

WIROVEST TROUBLESHOOTING GUIDE

SUMMARY OF THE CAUSES FOR ROUGH CASTING SURFACES

1. Liquid and/or powder are too cold. They must be kept at room temperature;
2. Cooling Gel in water;
3. Master model is too dry when duplicating;
4. Water is present in the mould when pouring up the refractory model;
5. Over vibrating the refractory material;
6. Refractory model is removed from the mould too early;
7. Duplicating material has deteriorated too much;
8. Refractory models are not dried sufficiently, therefore not sealed properly after dipping the model in the relevant hardener.

BegoSol mixing liquid

- The liquid can be pre-mixed and must be stored at room temperature. This is very important, as a cold liquid will inhibit the setting of the investment, which could lead to rough surfaces.
- 2. The ratio of BegoSol/Distilled water is a minimum of 40% BegoSol and a maximum of 60 % Distilled water (40/60 ratio). However, the expansion can be controlled by using more than 40% BegoSol and less than 60% Distilled water.

Duplicating

- The working temperature for Castogel is 42°C/ 110°F. The working temperature for Wirogel M is
- Depending on the number of times the gel is melted, it is important to replace it regularly. If the Gel is used beyond its limit, it can lead to rough casting surfaces.
- The master models are soaked in a water bath at a temperature of 38°C/100°F for 10 minutes.

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- The models need to be carefully dried off with a paper towel or equivalent before duplicating.
- The duplicating flask should be allowed to cool for 45-60 minutes in the air or with the aid of a fan. It is very important that the flask is not cooled in cold water. This will result in the investment material not hardening completely in the contact area to the duplicating gel. In addition, the setting time of the investment material is prolonged and the model surface becomes rough.
- The master model is removed.

Refractory Models

- Diluted and undiluted concentrate of BegoSol must be shaken before use.
- 52ml/400g of BegoSol concentration of 40/60 % BegoSol/ Distilled water is recommended. See (BegoSol Mixing liquid above).
- The mixing bowl is slightly moist, not wet.
- The liquid and powder are placed into the mixing bowl in this order.
- The investment is hand spatulated for 15 seconds or until it is completely wet and then vacuum mixed for a further 60 seconds. The processing time at 20°C/68°F is approximately 2.5 to 3 minutes.
- Before pouring the investment into the mould it is important to ensure that the mould cavity is completely dry. If the mould has been rinsed (which is not recommended) it is very important to dry out with compressed air.

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- The mould is filled with investment on a vibrator, but removed immediately after the mould is filled. Over vibrating results in the heavier particles sinking to the bottom of the mould and the lighter particles rising to the surface. This will result in the formation of microscopically rough models.
- Removal from gel moulds after 45 to 60 minutes. This is very important!

Drying and Dipping the Refractory models

Durol

- Place the refractory models in a drying cabinet (dry-out oven) preheated to 250°C/482°F.
- Dry the models for approximately 45-60 minutes, increasing the time depending on the number of models placed in the cabinet.
- The models are dipped in Durol dipping hardener for 5-8 seconds.
- The models must be agitated when dipped to ensure that the Durol penetrates the model properly.
- The models are placed back into the drying cabinet for 10 minutes.

Durol E

- Place the refractory models in a drying cabinet (dry-out oven) preheated to 150°C/300°F to 170°C/338°F.
- Dry the models for approximately 45-60 minutes.
- The models are dipped in Durol E dipping hardener briefly 2 times.

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Casting and Burnout Temperature

- I believe that your burnout furnace is currently at 1800°F/982°C. To ensure that you do not get cold castings, increase the furnace temperature slightly to 1850°F/1000°C.
- Place the moulds with only linear contact to the bottom plate of the furnace.
- A visual check of the alloy during casting should be done to ensure that the alloy is not overheated. This is done either in the manual with pyrometer or manual without pyrometer when working with BEGO's Nautilus CC Plus.

If you have any questions or need explanations or clarity on the above recommendations, please do not hesitate to contact BEGO at 1.800.463.2680.