

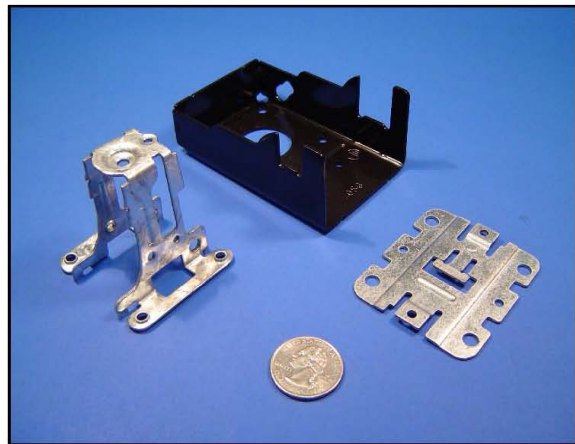
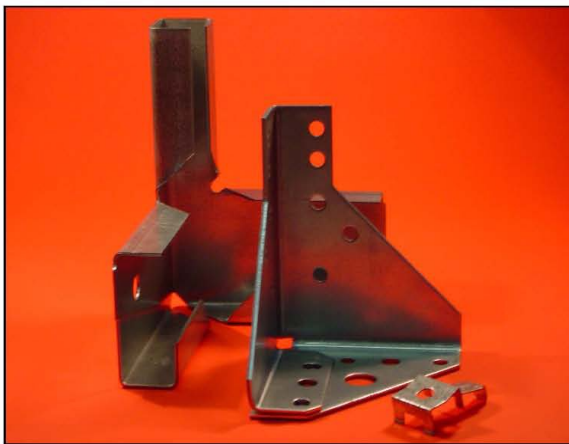
ITD *Precision* SINCE 1946

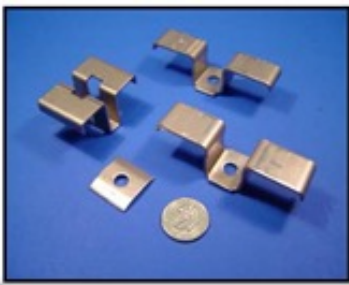


Metal stampings for the 21st Century

Stampings with Value Added Processes:

- E-Coating
- Heat Treating
- Insert Molding
- Assembly





Basic Information

Name: Industrial Tool and Die Co., Inc. DBA: ITD Precision

Address:

Houston Plant and Corporate Headquarters (68,000 sq ft)

9719 Telge Road Houston, Texas 77095

Phone: 281-859-4499 Fax: 281-859-4496

South Texas Plant (94,000 sq ft)

818 N. FM 509 Harlingen, Texas 78550

Phone: 956-440-9960 Fax: 956-440-9963

Houston Plant



South Texas Plant



ITD Precision

9719 Telge Road Houston, TX 77095 281-859-4499
818 North FM509 Harlingen, TX 78550 956-440-9960

www.itdprecision.com

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Company History

ITD Precision was founded in 1946 as Industrial Tool and Die Company by C.F. "Fred" Tofte and now celebrates its 70th year in business. Fred's "doing whatever it takes" style and entrepreneurial spirit remains with the company today.

The company began strictly as a tool and die shop until the late 1960's, when it began purchasing punch press equipment. Today ITD is one Texas' premier producers of metal stampings, and value added processes.

