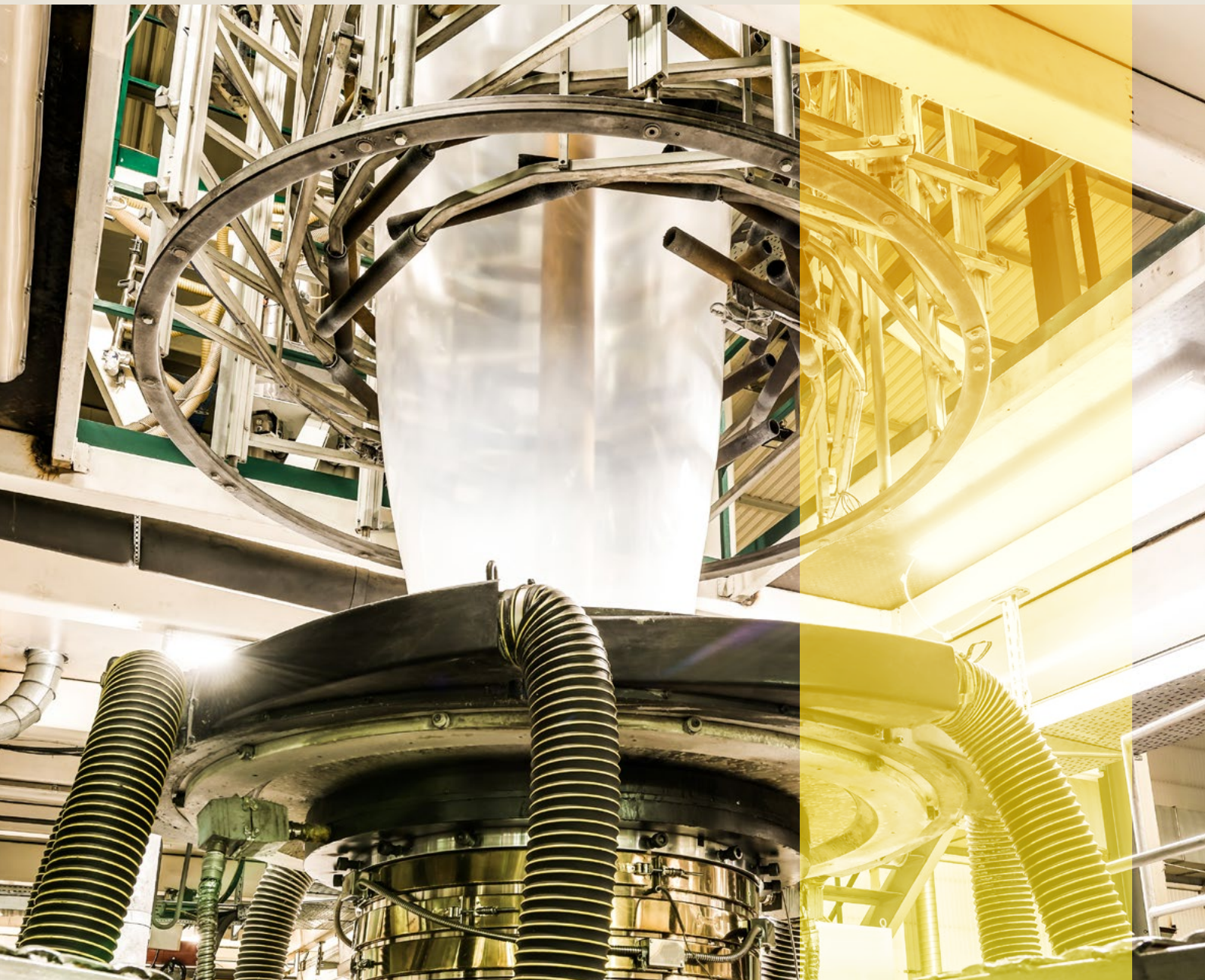


**INOLUB™**  
Fluoropolymer Additives



# Polymer Processing Aids



# INOLUB™ P Polymer Processing Aids (PPA)

**INOLUB™**  
Fluoropolymer Additives

Targeted especially at today's modern polyolefin resins, enabling molecular architectures that can meet the ever-increasing demands of film performance but without compromising their extrusion capabilities

- White free flowing fine powder
- Market leading colour consistency and dispersion
- Unrivalled supply reliability backward integrated

Inolub P series offers a range of fluoropolymer-based processing aids to improve the manufacture of

- LLDPE, LDPE, HDPE, PP blown and cast film
- Extrusion blow moulding
- Pipes and tubing (PEX, HDPE)
- Melt spun fibre
- Wire and Cable



| Grade        | Typical use level<br>In ppm | Working Extrusion temperature<br>°C | Characteristics   |
|--------------|-----------------------------|-------------------------------------|---|
| INOLUB P502F | 200-1500                    | Up to 240                           | Primary product for blown film  |
| INOLUB P501F | 100-750                     | Up to 350                           | Suitable for high temperature processes, e.g. cast film               |
| INOLUB P401F | 50-500                      | Up to 350                           | Premier grade for use in presence of interfering additives, e.g. HALS |
| INOLUB P402F | 100-1000                    | Up to 240                           | High performance product  |
| INOLUB P412F | 100-1000                    | Up to 240                           | Outstanding balance of performance and economics                      |

