Brief Introduction

OH SUNG TECH

OH SUNG TECH Co., Ltd.

Head Office & Factory
7, Okgucheonseo-ro 237 beon-gil, Siheung-si, Gyeonggi-do, Korea (15085)
TEL +82-31-508-2377~8 FAX +82-31-508-2380

Research and Development center
#102, 29, Dongmun-gil, Eonyang-eup, Ulju-gun, Ulsan, Korea (44941)
TEL +82-52-286-0337 FAX +82-52-286-0338

E-mail ostech2380@chol.com
Homepage www.osungtech.co.kr

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Company Information

Location
7, Okgucheonseo-ro 237 beon-gil, Siheung-si, Gyeonggi-do, Korea

President
Jung-Il Kim

Factory
Plottage 3,383m^2, Building Area 3,123m^2

Sales Amount
US$ 10,987,000 (2015)

Employees
39 persons (Office : 10, Production : 29)

Headquarter
Siheung-si, Gyeonggi-do

R&D center
Eonyang, Ulsan

Management Philosophy

· Think about the future and be ahead of change.
· Be diligent and frugal and behave courteously.
· Pioneer a new field using creative and technology.

Our Strengths

· High accurate mold manufacturing. (Respond to customer needs)
· Casting / solidification simulation-based mold design capabilities.
· The Continuous R & D performance
· Quick maintenance and feed-back

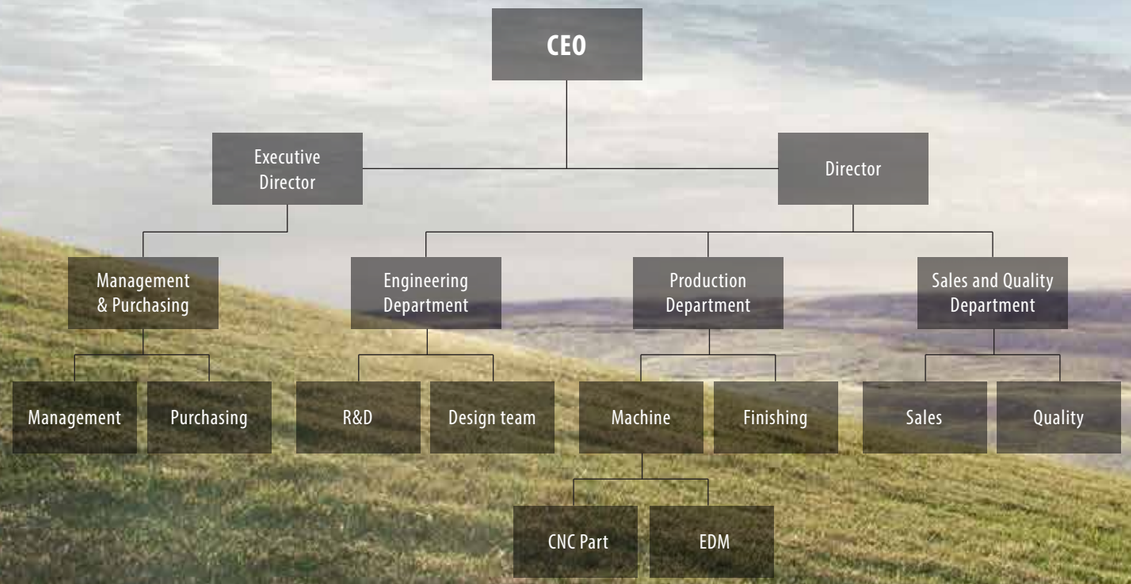
History

2003	**November**	Established OH SUNG TECH
	December	Started business
2005	**February**	Moved Company (601 Block 10 Lot)
	September	**ISO 9001 Quality Certification**
2007	**June**	Moved Company (Shi Hwa complex 3ma 702hp)
2009	**June**	Established R&D Center (in Ulsan Kitech)
2011	**October**	**INNO-BIZ Certification**
2013	**December**	10th Anniversary
2014	**June**	Register in the roots technology company
2015	**September**	Moved company (7, Okgucheonseo-ro 237beon-gil)

Oh Sung Tech is a specialized manufacturer of large-sized high-pressure die casting (HPDC) molds for the production of automobile mission parts.
Currently we are manufacturing and providing molds of the highest quality to customers home and abroad, with high efficiency and accuracy.
Furthermore, we are focusing our efforts in R&D to develop customized and advanced molds.

