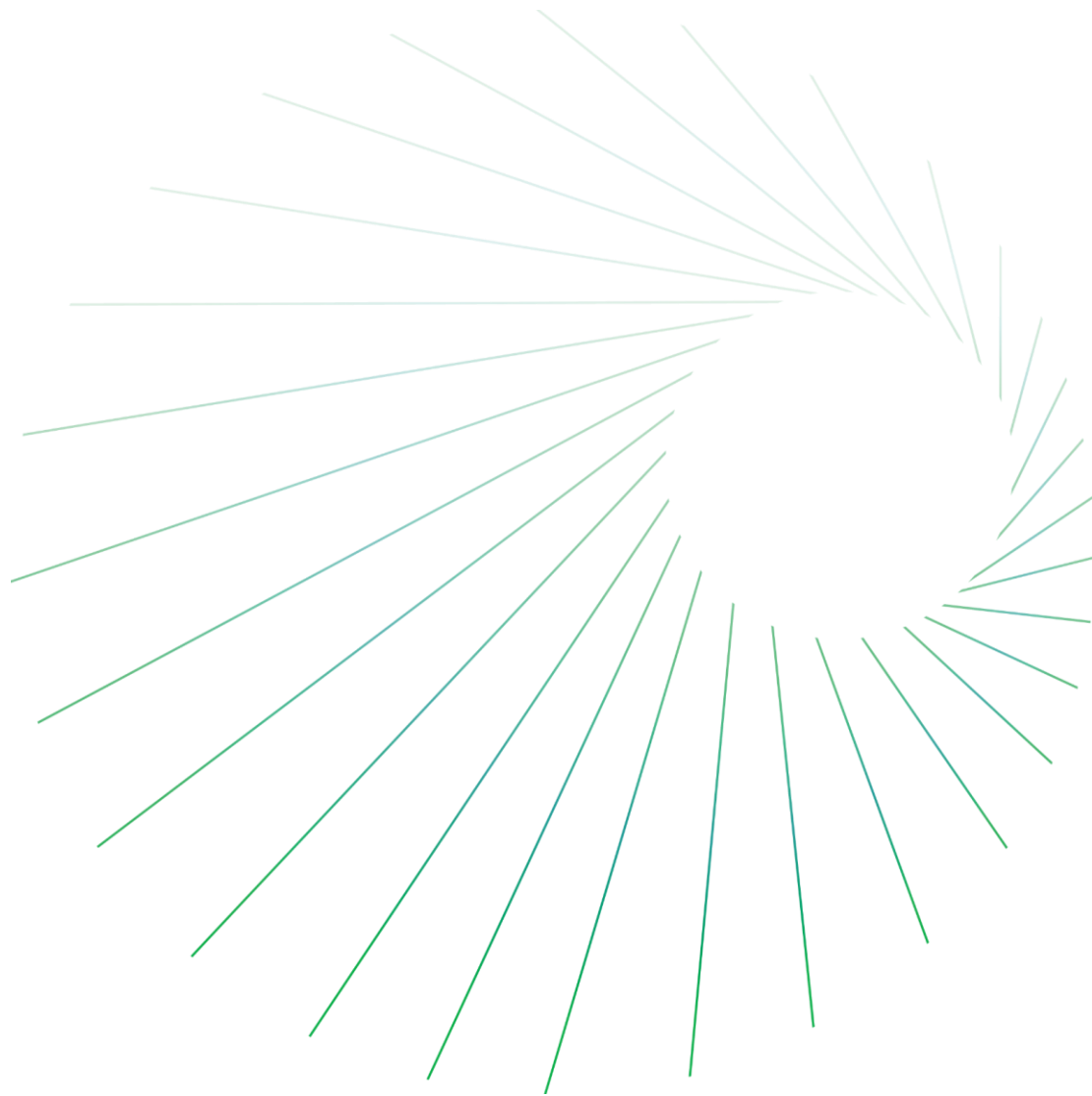


# Polyetherketoneketone (PEKK)

PEP Review 2020-03

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### Abstract

Polyetherketoneketone (PEKK) is an ultra-high performance, semi-crystalline thermoplastic characterized by very high heat performance, extreme chemical resistance, and very high mechanical strength. The demand for PEKK has been driven by the requirement for light-weight materials substituting for metal in very demanding applications such as carbon fiber reinforced composites for aerospace and offshore oil extraction. It is also finding new uses in 3D printing (additive manufacturing). Arkema is the only company commercially producing a significant amount of PEKK. It has recently doubled its PEKK production capacity in France in 2016 and started up a new world-scale PEKK production plant in Alabama, United States in 2019.

In this review, PEP will discuss the industry status of PEKK, its properties, and uses. Relevant patents to produce PEKK will be reviewed. Based on information available in the public domain, a process design for commercial PEKK production will be presented. PEP will present estimates for the investment costs and production economics for producing PEKK.

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