Engineering Solutions Division
(Thermal Automation of Die Casting)

Thermal Automation of Die Casting

Objective

As a well known fact, best results & components can be produced from die casting only after maintaining temperature with in specified band.

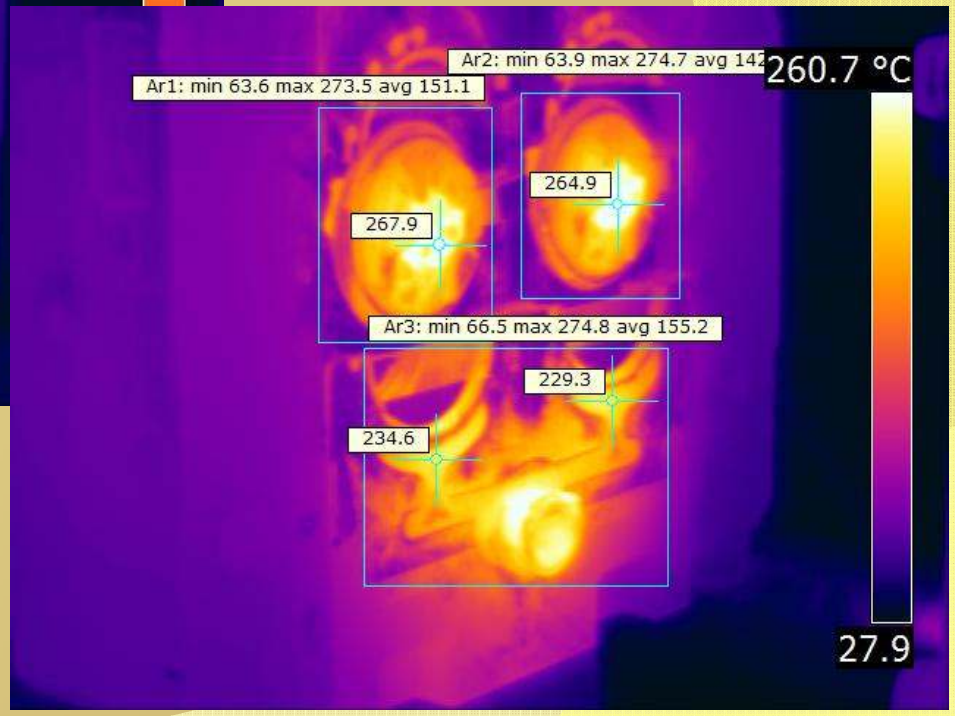
Our solution will record Thermal data of die casting along with monitoring, logging, trending, alarm & control facility.

Entire operation will be automatic with no manual interfacing required.

