

Project Definition Information Sheet (LPSC)

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.



# 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		SIL	□ Э≀ер
Z-axis  X-axis  X-axis	y (mm)	CHILL Remarks:	COPE FEEDER  STALK 1  DRAG  DRAG  STALK 2
Sandmold_CopeBox	☐ Yes ☐ No		
Sandmold_DragBox	☐ Yes ☐ No		
Side_Core	☐ Yes ☐ No		
Runner	☐ Yes ☐ No		
Gate1 Gate2 etc	☐ Yes ☐ No		
Stalk	☐ Yes ☐ No		
Chill	☐ Yes ☐ No		
Feederneck	Yes No		
Feeder.stl	Yes No		
Filter	☐ Yes ☐ No		
Sleeve	☐ Yes ☐ No		
Casting	☐ Yes ☐ No		
Any other comments:			

## **Part 2: Process Information**

Please ⊠ the appropriate box

Cast Material			
Cope Material			
Drag Material			
Mold or shell Material			
Core Material (Sand and binder? Are the cores hollow?)			
Sand Properties	Temperature, Moisture Content Permeability	℃ %	
Chill Material			
Insulating sleeves and/or hot topping	☐ Insulated ☐ Exothermic Model No:		
Filter	☐ Foam ☐ Sieve Size	ppi, cell	
Manufacturer and specification			
Remarks:			
Part 3a: Process Parameter Set Up - Mo	old Preparation		
Coating on Cope	Thickness:		mm
Coating on Drag	Thickness:		mm

Thickness:

 $\mathsf{mm}$ 

Coating on Chill

## Part 3b: Filling

Please ⊠ the appropriate box

\*Please submit the filling curve together with this form.

Filling time		sec	sec
15	Time to fill	gating system (a+b)	sec
	Time to fill	casting (c)	sec
↓ a +	Time to fill	rest of cavity (d)	sec
Dis	Distance ba	ath level to inlet (a)	sec

#### Part 3c: Intensification

Please ⊠ the appropriate box

Intensifying starting pressure	mbar	bar
Intensifying pressure	mbar	sec
Reduction time	mbar	sec

## Part 4: Shakeout & Removing Gating

Please ⊠ the appropriate box

	Cycle Time	Duration
Cope	sec	sec
Drag	sec	sec
Sand Core	sec	sec
Removing Chill	sec	sec

### **Part 5: Casting Production Information**

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 <a href="mailto:project@magmasoft.com.sg">project@magmasoft.com.sg</a> 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): <a href="https://www.magmasoft.com.sg/en/support/intro/">https://www.magmasoft.com.sg/en/support/intro/</a>

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

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

Last updated on October 2019