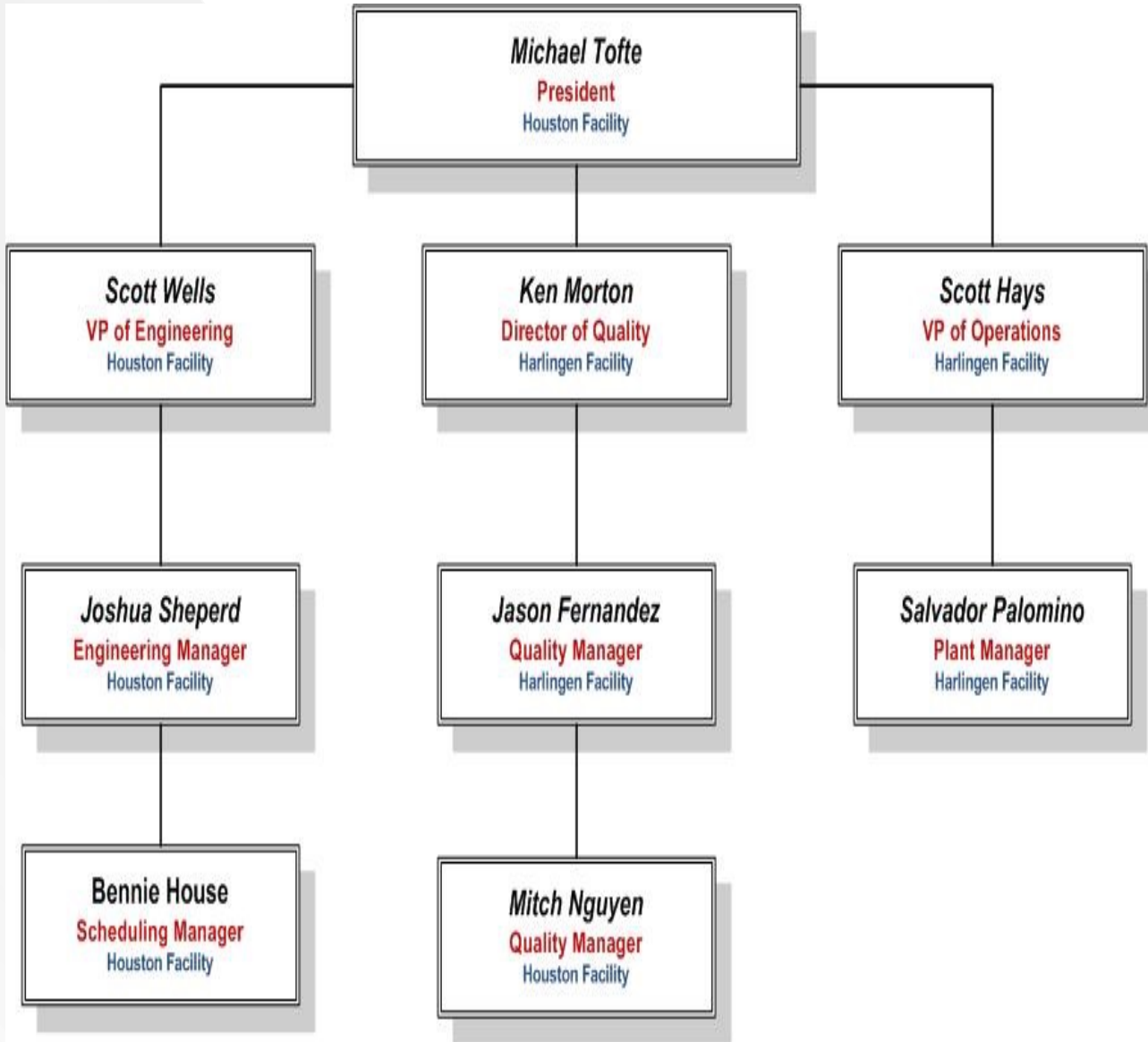
Major events in company history include:

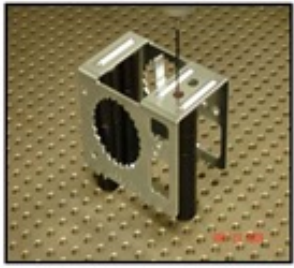
- ⊙ 1956 Relocation to larger facility, from Fred Tofte's garage
- ⊙ 1967 Incorporated and became Industrial Tool & Die Co., Inc.
- ⊙ 1983 Quadrupled square footage
- ⊙ 1989 Adopted the dba name "ITD Precision"
- ⊙ 1993 Relocation to Mitchelldale Street Houston facility
- ⊙ 1994 Purchased first Minster high speed press (400 SPM)
- ⊙ 1994 Opened Rio Grande Valley facility
- ⊙ 1998 Attained ISO 9000 certification
- ⊙ 1999 Obtained its first automotive customer
- ⊙ 2000 Obtained and installed Epicor ERP software
- ⊙ 2002 Built new 26,000 sq ft facility in Harlingen, Texas
- ⊙ 2003 Reached its first million dollar month
- ⊙ 2004 Installed E Coating system in expanded Harlingen plant
- ⊙ 2004 Purchased its first robotic welding equipment
- ⊙ 2005 Attained 400 ton press capability
- ⊙ 2005 Purchased 11.9 acres for future Houston plant relocation
- ⊙ 2007 Built new 96,000 sq ft facility in Northwest Houston
- ⊙ 2007 Attained TS16949 Quality Certification
- ⊙ 2008 Added 22,000 Sq. ft. to the Harlingen facility
- ⊙ 2008 Installed Austemper production heat treat line
- ⊙ 2009 Obtained in-house Insert Molding capability
- ⊙ 2009 ITD Harlingen purchased adjoining 4.345 acres for future growth.
- ⊙ 2012 Added 28,000 Sq. ft. to Harlingen facility
- ⊙ 2012 "EIM" Excellence in Manufacturing
- ⊙ 2013 Increased capacity in Insert Molding (70 ton to 200 ton)
- ⊙ 2013 Added Welding, Staking and Orbital Riveting processes
- ⊙ 2016 "Jidoka", "Andon", "Zero Defects" Implementation
- ⊙ 2017 Zero Defects implemented in Secondary Areas
- ⊙ 2017 Plant Wide Standardization Initiative
- ⊙ 2018 Zero Defects implemented Plant Wide (Heat Treat, E-Coat Machine, E-Coat Hang)
- ⊙ 2018 Obtained IATF 16949 Certification
- ⊙ 2018 NCM Reduction Program
- ⊙ 2019 New 300 Ton Press and 4 additional blanking presses.