A State of the Art Smart Factory completed | One stop service of DIE MOLD fabricate | Customized Product Manufacturing system

Organization



1 million US dollar export Award

ISO 9001 Quality Certification

INNO-BIZ Certification

Clean Factory Certification

R&D Center Certification by Korea Industrial Technology Association

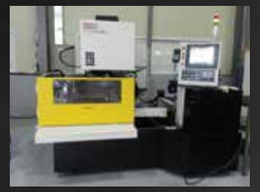
Roots Technology company Registration

Cerificate of Patent

Machine & Measuring Units


NC milling M/C-Horizontal

NC milling M/C-Vertical

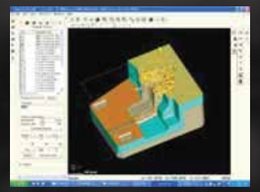

Wire Cutting Machine


Machining electrode (EDM)


Die Spotting Machine


3-Dimension Measuring Machine

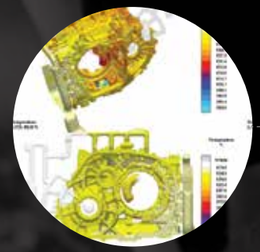

AGV

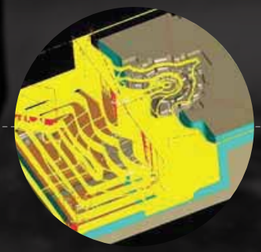

CAM Program [work-NC, DNC]

Machine & Equipments	Quantity
Large size milling M/C	2
Medium size milling M/C	3
Small size milling M/C	2
Horizontal M/C	2
Large size electric spark M/C	1
Medium size electric spark M/C	2
M/C	1
Small size electric spark M/C	1
R/Drilling	1
Milling	2
Lathe	2
Die Spotting	1
Wire cutter	1
Pro-e soft.	1
UG soft.	1
Magma soft.	1
KATIA	1
Auto CAD	5
Work NC	3
3-D Measuring Machine	1

Mold making flowcharts

Oh Sung Tech provides on-stop services from design to manufacturing through automated and advanced-tech production lines.
The company also produces diverse kinds of customized products in small batches to meet customers' exacting needs.


Simulation + Mold design


CAD / CAM


1st Machining


Heat-treatment

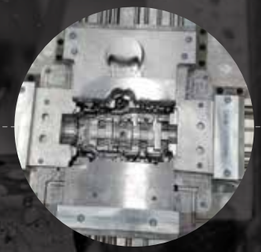

2nd Machining


EDM


Finishing


Measuring


Nitring + Coating


Assembly

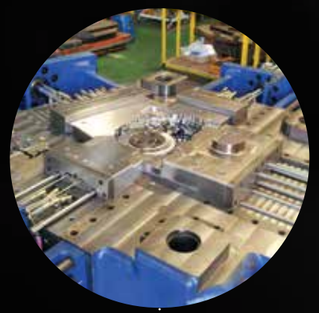

Test Run


Delivery

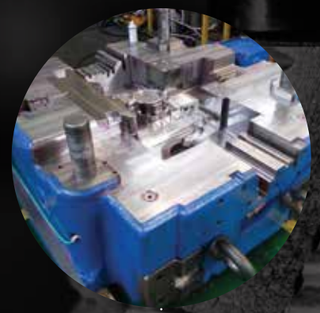
Major Products

Oh Sung Tech is a specialist in the design and manufacture of large-size die cast molds.
Based on continuous R&D and years of technological expertise, the company produces superior mold products that meet global standards.
Osung Tech is building a solid reputation as a specialist in the design and manufacture of molds for automobile engine and transmission parts.
With its development of hot stamped products, the company is currently preparing to become Korea's first choice for mold manufacturing.

