

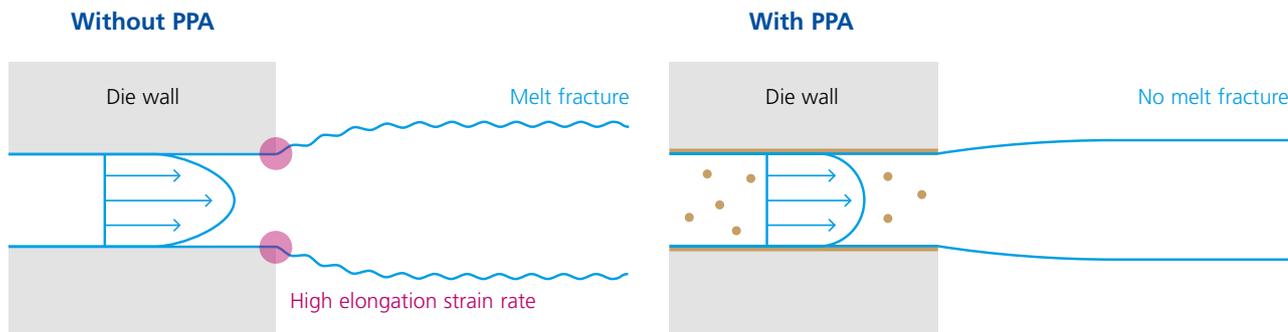
BYK-MAX P 4109 BYK-MAX P 4110

PFAS-free processing aid formulations for various polyolefins

When processing polyolefins, high shear forces, temperatures, and friction sometimes occur in the machinery, leading to melt fracture or die build-up. In order to prevent these undesirable side effects and optimize production, fluorine-containing processing aids have often been used to ensure good throughput and defect-free finished parts. However, there are currently international legal initiatives to restrict the use of fluoropolymers (PFAS). For this reason, alternative polymer processing aids (PPA) are being developed that are PFAS-free and still have the usual positive effect on the process and result.

BYK-MAX P 4109 and BYK-MAX P 4110 are two new processing aid formulations from BYK that precisely meet these requirements: They are PFAS-free and at the same time allow a high production speed while preventing melt fracture and reducing die build-up. The rapid effectiveness of the two additives cuts long rinsing times and allows fast product changes.

Mode of action of BYK-MAX P 4109 and BYK-MAX P 4110 – Prevention of melt fracture

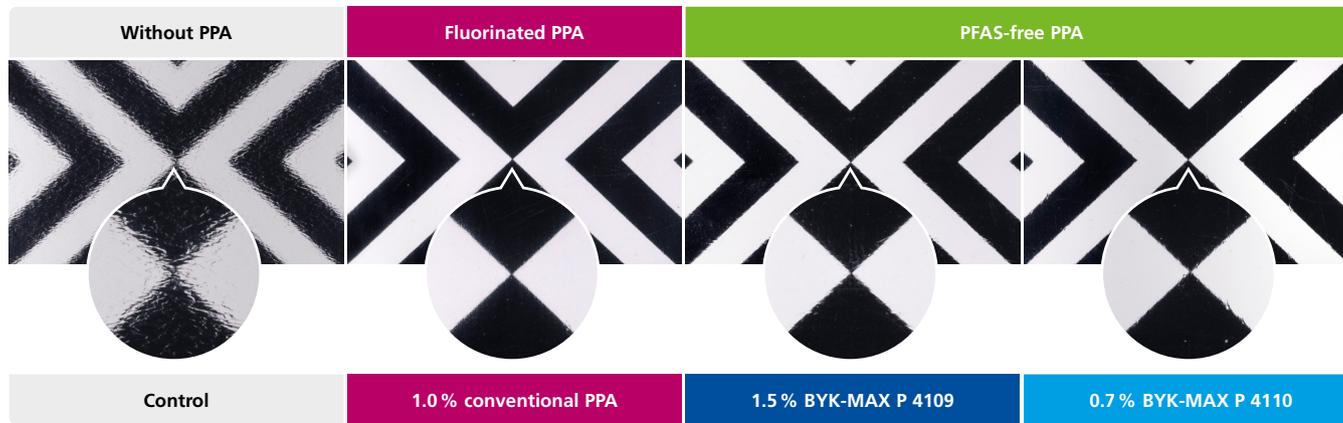


PFAS-free!

Benefits

- For producing high-quality finished parts under optimized process conditions
- Prevent melt fracture
- Reduce the viscosity of the melt
- Minimize die build-up
→ less maintenance and shorter downtime
- For faster material changes compared to conventional fluorinated PPA
- Reduced die pressure and power consumption
→ higher production speed during processing
- Temperature stable up to 290°C
- No negative influence on printability
- Easy handling – no significant process adjustments required

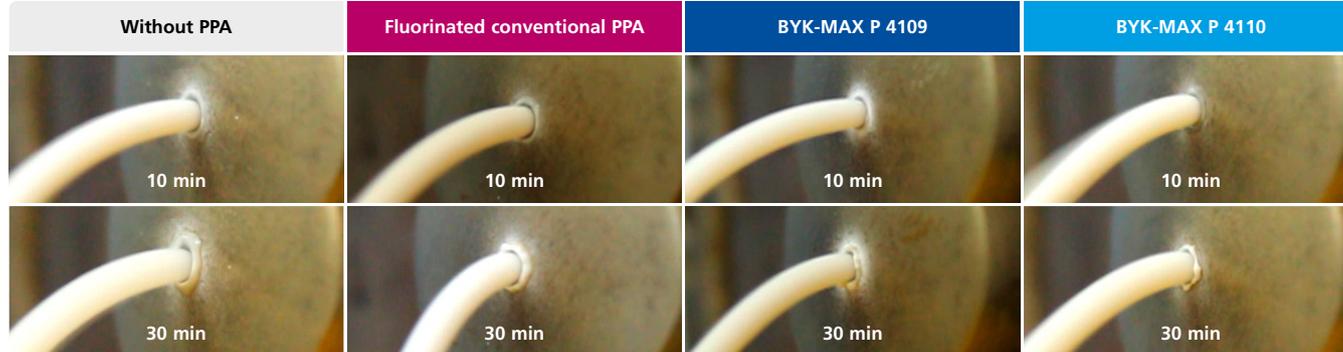
Strong reduction of melt fracture with BYK-MAX P 4109 and BYK-MAX P 4110



Test system: Five-layer LLDPE/LDPE film, produced via extrusion blow molding

Additive dosage: % additive (as supplied) based on the total formulation; visual assessment of the film quality; transparent film on black and white test card

BYK-MAX P 4109 and BYK-MAX P 4110 – Preventing die build-up



Test method: Brabender extruder with single-hole die; test system is extruded for 30 minutes; pictures are taken after 10 and 30 minutes

Test system: LLDPE, 40 % filled with calcium carbonate; additive dosage: 2 % additive (as supplied) based on the total formulation

Technical data

BYK-MAX P 4109

- Processing aid composition in a low density polyethylene carrier
- MFR (190 °C, 2.16 kg): 10 g/10 min*
- Color: off-white
- Delivery form: pellet

BYK-MAX P 4110

- Processing aid composition in a linear low density polyethylene carrier
- MFR (190 °C, 2.16 kg): 60 g/10 min*
- Color: dark yellow
- Delivery form: pellet

* The values indicated describe typical properties and do not constitute specification limits.

Recommended use

Fibers	●
Thick film and sheets	●
Thin film	●
Extrusion and blow molding parts	●
Injection and compression molding parts	○

● Especially recommended ○ Recommended



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