ITD has grown to one of the largest metal stamping companies in Texas and the only such company with two locations and E Coating, Heat Treating, and Insert Molding capability. This growth can be attributed to its legacy of its relentless commitment to outstanding quality and productivity.



Organization Chart





Quality Certifications - Houston

BUREAU VERITAS
Certification



Certificate of Approval

Awarded to

ITD Precision

818 North FM 509
78550 - Harlingen - TX United States

Bureau Veritas Certification certify that the Quality Management System of the above organisation has been audited and found to be in accordance with the requirements of

IATF 16949

and the applicable customer specific requirements



SCOPE
Manufacturing

PERMITTED EXCLUSION(S)

8.3 - Design and development of products and services

PRODUCT(S) DELIVERED

Metal Stampings, E-coating, Heat Treating, Insert Molding and Related Assemblies.

Date of certification: 09 October 2018

Date of expiration: 08 October 2021

Bureau Veritas Certification Certificate N°:USA-21329/2-TS

IATF Certificate N°: 337531

For Bureau Veritas Certification Holding, Le Triangle de l'Arche, 8 Cours du Triangle - 92800 Puteaux - France
(The official document is in English. Any translations of this document shall be used for reference only.)

Page 1 of 2



ITD Precision

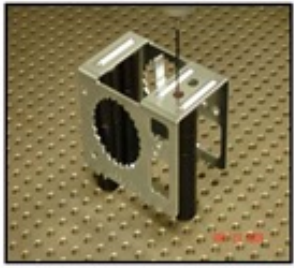
9719 Telge Road Houston, TX 77095 281-859-4499
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www.itdprecision.com

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Quality Certifications - Harlingen



Certificate of Approval

Awarded to

ITD Precision

9719 Telge Rd
77095 - Houston - TX United States

Bureau Veritas Certification certify that the Quality Management System of the above organisation has been audited and found to be in accordance with the requirements of

IATF 16949
and the applicable customer specific requirements



SCOPE
Manufacturing

PERMITTED EXCLUSION(S)
8.3 - Design and development of products and services
PRODUCT(S) DELIVERED
Metal Stamping and Related Assemblies

Date of certification: 17 October 2018

Date of expiration: 16 October 2021

Bureau Veritas Certification Certificate N°:USA-21329/1-TS

IATF Certificate N°: 338707

For Bureau Veritas Certification Holding, Le Triangle de l'Arche, 8 Cours du Triangle - 92800 Puteaux - France
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Page 1 of 2



Excellence in Manufacturing

"Creating and Sustaining a Culture of Excellence"

In 2013, ITD Precision formulated its Continuous Improvement Initiative modeled after the Toyota Production System for deployment of lean manufacturing practices and principles. We call it "Excellence In Manufacturing," or EIM. To achieve our **5 Purposes**, we observe our performance from **5 Perspectives**, and employ the **5 Practices** (tools) for elimination and prevention of waste.

