psg Plastic Selection Group, Inc.

"Your Local Partner in Developing Material Alternatives"

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Cardinal Rules to Successfully Evaluate Kostrate ® EDGE for Extrusion Blow Molding

1. **Allotment of proper amount of time to fairly evaluate**. It is very important to schedule enough time for a blow molding trial to allow the machine operator to make adjustments in the process to optimize the container performance. This process can take hours or days since the machine has to reach equilibrium before the effect of a change can be measured.

2. **Complete purging** of the material ahead to ensure that you obtain the clarity of the blow molded part.
   Kostrate ® Edge is a soft melt resin. We suggest in saving material that you consider purging first by the use of a low melt GPPS until the parison is clear. We have found purging can take more time than the actual Kostrate® evaluation.

3. Hot knife is **required** for EBM process.

4. A mold\tool that is **highly polished** is required to obtain a water clear part.

5. The proper equipment should be in place such as the correct die for the application and a good quality mold.

6. The suggested parison **melt temperature range should be between 300F** to **310F**. Kostrate® is very stable as a blow molding resin but to control parison wall thickness it is suggested the melt be measured using a **needle pyrometer**. Through evaluation, we have noted that when moving from one machine to another and setting the various zone temperatures the same, the material from the 2nd machine was 50 degrees higher than expected thus a loss of parison control resulted.

7. Head size is critical, Kostrate Edge has **no to negative 10% swell.** Thus head size normally is much larger. For example HDPE may have a swell of 20 to 25%, this is **not** so for Kostrate ®.

8. **No drying is required**, but we suggest waiting atleast **72** hours before proceeding with any QC testing (i.e. drop, impact testing, etc.)

9. **Air purging** especially at a cooler temperature will help to dissipate some of the monomer scent. Air purging typically improves cycle time as well.

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10. A converging tool is strongly recommended. Kostrate Edge has rubber and if the melt is flowing over a rough or non polished pin and bushing, one can expect to pick up unacceptable die lines that cause the blow molded part not to be water clear.

11. Sufficient time to control and adjust wall thickness is needed for the part to blow unique and as desired.

12. It is not sufficient just to make a container since casual observations will not predict its performance in a drop impact test.

13. The container should be a good container: that is, it should have the features of even wall distribution around the circumference, the proper weight, the proper weight distribution within the container, no defects, proper trimming of flash, weld points centered away from an edge, etc.

14. Unless the best container can be produced from a given formulation, there is no reason to evaluate other formulations since any comparison is only going to rate the blow molding process independent of the quality of the material.

15. You must have a **dedicated** grinder for Kostrate®. You may want to run a chill box on the grinder as well.