Project Definition Information Sheet

(LPDC / Wheel)

The objective of our MAGMAproject is to help you solve your casting defects issues, optimize your casting process and find a robust solution that fits to your needs. Using MAGMASOFT® & the related modules, we are going well beyond solidification modeling. We can compile and document step-by-step improvements and potential solutions - from a simple solidification simulation, to a full factorial design of experiments (DoE) or an autonomous optimization of your casting process using our well proven MAGMA APPROACH.

MAGMASOFT® is capable of considering many variables. In order to obtain the best results for your project, a detailed process description is required to fill up in this information sheet. If the exact values are not available, please estimate them closely. Please prepare the CAD file in .stl / .stp format for each component respectively and use the common coordinate system when you export from an assembly model. Please provide as cast model but if only machined model is available, please specify all the machined surfaces and drilled holes.

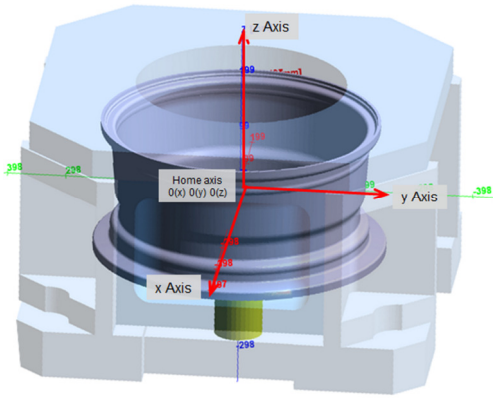
We will contact you shortly prior to starting the project to confirm these parameters.

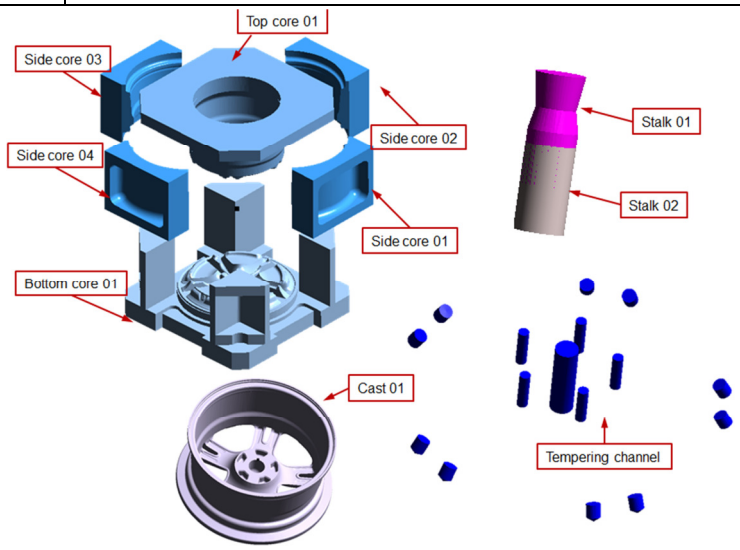
Contact Name	
Company	
Phone No	
Email address	
Project name	
MAGMA Representative	
Objective of the project:	

Part 1: Project Details

Please ☒ the appropriate box

Project name / Part number	
Drawing	☐ Yes ☐ No
Unit	☐ mm ☐ inch
Prepare solid CAD in single co-ordinate based on your purchased interface reader	☐ STL ☐ Step
Please prepare the CAD file in .stl / .stp format for each component respectively	





Remarks:

Top_core	☐ Yes ☐ No	
Bottom_core	☐ Yes ☐ No	
Side_core01 (If applicable)	☐ Yes ☐ No	
Side_core02 (If applicable)	☐ Yes ☐ No	
Runner	☐ Yes ☐ No	
Gate1 Gate2 etc.	☐ Yes ☐ No	
Stalk	☐ Yes ☐ No	
Cast01	☐ Yes ☐ No	
Insert	☐ Yes ☐ No	
Machining allowance	☐ Yes ☐ No	
Cooling_channel01	☐ Yes ☐ No	
Cooling_channel02	☐ Yes ☐ No	
Any other comments:		