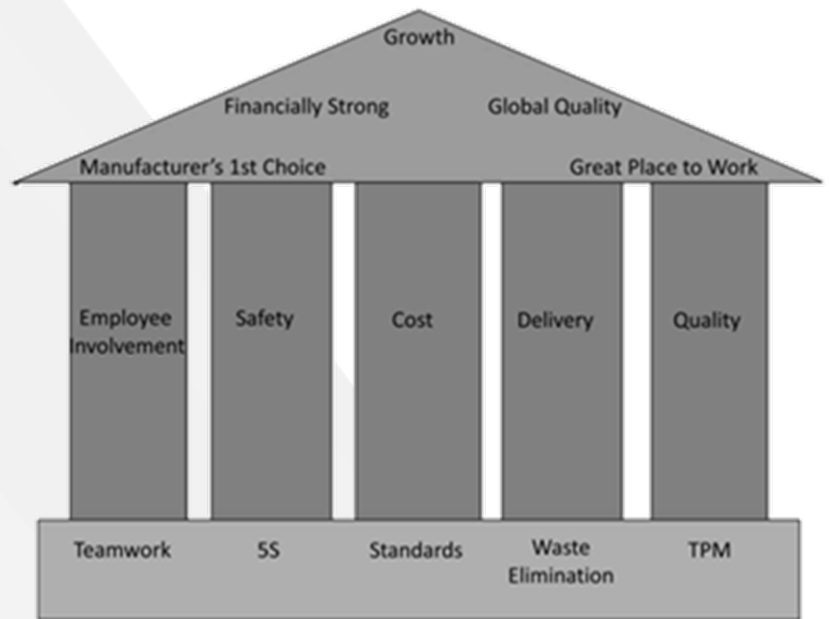
5 Purposes:



5 Perspectives:



5 Practices:



$$\text{EIM} = 5\text{P}^3$$

The Jidoka process is designed to stop the process at the moment a problem is detected.

Any ITD Employee within any production process has authority to "Stop" (the process) and "Notify" (Dept. Lead and/or Supervisor) if they consider a condition to be abnormal.


	SAFETY, QUALITY, EQUIPMENT, MATERIAL	- *ALERT* Supervisor/Lead assistance required. - Check part, trouble shoot, make adjustments, repair, contact additional support.
	OPERATOR, MATERIAL HANDLER, SHOP TECH	- Activities required before, during and after production. - S/U, Change Over, Coil Change, Equipment PM, Packaging, etc.
	PRODUCTION	- Equipment is operating effectively.



ITD Precision **JIDOKA**

The Principle of Stopping Work IMMEDIATELY when a problem occurs

ITD would like to recognize the outstanding work of identifying an abnormality. THANK YOU!

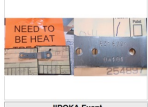


RAMIREZ, Sandra

Part Number: 631879/00 Tool Number: A1008

CATEGORY

A



JIDOKA Event

Part 631879/01, during hanging, operator found two skids located in the wrong area. Parts should be in the heat treat area.


Where Found: E-Cent - Houston Error Location: Shipping
 Jidoka Date: 9/18/2019 9:04:19 AM Plant: Harlingen
 Shift: 1

Part Description: BUCKLE BRACKET Customer: AUTOLIV Job Number: 631879-00101

ITD Precision **JIDOKA**

The Principle of Stopping Work IMMEDIATELY when a problem occurs

ITD would like to recognize the outstanding work of identifying an abnormality. THANK YOU!




GAMBOA, Silvia Patricia

Part Number: 2511854 Tool Number: 7062

CATEGORY

B



JIDOKA Event

Part 2511854, during layer process audit, supervisor found parts being changed that did not undergo the Niagra restrick. Mis-operation. 3 part tags states Niagra next operation.


Where Found: E-Cent - Houston Error Location: Stamping
 Jidoka Date: 4/25/2018 8:44:31 AM Plant: Harlingen
 Shift: 1

Part Description: AIR BUCKLE BRACKET 3 DEG Customer: JOYSON Job Number: 2511854-03201

ITD Precision **JIDOKA**

The Principle of Stopping Work IMMEDIATELY when a problem occurs

ITD would like to recognize the outstanding work of identifying an abnormality. THANK YOU!




VELAZQUEZ, Gloria

Part Number: 6040395 Tool Number: A1211

CATEGORY

C



JIDOKA Event

Part 6040395, during riveting, operator found a part with stamping defect.

