Before the raw material can be thermally processed, it must be crystallized and annealed, which allows the necessary polymer molecular structure to form during thermal treatment in the reactor. However, the main purpose of SSP processing is to increase the intrinsic viscosity of the polymer to the desired level, and there are a number of concomitant factors and reactions during this process. Some of the important factors include the content of byproducts (acetaldehyde, oligomers, ethylene glycol), molecular structure (gel, uniformity of crystalline structure) and the physical characteristics of the product (color L*, a*, b*, dust content, melt temperature, sintering of the product, etc.). More than 30 years of know-how enabled Buhler to develop all the steps of PET processing while taking advantage of the natural physical laws of material behavior.