Keys to Successful RealWax™ Casting

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Recommendations for Foundries

- Information about wax patterns to communicate with the foundry
  - Wax part temperatures
    - The CP and CPX patterns become brittle if cold.
    - Keep parts at room temperature around 72^0F 22^0C .
  - Storing parts
    - Wax parts sag over time if not supported when stored.
    - Its recommended that you invest the patterns as fast as schedule allows
  - Casting de-bubbler solution
    - Most bubble prevention solutions contain alcohol which can pit the part surfaces.
    - Test your specific de-bubbler to verify it does not cause surface defects
    - When using de-bubbler process tree assemblies immediately versus spraying and waiting until morning to process.

Recommendations for Foundries

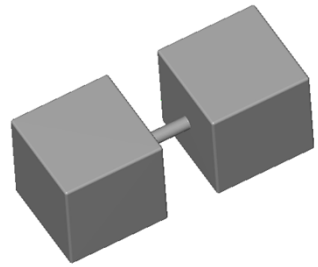
- Information about wax patterns to communicate with the foundry
  - RealWax processes just like standard investment casting wax.
  - RealWax is more brittle than standard investment casting wax.
  - RealWax has a lower melting temperature than most investment casting waxes.
    - RealWax melts at 80^0C 176 ^{0}F

Wax Quantities

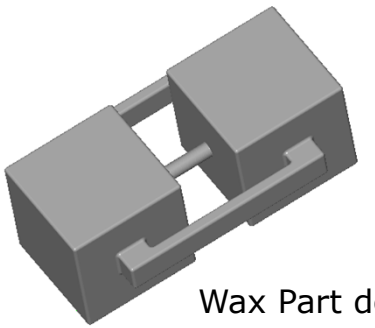
- Foundries have a standard wax/casting yield
  - On average this is 95%
  - Its recommended that you supply 105%+ wax patterns to address this yield
- Examples
  - 1 casting required/2 wax parts delivered
  - 5 casting required/6 wax parts delivered
  - 20 casting required/21 wax parts delivered
  - 40 casting required/42 wax parts delivered

Part Design Guidelines - Support

- As with conventional wax patterns, fragile geometry can distort. With digital RealWax patterns you can:
  - CAD Design in complex stabilizing mounts to the parts to prevent sag or break.
  - The mounts can be removed during the wax up
  - Or they can be used as gates and sprue



Production Part



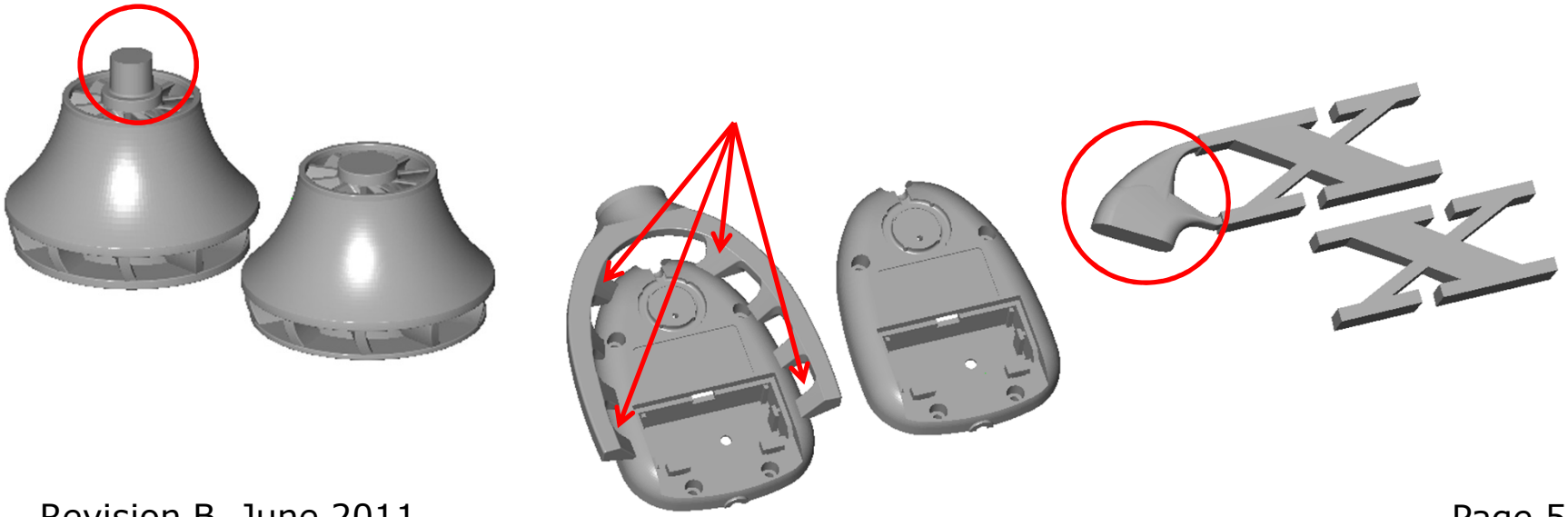
Wax Part designed to support ends from sag

Production Part

Wax Part designed to support fragile tips

Part Design Guidelines - Gating

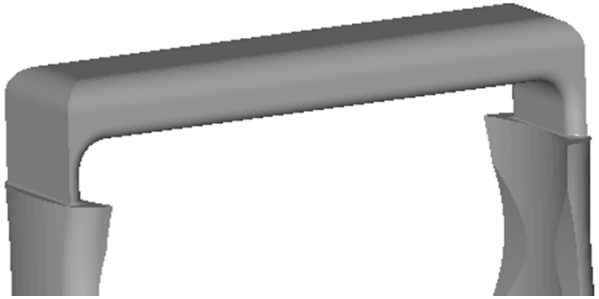
- Add gate contacts to the part
  - Determine where the part is going to be gated and add the contact points to the part
  - CAD Design the contact points on the part make for easier and cleaner removal when the part is in the metal state.



Part Design Guidelines - Fillets

- Filet all sharp edges
  - Sharp edges are weak areas
  - Metal does not flow well with sharp edges

Supports added with no filets



Supports added with filets

Part Shipping Guidelines

- As with conventional wax patterns, isolate Fragile Real Wax patterns from stress and shocks during shipping
- Suggested Shipping method:
  - Use Buffalo Snow for wrapping the part
  - Use a super seal shrink wrap machine to bag the parts.(not too tight this will load the pattern)
  - Float the parts in a box with peanuts

Part Shipping Guidelines