Where Found: Secunder - Riveting Error Location: Stamping
 Jidoka Date: 11/15/2018 3:20:53 PM Plant: Harlingen
 Shift: 1

Part Description: BRIDGE PLATE Customer: AUTOLIV Job Number: 6040395.T00

ZERO Defect

Doing it right the first time. We believe Quality should be integrated into the process from the start rather than solving problems at later stages. The Zero Defect Journey starts with us and believing that it's possible.

We have applied Zero Defect to the following lines/processes

Secondary Operation: 3 stakers
1 orbital riveter

Heat Treat Process

E-Coat Paint Line

E-Coat: 2 part numbers



ITD Precision Monthly Report																
Nov-19																
2016	Zero Defect Cell Impl.	R230	Baseline Scrap	Current Scrap Rate	Current Zero Defect Continuous Days	Max Continuous Days										
	(Supplier ZD workshop Launch)	Line Launch														
	Date	Nov-16	0.51%	0.000%	63	63										
2017	Zero Defect Cell Impl.	VW	Baseline Scrap	Current Scrap Rate	Current Zero Defect Continuous Days	Max Continuous Days	Heat Treat	Baseline Scrap	Current Scrap Rate	Current Zero Defect Continuous Days	Max Continuous Days	E-Coat Paint Line	Baseline Defect Rate	Current Defect Rate	Current Zero Defect Continuous Days	Max Continuous Days
	(Supplier ZD workshop Launch)	Line Launch					Line Launch					Line Launch				
	Date	Feb-17	0.21%	0.000%	46	46	Jun-17	0.50%	0.140%	-	5	Oct-17	26.87%	21.310%	-	4
2018	Zero Defect Cell Impl.	VSTK03	Baseline Scrap	Current Scrap Rate	Current Zero Defect Continuous Days	Max Continuous Days	E-Coat 604038900	Baseline Scrap	Current Scrap Rate	Current Zero Defect Continuous Days	Max Continuous Days	Line Launch	Baseline Scrap	Current Scrap Rate	Current Zero Defect Continuous Days	Max Continuous Days
	(Supplier ZD workshop Launch)	Line Launch					Line Launch					Line Launch				
	Date	Mar-18	0.002%	0.000%	9	75	Jul-18	2.589%	1.900%	-	-					
2019	Zero Defect Cell Impl.	602778400A	Baseline Scrap	Current Scrap Rate	Current Zero Defect Continuous Days	Max Continuous Days	Orbital Riveter	Baseline Scrap	Current Scrap Rate	Current Zero Defect Continuous Days	Max Continuous Days	Line Launch	Baseline Scrap	Current Scrap Rate	Current Zero Defect Continuous Days	Max Continuous Days
	(Supplier ZD workshop Launch)	Line Launch					Line Launch					Line Launch				
	Date	Feb-19	2.024%	3.790%	-	1	Oct-19	0.021%	0.008%	-	8					



Recognition

ITD Employees are recognized and given a Jidoka Shirt once they reach 10 points.



All Jidoka entries are entered on a raffle; an employee can win a gift during the Monthly Employee Involvement Meeting.





E-Coating System

In July, 2004, ITD Precision installed an Electro-Deposition paint line in its Harlingen, Texas Plant. Due to its environmentally friendly characteristics, Electro-Deposition Paint (most commonly referred to as E-Coat) is becoming the standard in both Automotive and Industrial Applications. ITD's E-Coat application provides a thin, tough, black coating that is extremely resistant to corrosion yet is capable of reaching even the most hard to reach areas of complex parts.

Our Therma Tron-X Econ E-Coat Paint System utilizes an SRST (Slide Rail Square Transfer) system conveyor design. Other equipment installed on the line are pre and post water treatment systems, an automatic chemical feed system and a state of the art data management system.

ITD has chosen to use PPG's products, the most prestigious chemical and paint products in the electro coat business, for all their pretreatment and paint stages. PPG's products meet the most common automotive and industrial electro coat specifications and are accepted by Ford, Chrysler, GM and several import automotive companies.

Although ITD is currently processing more than 3 million parts per month, the e-coat system is still under 60% capacity.