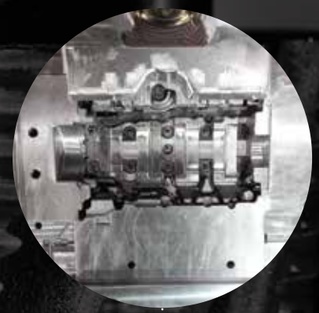
A/T CON HSG metallic mold



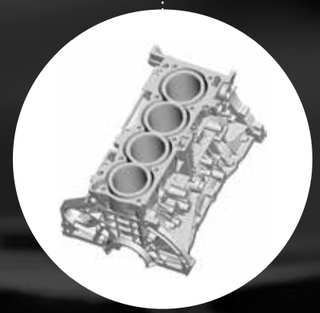
A/T TM Case metallic mold



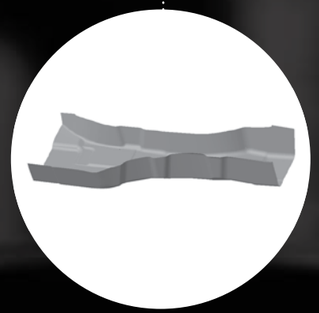
Crank Case Lower metallic mold



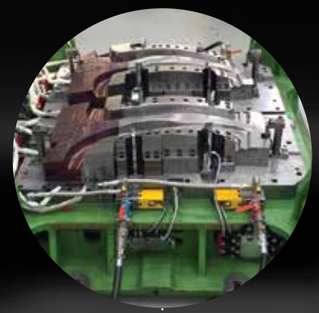
Cylinder Block metallic mold



REF FRT DR HINGE Hot stamping mold



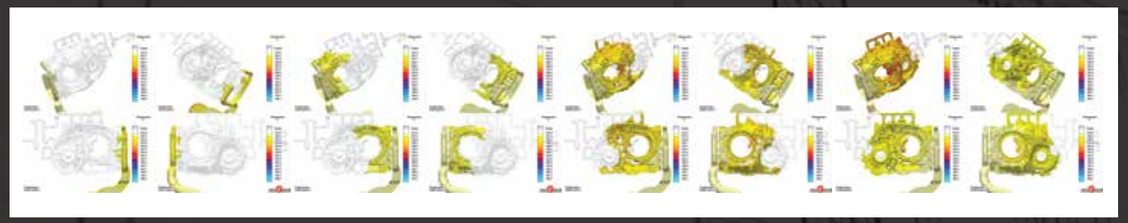
Center pillar outer Hot stamping



Research & Development

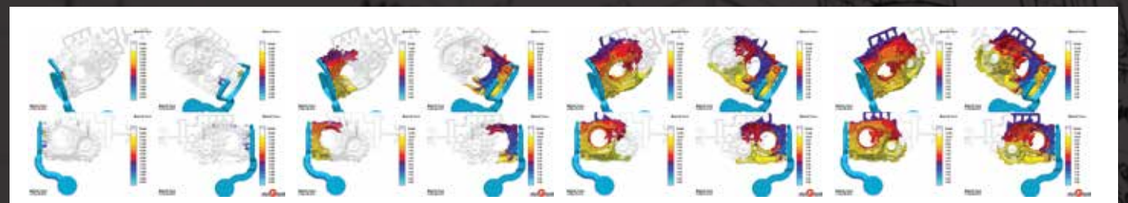
Filling simulation

by using Magma soft. Program.



Solidification simulation

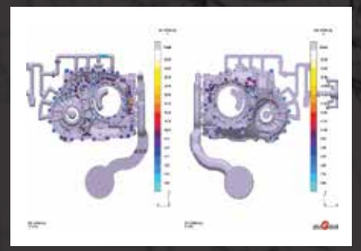
by using Magma soft. Program.



Flow & Solidification Simulation

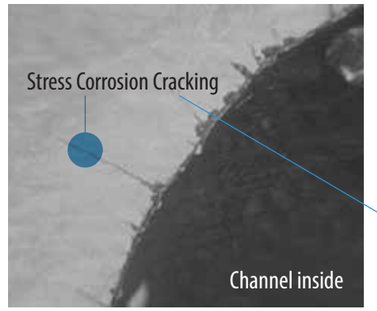
Analysis of the flow and solidification (Simulation) by using Magma soft. Program.

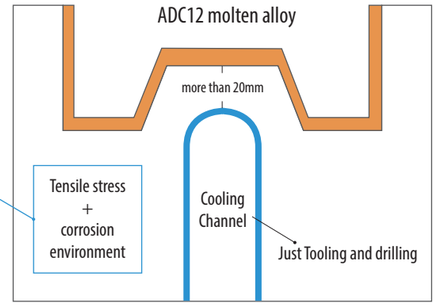
· Casting product verification and defects prediction through analysis of the fluid flow and solidification
· Reflect the simulation result in mold design
· Set up the casting design
 - We obtain the sound casting without casting defects from the simulation results



Present Applied Technology for the Cooling Channel

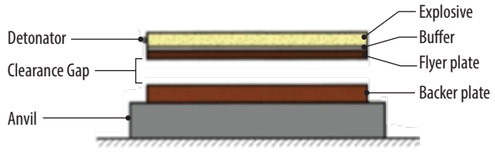
· Current die-casting mold cooling channel being produced by machining.
· The larger distance between the external die(feature) and a cooling-channel(more 20mm), as a result mold cooling efficiency is low. Therefore, the mold temperture is nonuniform, and die mold life-time is also shortened.