## Final Product Benefits

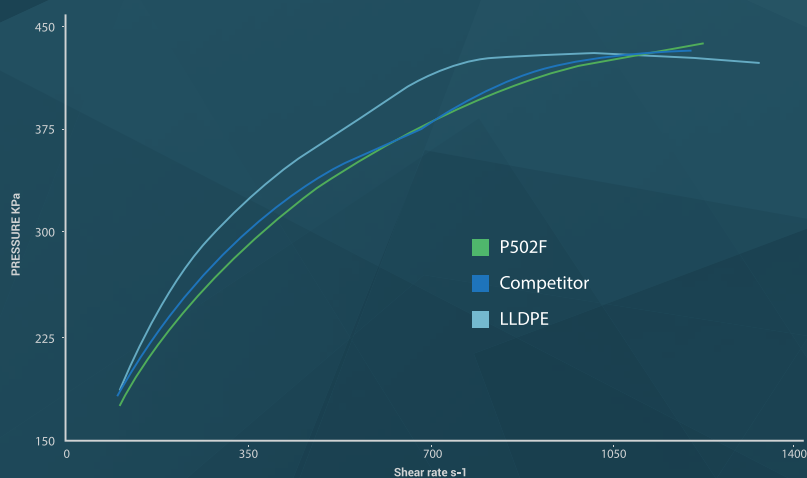
**Inolub P series brings the following benefits:**

- Elimination of melt fracture – “shark skin”
- Improvement of film transparency
- Improvement of surface smoothness
- Reduction of gels

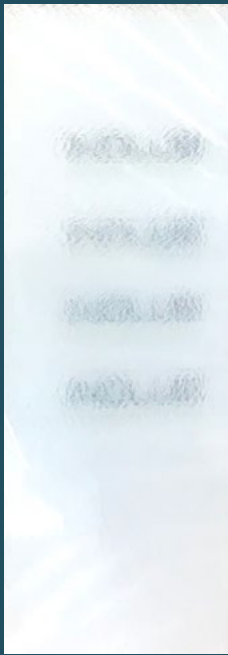
## Processing Benefits

**Inolub P series powder are specially designed to enhance the efficiency of operating conditions:**

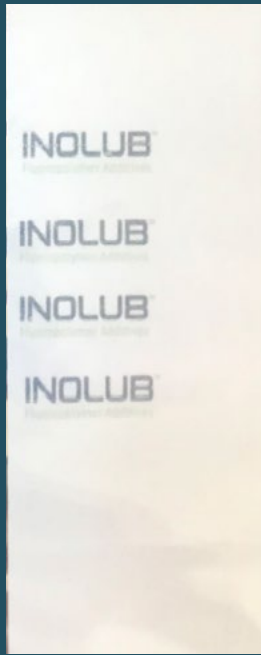
- Maintenance time reduction
- Reduction of die build-up
- Consistency of production
- Smoother extrusion conditions
- Lower energy consumption
- Reduction of cycle times and quicker transition
- Reduction of potential negative interaction with other film additives such as antiblock and HALS
- Reduction of extruder torque
- Reduction of polymer critical shear rate



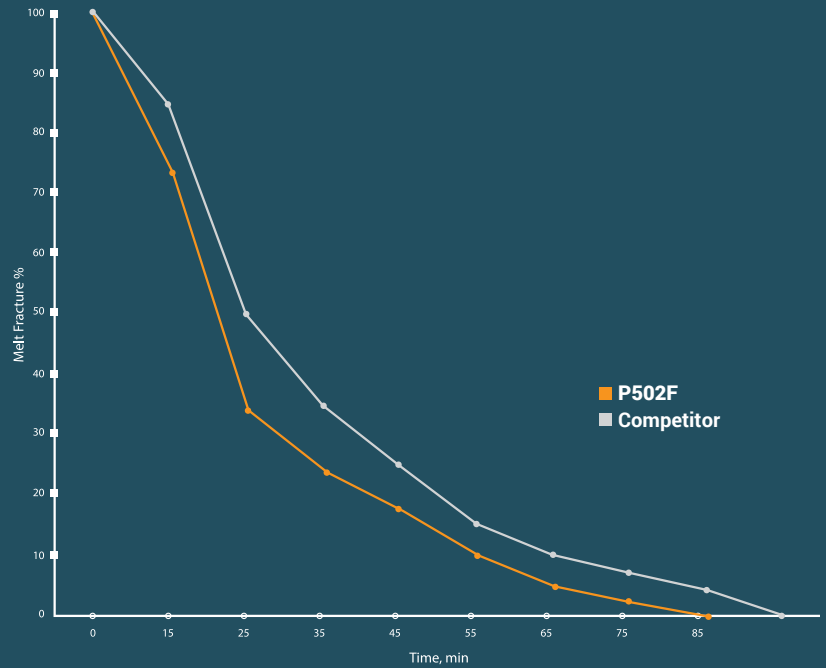
## Rheology Study



Without Inolub P



With Inolub P



Melt Fracture Elimination - 600 ppm in C4 LLDPE, 0.7 MFI - Melt Temperature 175 °C

## Conditions of use

- Inolub P is mainly used as an additive at 50 -1500 ppm levels to overcome the processing problems encountered with polyolefins.
- For such a low concentration, it is highly recommended to use Inolub P in the form of a masterbatch (typically containing 1 – 5% of the pure additive) for accurate and uniform dosing.
- All Inolub P grades are safe for applications involving contact with food articles and meet USA FDA and European food contact regulations.

## How to use INOLUB P

The two main requirements to get the best out of Inolub P products are:

- A good dispersion;
- A uniform dosing at the typical low concentration level needed with Inolub P

For a converter, this is achieved by using:

- Either a resin that already contains Inolub P (many resin producers propose polyolefin grades which contain Inolub P with appropriate and uniform dosage and good dispersion);

Or a masterbatch:

- containing typically from 1% to 5% of Inolub P;
- which can then be diluted into their standard resin; (many masterbatch manufacturers propose PPA masterbatches based on Inolub P)



## INOLUB™

Fluoropolymer Additives

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