Heat Treating

2008 marked the year in which ITD added another major element of Value Added operations, Austemper Heat Treating. Features of the heat treat line include:

- 2008 continuous mesh belt
- 36" wide belt
- 1000 lbs per hour
- Furnace temperature range 1500 to 1700 degrees F
- Salt quench temperature range 600 to 750 degrees F

ITD has acquired the best in Heat Treat laboratory equipment and environmental protection systems to insure the highest standards of quality. Equipment includes:

- Plymouth Technology MRS10 Metals Removal and Water Filtration System
- GX41 Olympus Compact inverted Metallurgical Microscope
- PAXIT Digital Image Management and Image Analysis System and Digital Microscope Camera
- LECO Spectra System 1000 Grinder/Polisher
- LECOPR25 Semi-Automatic Mounting Press

ITD's austemper process offers benefits over the more conventional oil quench and temper method of heat treating metal stampings that require the uppermost in distortion control. The process consists of quenching the part from the proper austenitizing temperature directly into a liquid salt bath at a temperature between 590 to 710 degrees Farenhiet.

Advantages of Austempering:

- Less Distortion
- Greater Ductility
- Parts are plating friendly due to the clean surface from the salt quench
- Uniform and consistent Hardness
- Tougher and More Wear Resistant
- Higher Impact and Fatigue Strengths
- Resistance to Hydrogen Embrittlement

You should use the Austempering process if:

- Material used: SAE 1045 to 1095, 4130, 4140, 5060, 5160, 6150,
- Material thickness between 0.008 and 0.150 inches,
- Hardness requirements needed in between HRC 3852,
- Material is prone to distortion.



Insert Molding

ITD has integrated Insert Molding into its core processes, making us one of the few Metal Stampers in the United States with E-Coating, Heat Treating, and Insert Molding capability. Installation of two 70 Ton Vertical Insert Molding Machines (VIMM) was completed in April 2009 and installation of the first 200 VIMM machine was completed in August of 2009. ITD began producing multiple color parts in 2014.

Insert Molding Machines are:

Autojector HCR70 Ton Vertical Injection Molding Machine (3)

Platen Size – 10" x 16"

Injection Unit Capacity 2.7 oz.

Autojector HCR200-280 Ton Vertical Injection Molding Machine (4)

Platen Size – 16" x 40"

Injection Unit Capacity 16 oz.

Features Include:

Rotary Tables

2 or 4 Station

Parting Line/Sprue Injection

Adjustable Parting Line Height

Vertical Knockout (Ejector)

Allen Bradley PLC Control and Interface

Injection Units Compatible with Engineering Grade Resins

One touch Start Cycle Control

Light Curtains and Safety Guarding





Automation and Assembly

ITD Precision offers a wide variety of value added automated assembly operations. Our engineering staff will design and manufacture the special equipment and fixtures to deliver stampings with the added components and features ready for the assembly line.



Robotic Welding



Staking



Orbital Riveting



Equipment List

Plant and Offices

Houston,Tx. 68,000 Square feet, plant, warehouse, office

Harlingen,Tx. 94,000 Square feet, plant, warehouse, office

Production Equipment

(2) 400 Ton Minster E2 120" x 48" with servo feed, straightener and 10,000 lb double reel. 8 " stroke. 0-120 strokes per min. Wintress Smart Pac 2 controls. New 1987.

(2) 350 Ton Minster E2H 86" x 42" right to left with servo feed, straightener and 10,000 lb. double reel 8 " stroke, 0-130 strokes per minute. Wintress Die pro 1500. New November 2003.

(2) 300 Ton Minster E2 straight side press system, 72 x 42, 0-80 SPM variable speed, 8" stroke, with servo feed, straightener, 6000# double coil reel, electronic monitoring D, Wintress Smart Pac 2 controls. New 1998.

(3) 200 Ton Minster E2, 72" x 42", with Minster servo feed, straightener and 10,000 lb double reel. 8" stroke. 0-100 strokes per min. New 1990.

(1) 165 Ton Aida OBI, 42" x 29", with CHS servo feed, Minster 10,000 lb double reel and straightener. 8" stroke. 0-65 strokes per min. Wintress Smart Pac 2 controls. New 1993.

(1) 150 Ton Minster P2 straight side punch press, 0-100 SPM , Minster Feed, Straightener & Reel; Wintress Smart Pac 2 controls.

(1) 110 Ton Minster P2H 2" & 4" stroke. 400 strokes per minute, servo feed, straightener, double 6000 # reels. Wintress Smart Pac 2 controls.