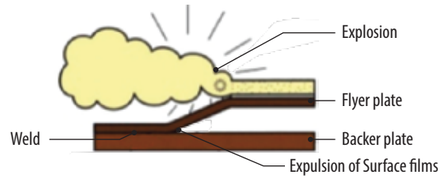


The more efficient cooling channel design and fabrication is required in the HPDC mold & Inserts.

The principle of explosion welding



(a)



(b)

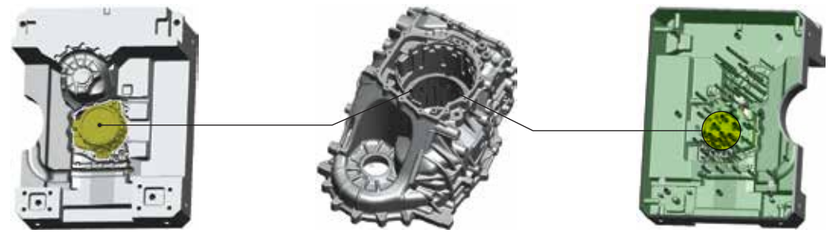
Figure show the Explosive Welding (EW) : (a) set up the parallel configuration and (b) during detonation of the explosive charge.

Research & Development

Applied to the HPDC mold (TM-insert)

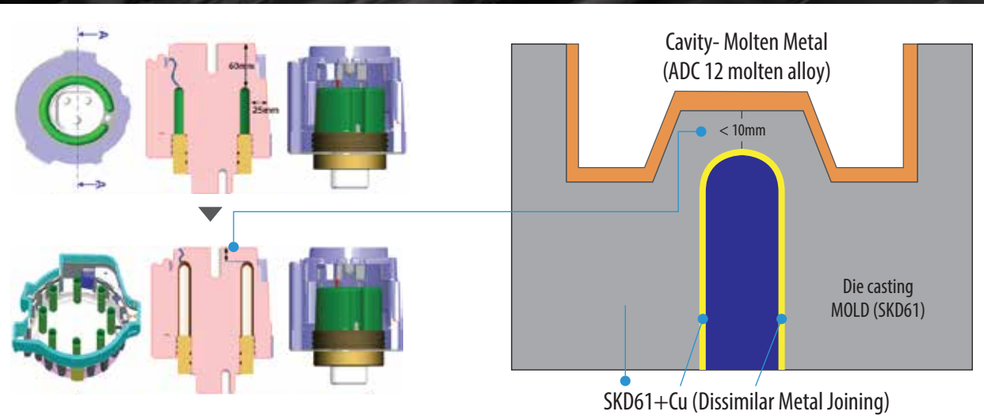
TM Case Housing MOLD

· The cooling performance of the cooling channel has a significant effect on the casting product and the life-time of die casting mold.
· The geometry of the TM Case Housing MOLD is very complex, Therefore it requires a high cooling effect.
· High cooling rate of TM MOLD will be to produce high accurate a casting products.
· In addition, a homogeneous temperature distribution and the effective cooling capacity is increase the life-time of the mold.
· Excellent cooling efficiency of the mold inhibits the heat checks generation.
· Cu bush bonding method via Explosive Welding.