Part 2: Material Definitions

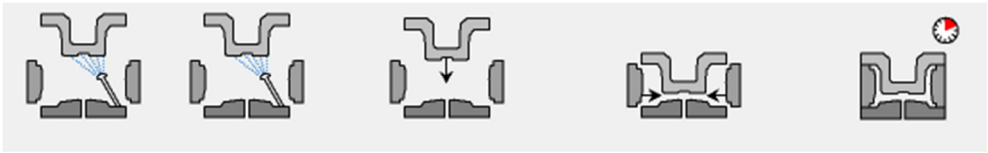
Please ☒ the appropriate box

	Material	Temperature ℃
Cast		Initial:
Top core		Initial:
Side core		Initial:
Bottom core		Initial:
Insert		Initial:
Cooling channel ☐ Water → Flow rate: ☐ Oil → Flow rate:		Initial:
Cooling channel ☐ Water → Flow rate: ☐ Oil → Flow rate:		Initial:
Cooling channel ☐ Water → Flow rate: ☐ Oil → Flow rate:		Initial:

Part 3a: Process Parameter Set Up

Die Preparation

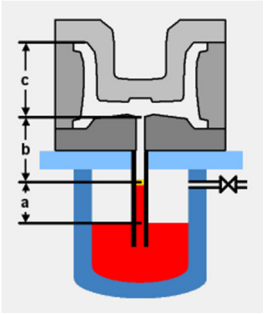
Please ☒ the appropriate box

	Cycle Time	Duration
		
☐ Spray ☐ Blow		
Top core	sec	sec
Bottom core	sec	sec
Side core	sec	sec
Side core	sec	sec
Side core	sec	sec
☐ Spray ☒ Blow		
Top core	sec	sec
Bottom core	sec	sec
Side core	sec	sec
Side core	sec	sec
Side core	sec	sec
Insert	sec	sec
Insert location	sec	sec
Die close	sec	sec
Delay time	sec	sec

Part 3b: Filling

Please ☒ the appropriate box

*Please submit the filling curve together with this form.

Filling time	sec	sec
	Time to fill gating system (a+b)	sec
	Time to fill casting (c)	sec
	Time to fill rest of cavity (d)	sec
	Distance bath level to inlet (a)	sec

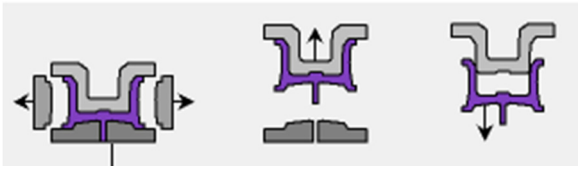
Part 3c: Intensification

Please ☒ the appropriate box

Intensifying starting pressure	bar
Intensifying pressure	sec
Reduction time	sec

Part 3d: Die open

Please ☒ the appropriate box

	Cycle Time	Duration
		
Bottom core	sec	sec
Top core	sec	sec
Side core	sec	sec
Side core	sec	sec
Ejection time	sec	sec

Part 4: Cooling Channel Set Up

Please ☒ the appropriate box

Tempering channel 01	☐ Always on ☐ Start Stop		 sec sec
Tempering channel 02	☐ Always on ☐ Start Stop	asdasd	 sec sec
Tempering channel 03	☐ Always on ☐ Start Stop		 sec sec
Remarks:			

Part 5: Venting / Vacuum Set Up

Please ☒ the appropriate box

☐ Venting	Vent diameter	mm
☐ Vacuum	Vacuum start point	mm
	Vacuum pressure	bar

Part 6: Casting Production Information

Please ☒ the appropriate box

How many of this casting are produced in a typical run?	
How frequent is the problem occurring?	
How many do you produce annually?	
What is the scrap rate on this casting per series and annually?	

Please email the completed form and CAD file to us at project@magmasoft.com.sg or call us at +65 6564 3435 if you need assistance to complete the submission.

In addition, please feel free to share with us if you have the casting results, pictures of casting defects, microstructure or other technical information that you think might be helpful to kick start the project.

You may use MAGMA's upload/download tool for big file size upload thru our website (customer support section): https://www.magmasoft.com.sg/en/support/intro/

Note that you would need to register an account before you could access to the feature: https://www.magmasoft.com.sg/en/support/registration/

Please feel free to contact us should you have any queries.

Last updated on October 2019