Detecting Temperature pattern in Die Casting

Moving side before Spray

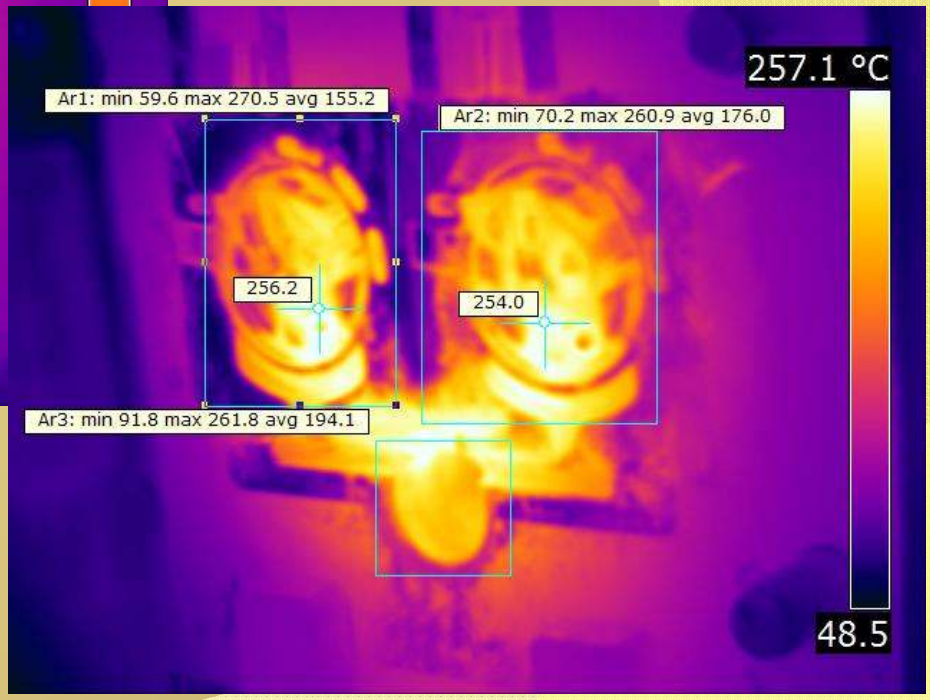
Moving side after Spray



Detecting Temperature pattern in Die Casting

Stationary side before Spray

Stationary side after Spray



Thermal Automation of Die Casting

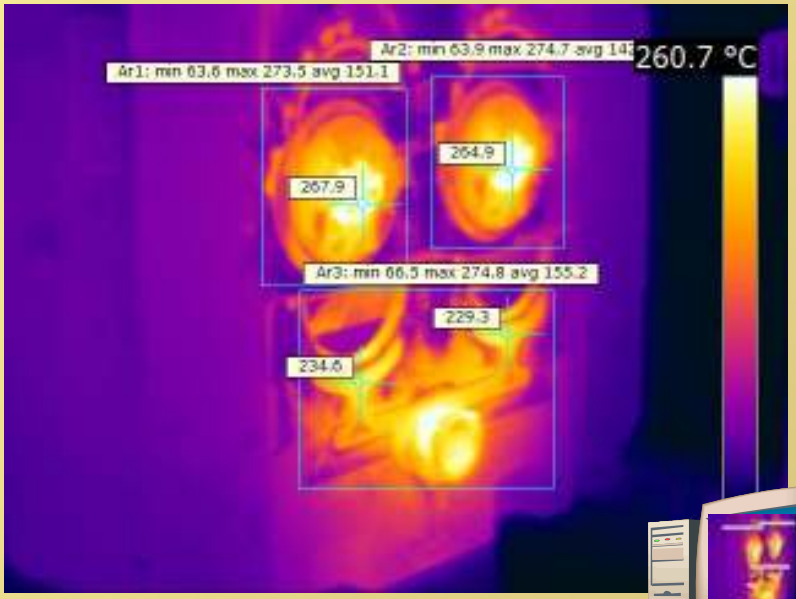
Components Used

1) *Thermal Imaging Camera manufactured by M/s FLIR , Sweden*
2) *Industrial Grade Desk Top (Existing set-up may be used)*
3) *Micro-controller based embedded hardware to receive & transmit data*
4) *Tripod*
5) *Alarms hard-ware (Audio-Visual)*
6) *Customized software as per requirement*
7) *LCD Display*

Note – 2 set of above specified components required for moving & stationary side respectively.

Thermal Automation of Die Casting

Pictorial View



Existing Control set-up

3

5

1

2

6

4

Job No – F3247
Spot1 Temp – 324 ℃
Spot2 Temp - 276 ℃
Status – Alarm
High Temp. at Spot 6

Thermal Automation of Die Casting

Working

- ***Thermal Imaging Camera will capture Thermal Image along with minute temperature data***
- ***Camera will operate either continuously (24 x 7) or as per trigger received from existing control set-up***
- ***Data & Images will be transferred to Computer***
- ***Camera software along with customized software will process the data as per requirement***
- ***Defined alarms will be raised based on user specified temp. settings***
- ***Data logged in PC as per user defined format for post analysis purpose***
- ***Live information like Job no., temp. detail, Alarm status will be displayed on Digital screen for ready reference purpose***
- ***Continuous live recording of Thermal video is also possible with temp. data/ information***

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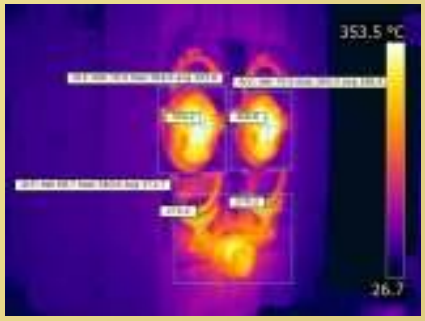
Data Format

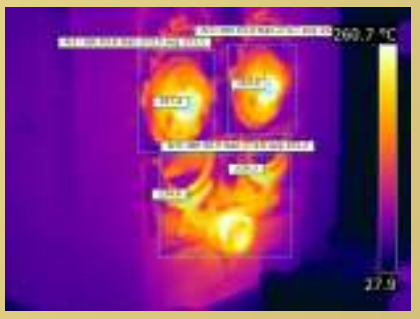
Sr. No.	Job No.	Date	Time	Temperature Data - Before Spray		Temperature Data - After Spray		Delta T	Temp. Status	View Image Before & After Spray	
1	A762 - Moving	1.6.11	3:10:46	SP1	359.2	SP1	267.9	91.3	With in Range	IR 762	IR 763
2				SP2	360.6	SP2	264.9	95.7	With in Range		
3				Sp3	274.4	Sp3	234.6	39.8	Low		
4				Ar1 Max	364	Ar1 Max	273	91	With in Range		
5				Ar2 Avg	186	Ar2 Avg	142	44	With in Range		
6				Ar2 Min	70	Ar2 Min	63.9	6.1	With in Range		
7	A762 - Fixed	1.6.11	3:10:48	SP1	309.1	SP1	256.2	52.9	With in Range	IR 780	IR 781
8				SP2	302.4	SP2	254	48.4	Low		
9				Ar1 Max	328.6	Ar1 Max	270.5	58.1	With in Range		