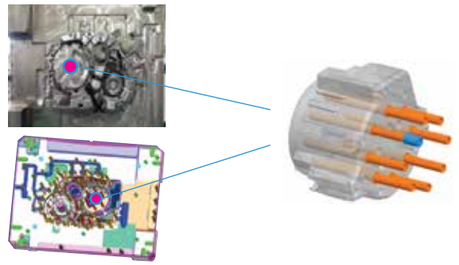


8ea Cooling Channel

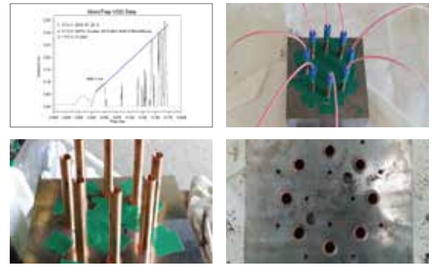
Dissimilar Metal Explosive Welding



High effective Cooling Channel design & Apply explosion welding

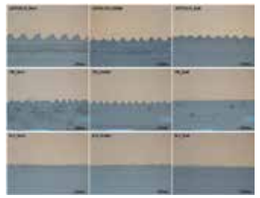


Optimum cooling channel design

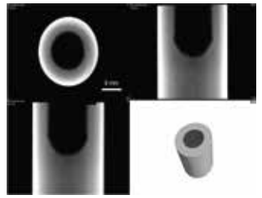


Apply dissimilar metal welding explosion to the TM insert MOLD

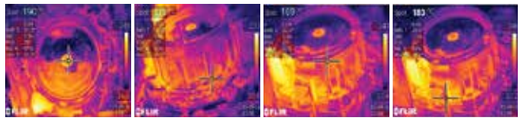
Explosive bonding results



OM Microstructure

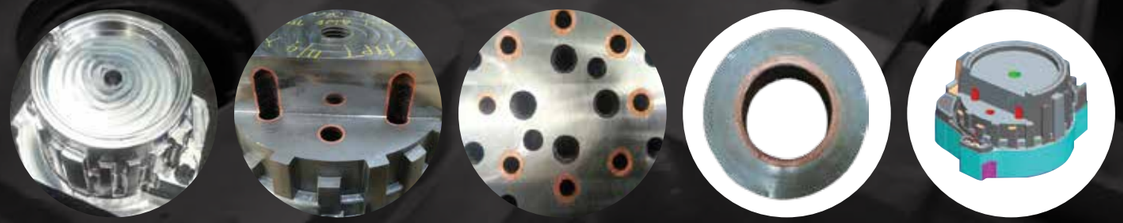


3D-CT



Results of the thermal imaging camera
· Uniform temperature distribution
· Low mold temperatures

Final EW sample & modeling



Smart Factory

Established the optimal automated line for enhanced productivity and quality, in which the die casting mold manufacturing process is managed through smart control

- Introduced the RFID system for stock/delivery management of mold products
- Applied software for information management conducted via hardware (RFID readers and tags)

Stock/delivery monitoring based RFID sensing hardware

- Introduced AGV for automatic and continued product delivery
- Utilized RFID tags and RFID readers for product and tool management

Established product and tool management system for die casting mold products

Stock/delivery management based on the RFID system

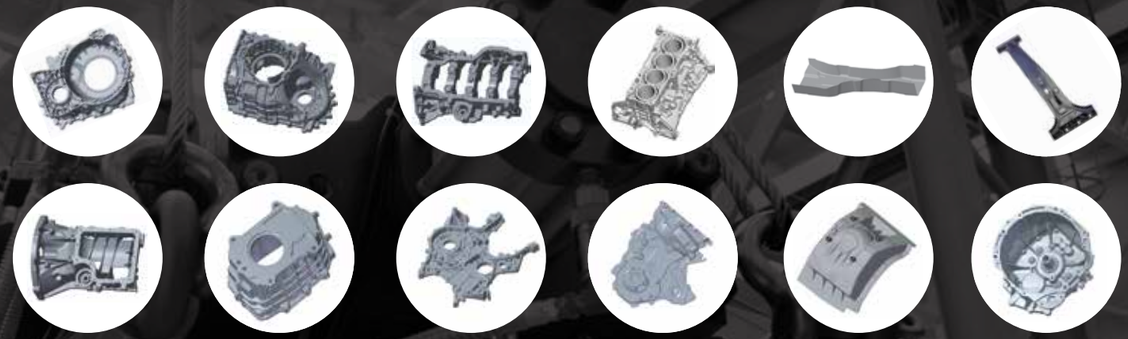
1. Host Computer
2. RFID tags
3. RFID readers
4. Network devices






Others

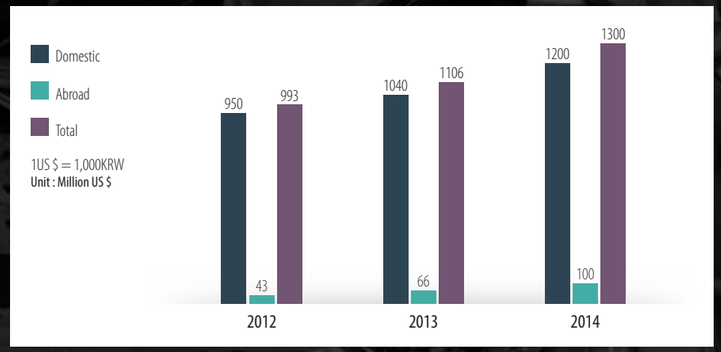
Parts produced from the mold



Production quantity & Business plan

Die Casting Mold & Equipments	Quantity
A/T CON/HSG	38
A/T T/M CASE	48
M/T T/M CASE	23
Ladder Frame & ETC Part	140
Cylinder Block Sub Ass'y	20
TC Cover	30
Hot-Stamping	20

*From 2006 up to 2015



Customers

HYUNDAI, KIA MOTORS, CHEVROLET, HYUNDAI POWERTECH, INZI AMT, INNOCAST, KODACO, SEMYUNG TECH, ILGANG, KOIDE ODASANKYO JAPAN