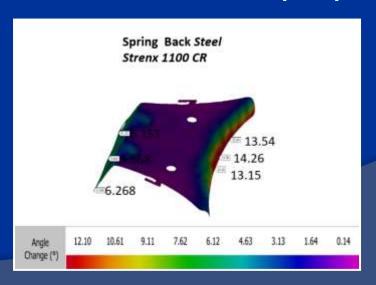
#### Example 2

#### R&D regarding Martensitic 1300 material



- Compare Martensitic 1300 material with SSAB Strenx 1100 material.
- Obtain empyrical results to understand USS martensitic 1300 material stamping limitations and obtain parameters for simulation purposes.





#### Hole Expansion Test

MS 1300 Test Results







Dia. before fracture= 81.4 mm Large oil can effect approx. 31mm

Large first fracture approx. 32 mm long

#### Conclusions hole expansion test

Oil can effect approx. 26mm

- 1300 material obtained 13% dia. expansion vs 9% dia expansion for SSAB Strenx 1100 material.
- These results lead us to conclude that during the forming process we should expect a greater edge stretch before fracture using USS MS 1300 than SSAB Strenx 1100.

#### **Dome Test**





SSAB Strenx 1100 Hit height 57mm FRACTURE MS 1300 Hit height 57mm FRACTURE

Size fracture 57 mm



Size fracture 41 mm

## Manesa plant 2

- MANIESA
- Small and medium size stamped parts
- Started in 2013
- 7,000m2
- Stamping presses 100T and 200T



Housings, ballasts, brackets, covers, deep draw cups, heat shields, wiper parts, base plates; broad variety of metals (CRS, HRS, aluminum, stainless, HSLA, Dual Phase Steel, brass, bronze, copper)

# 1 high runner 2,000,000 ballasts per month



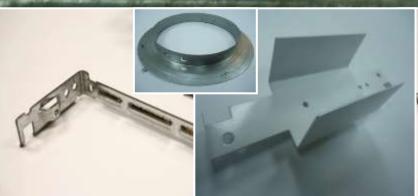


OSRAM























## Manesa plant 3

- -MAR
- Ongoing expansion, operational Q1-2021
- 7,000m2
- Sheet metal fabrications
- Hardware insertion
- Assembly
- Large area and available capacity for new projects

## Sheet metal fabrication



- Low volume production
- Low cost tool investment
- 2 turret punch presses
- 3 press brakes
- 4 pem serters
- 13 spot weld centers
- Laser cutting (external)
- Short lead times

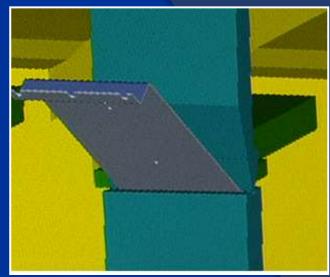


Turret punch press

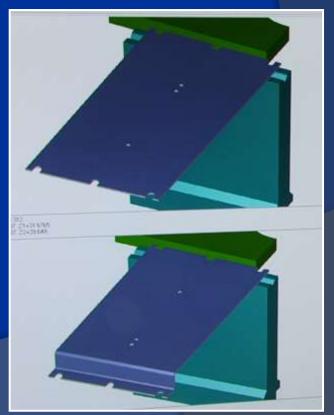


7-axis CNC press brakes









# Server technology parts



















#### Sheet metal fab telecom cabinets

Production processes: Turret or laser cutting – press brake bending Hardware insertions - spot welding, MIG or seam welding Assembly - powder coating – silk screen



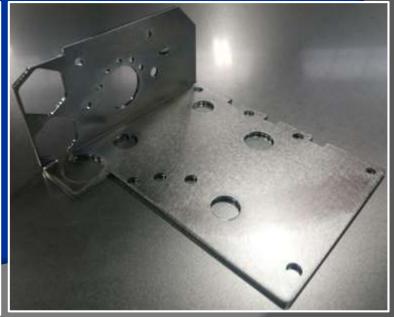
Low volumen sheet metal fab







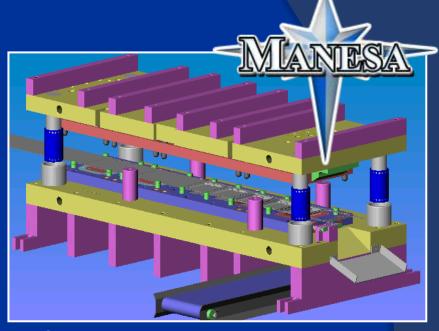






## Tool & die shop

- Progressive dies
- Design
- Fabrication
- OCNCs, W-EDMs
- CMM, 3D scanner
- Transfer existing dies
- Engineering changes
- Preventive maintenance



German apprenticeship die making



Acclimatized metrology lab

# Quality & productivity

- Zero Defect Culture
- IATF 16949: 2016 certified by
   BSI British Standards Institution
- Quality management system including risk assessment
- Lean manufacturing methods; strong focus on continuous improvement
- Acclimatized metrology lab



**CMM Wenzel** 



**Optical Comparator** 

## 5S implementation

\*Actual Die Rack location



\*Actual Production floor



\* Actual Production floor



\*Actual tool kit organization



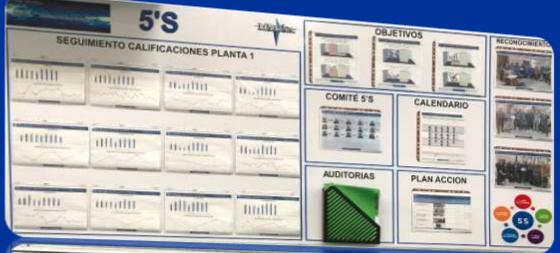
\*Packaging area removed





## Continuous improvement.









# Logistics

- Regular shipments to Ciudad Juárez, El Paso, Reynosa, Bajío,...
- Export to USA, Canada, South-America, Europe, Asia.
- Warehouse in El Paso
- MRP Epicor, VMI
- IMMEX permit



## Contact

Manufacturas Estampadas s.a. de c.v.

Juan Ruiz de Alarcón 305 Complejo

Industrial Chihuahua 31136

Chihuahua, Mexico

Tel: +52 (614) 481 14 49

info@manesa.com

www.manesa.com

Multilingual support