Click to open image

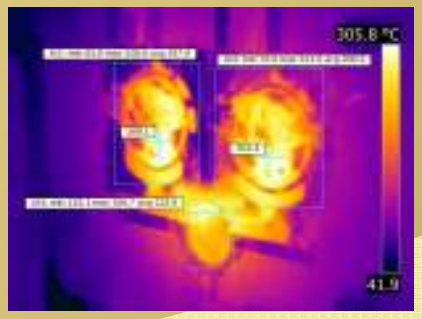
Note – Above Table is shown for reference purpose & data can be shown as per users requirement



IR 762



IR 763

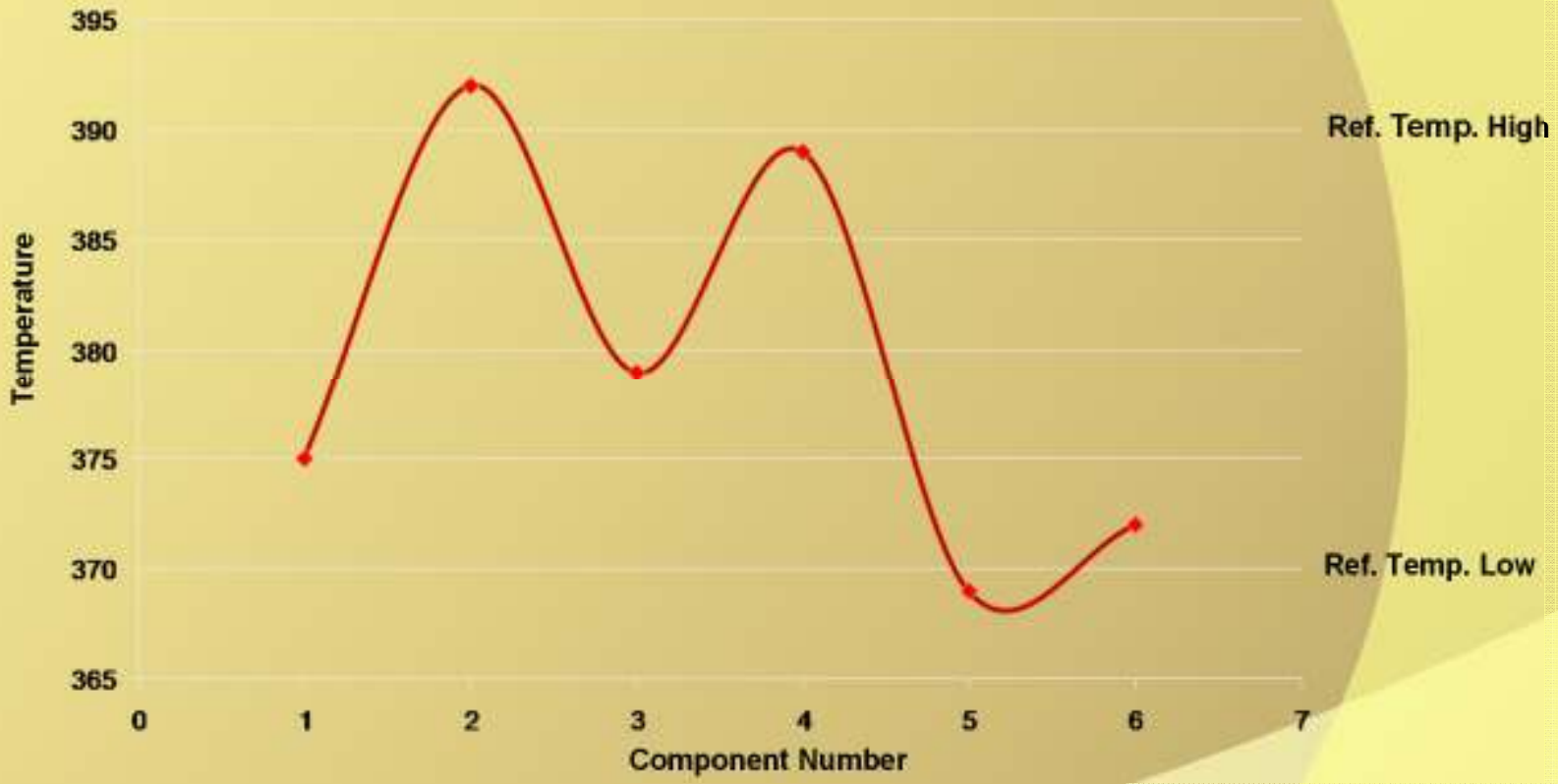


IR 780

IR 781

Thermal Automation of Die Casting

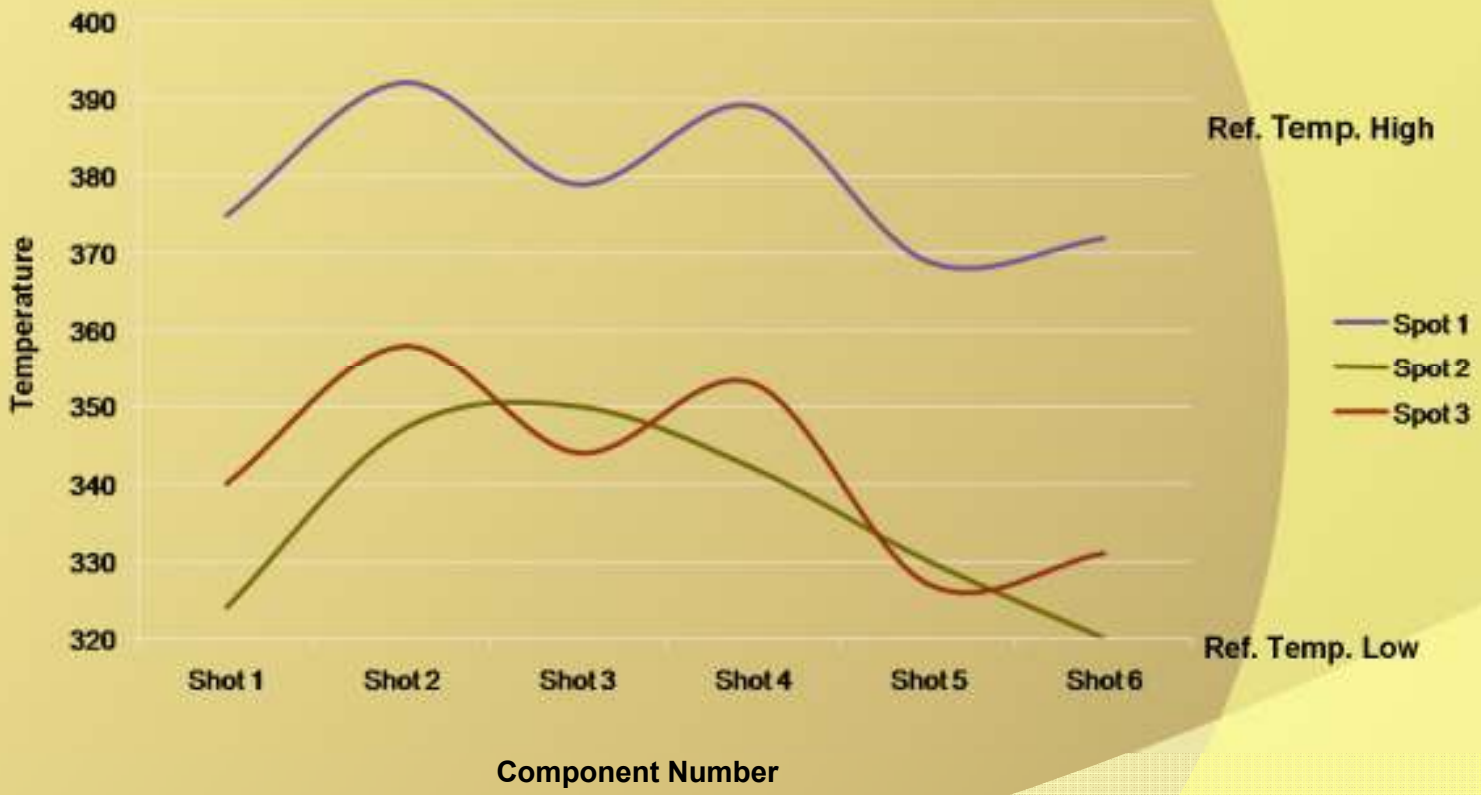
Graphical Representation



Graph of Temperature vs Spot 1

Thermal Automation of Die Casting

Graphical Representation



Graph of Temperature vs Spot 1,2 & 3

Thanks for your kind Attention

For further query, please contact
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