

Apogee CUSTOMER USE PROFILE-V1.2

The proper selection of metal treatment and containment hardware is highly situational. Please provide the following information to enable us to optimally specify equipment for your application.

General Information

Name: _____ Company: _____ Location: _____

Date: _____

Phone: _____ Phone 2: _____ Email: _____

Fax: _____

Preferred Contact Method: Email Phone 1 Phone 2 Fax

Casting Process Information

1. Casting method used:

Wrought Alloy

DC (sheet & plate) Billet Slab Strip Wheel

Foundry

Lost Foam Sand V-cast HP Die-Cast LP Die-Cast

Permanent Mold Investment Precision Sand

Other _____

2. Metal Flow Rate

Please provide a typical expected range of flow rate.

Maximum Expected Flow Rate _____ Units: _____

Minimum Expected Flow Rate _____ Units: _____

3. Alloy Mix

Please write in percentages (%)

_____ 11XX/13XX _____ 2XXX _____ 3XXX _____ 5XXX _____ 6XXX _____ 7XXX

_____ Other If 5XXX, list alloys _____

4. Major Products

5. Furnace Charge

Please write in percentages (%)

_____ Primary _____ Mill Scrap _____ Used Beverage Containers (UBCs)

Other _____

Direct charged clips, chips, or non-delacquered scrap _____

6. Furnace Metal Treatment Methods

Check all that apply

Wand fluxing Roof fluxing Salt injection / addition Side bay

Porous Plug None Other _____

7. Downstream Metal Treatment Methods

Check all that apply

Rotary Degasser Porous Plug Wand Fluxing Salt Injection / addition

Grain Refinement None Other _____

8. Metal Filtration Methods Used

Check all that apply

Ceramic foam Deep bed Tube

None Other _____

9. Hydrogen Control Limit

Please provide your most critical product hydrogen control limit

CC H₂\100g Al _____ Archimedes Density _____ Alloy _____

What hydrogen level do you typically start with to achieve that limit?

CC H₂\100g Al _____ Archimedes Density _____ Alloy _____

What duration of degas residence time is currently required to achieve that limit? _____

Does that time duration limit your production capabilities? Yes No

13. What are your sodium, calcium, and lithium control limits? _____

14. In the past 12 months have you had customer complaints that may be related to inclusions? _____

15. In the past 12 months have you had customer complaints that may be related to hydrogen? _____

16. In the past 12 months have you had customer complaints that may be related to trace elements? _____

17. In the past 12 months have you had customer complaints that may be related to grain size? _____

18. Do you have any problems relating to maintenance of metal temperature? _____

19. Process Temperature Range

What is the temperature range of your process? Please specify °C or °F.

Furnace Minimum _____ Furnace Maximum _____

Casting Minimum _____ Casting Maximum _____

Other Requirement? _____

20. Available Floor Space

What is your floor space availability for in-line metal treatment? (please provide units)

21. Existing Metal Treatment

If a treatment chamber currently exists for downstream metal treatment, what are the current dimensions? (Please specify units)

Interior Length _____ Interior Width _____ Metal Depth High _____ Low _____

Exterior Length _____ Exterior Width _____ Floor Thickness _____

Height of containment lining above floor _____

If Applicable:

Charge Well Interior Length _____ Charge Well Interior Width _____

Could this be smaller? _____

Dip Out Well Interior Length _____ Dip Out Well Interior Width _____

Could this be smaller? _____

Liner - Insulation k values OR trade name including thickness? _____

If k value or trade name not available, wall and lid temperatures? _____

Facility Information

22. Electric Supply

Building Power Available

What electrical power is readily available plant wide?

Configuration: 3 phase Delta 3 phase Wye
Voltage: _____ Capacity (kVA, A): _____

Power at Equipment Location

What electrical power is available at the location where Apogee equipment would be installed?

Configuration: 3 phase Delta 3 phase Wye
Voltage: _____ Capacity (kVA, A): _____

22. Chlorine Gas Okay

Can chlorine reactive gas be used (y/n)? _____

23. Return On Investment

Please provide the following information if you would like assistance calculating Return On Investment (ROI). Please Specify Units.

Natural Gas cost in your area \$ _____ Units (e.g. \$/Mcf.): _____

Electricity cost in your area \$ _____ Units (e.g. \$/kWh): _____

Annual maintenance cost on existing equipment _____

The cost associated with metal irrecoverable due to oxidation (net melt loss) _____

If the number above is expressed as a percent, please show calculation

How many hours per year is the equipment operating at design capacity?

Please specify average energy use of existing equipment

Holding only _____ (gas or electric?)

Melting and holding _____ (gas or electric?)

24. Other comments or special needs _____

All information will be confidential and used for sizing purposes only.