(1) 110 Ton Minster P2H 4" stroke 48 " wide 0-275 strokes per minute, servo feed, straightener; double 6000 # reels Wintress Die Pro 1500

(9) 35 to 220 ton blanking presses.



Equipment List



E-Coat and Heat Treating and Insert Molding Equipment

- (1) TTX EconE-Coat ElectroCoat paint line with conveyor system. Zinc Phosphate pre-coat. 100 sq ft/450 lbs per load.
- (1) JRI Industries 4 stage belt style parts washer.
- (1) JL Becker Continuous Mesh Belt Austemper Heat Treat System (1000# per/hr)
- (1) ACE Model No 463RT Burnout Oven, gas
- (3) Autojector HCR70 Ton Vertical Injection Molding Machine; platen 10" x 16"; IUC 2.7 oz.
- (4) Autojector HCR200 Ton Vertical Injection Molding Machine; platen 16" x 40"; IUC 16 oz.

Production Support Equipment

- (8) Sweco vibratory deburring machines (1015 cu feet)
- (1) Acurashear 10 ga x 72"
- (2) 30 KUA Spotwelder (Western Arctronics)
- (4) 75 KUA Spotwelder (Loars)
- (1) Flex Arc Robotic weld system. Updated in 2016.
- (3) Orion shrink wrap machine (automatic)
- (4) 3 Ton overhead crane
- (5) Air compressors with Dryers
- (3) Orbital Riveters (Can be modified for customer part specific)
- (3) Retractor Stakers (Can be modified for customer part specific)



Equipment List

Tool and Die

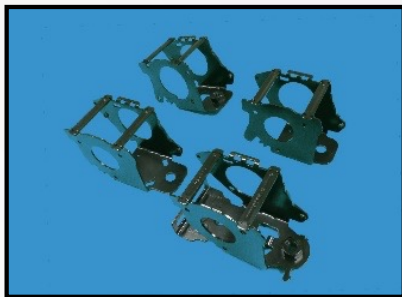
- (1) 2D and 3D Tooling Design software with Autodesk and SolidWorks
- (1) Charmilles 310 Wire EDM Automatic
- (3) Sodick Wire EDM 23" x 15" x 14": max work piece weight 2200 lbs
- (1) Hurco CNC Mill 20" x 40"
- (1) Hurco VM30i CNC Milling Machine 20" X 50" w 20 station tool changer
- (5) Milling machines 2 & 3 hp
- (2) 16" x 30" Automatic surface grinders
- (6) 6" x 18" Manual surface grinders
- (4) Drill presses
- (2) 1 ½ Ton Electric Cranes

Quality Assurance

- (2) Zeis Contura G2 RDS (CNC) CMM with measuring range X=700mm, Y=700mm, Z=580mm
- (1) Numerex Coordinate Measuring Machine 14" x 18" x 12"
- (3) Wilson hardness testers RC & RB
- (1) 6" x 6" MiroVu measuring system (2003)
- (1) Mitutoyo Optical comparator
- (1) MicroVu 24" x 18" x 6" programmable (2003)(M) Miscellaneous Pin gauge, Joe Blocks micrometer, veneers & height gauges
- (1) X-Rite SP64 Portable Sphere Spectrophotometer
- (1) X-Rite RM200QC Imaging Spectrocolorimeter
- (2) Keyence IM 6225 (Image Dimension Measuring System)
- (1) Keyence VHX-900F
- (1) IBG Eddy Liner (Eddy Current Non Destructive Examination of Metal Components)



Parts Gallery





Future Plans

ITD Precision has as its objective to acquire one major manufacturing customer each year. To meet this challenge means increasing capacity, while implementing and improving manufacturing, quality, information, and human resource systems.

The following represents major initiatives in process or planned to meet this objective.

- Further implementation of EIM Excellence in Manufacturing system modeled after the Toyota Lean Manufacturing
- Broaden use of LETS Production Management System on appropriate machines in both plants. Utilization of the data gathering capability of the system, will enable ITD to calculate and monitor OEE and other process measurements on a die, press, plant, and company basis. Measurement of our performance on these critical manufacturing processes will be the key to our improvement of them.
- Refine Corporate and Departmental Objectives, Measurements and Targets
- Production floor data acquisitions for data analysis and improvements