

Understanding Polyolefin Processes: Fact 1

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The figure below shows the growth history of a single particle, which we observed by optical microscopy using our "single-particle reactor". The particle is positioned on a thin sheet and is not in contact with other particles.

- ∅ The initial diameter was about 30 μm , the final size was 1.2 mm – this stands for a high yield, which comes close to the catalyst activity in the industrial process.
- ∅ The particle shows an excellent replication, the excellent spherical shape does not change
- ∅ There is no surface crack visible

Fig. 1: From catalyst to polymer: Growth of a Polypropylene Particle

Method: Single-Particle Reactor + Optical Microscopy
Conditions: 70°C, gas phase polymerization, 20 bar propylene pressure

