

## **The impact of the use of recycled resin in PET bottles**

**The following issues have to be concerned by using RPET (recycled PET):**

### **1. Variation of color**

Due to the different quality of the base material coming into the recycling stream the recycled PET may have variations in color. The manufacturers of RPET issue values of orientation of the color, however no tight specifications. In particular while using transparent recycling resin, the own natural color can vary between gray, blue and green-yellow.

We recommend using no more than 50% recycling resin.

### **2. Black spots**

During the manufacturing of recycled PET not all of the foreign particle can be filtered by 100%. Therefore visible black spots can appear.

### **3. Mechanical properties / distribution of wall thickness**

Due to the fact that the recycled resin did already go to the production process once, or a couple of times, the mechanical properties are changing. In comparison to virgin resin the bottles may show a lower top load.

Also due to difference in shrinkage characteristics, sink marks can occur. On top of this it is possible that the quality can even vary within one production batch. This has an effect on the machine settings and can trigger a worse wall distribution.

### **4. Processing**

Producing bottles with recycled resin means that the material has to be pushed through the production facility separately from virgin material. The two materials have to be dried and conveyed independent from each other. Subsequently this needs a longer time for machine setting and a higher energy consumption.

In case bottles are supplied according to item 1-3 it will not be considered as a lack of quality.

