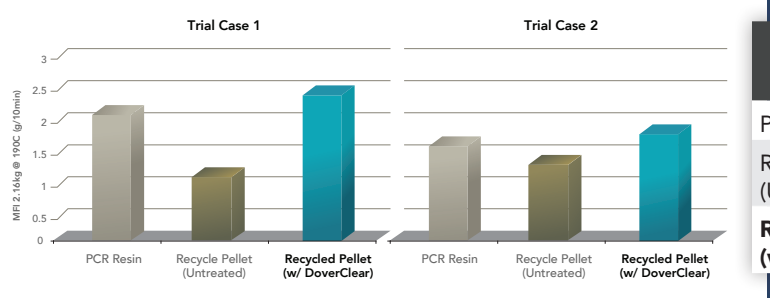
DOVERCLEAR™

Reduce Gels and Upcycle Your Recycle Stream

With increased focus on inclusion of Post-Consumer Resin (PCR) and Post-Industrial Resin (PIR) into films, so increases the problems associated with recycle streams that can negatively affect the overall physical properties of film. Defects in the form of cross-linked polymers, known as "gels," will reduce the film strength, and often more resin (i.e. thicker film gauge) is needed to compensate.

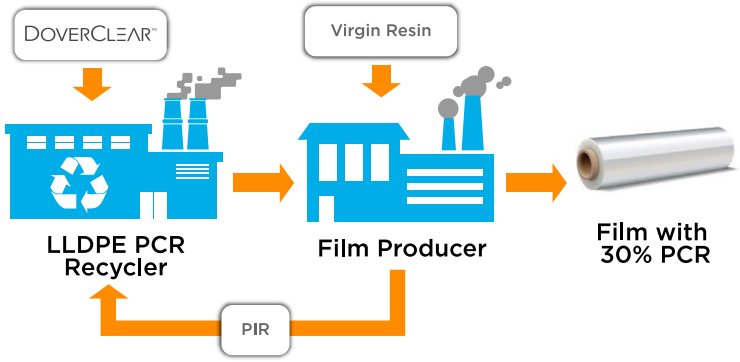
Once a gel forms, it cannot be undone. Therefore, the key to reducing gels, is to prevent them in the first place. **DoverClear™ is a polymeric, liquid phosphite that reduces gels in film by up to 83% for recycle streams containing 30% recycle content.**

With DoverClear™ the Melt Flow Index (MFI) is preserved through the PCR/PIR pelletizing process.



Product	Trial Case 1 MFI 2.16kg @ 190C (g/10min)	Trial Case 2 MFI 2.16kg @ 190C (g/10min)
PCR Resin	2.16	1.67
Recycled Pellet (Untreated)	1.1	1.31
Recycled Pellet (w/ DoverClear)	**2.41**	**1.8**

Optimum DoverClear Application



DoverClear™ 800

Workhorse recycling grade antioxidant for use in both LLDPE and LDPE

DoverClear™ 800 provides superior performance to existing virgin resin by stabilizing melt flow and retaining resin integrity. When used in PCR and PIR, DoverClear™ 800 has been shown to significantly reduce gels, allowing for upcycling of the resin stream.

Doverclear™ is offered as a masterbatch up to 8% loading in LLDPE. Typical let down ratios range from 0.5% - 4.0%, depending on the application and equipment configuration. Other resin carriers are available.

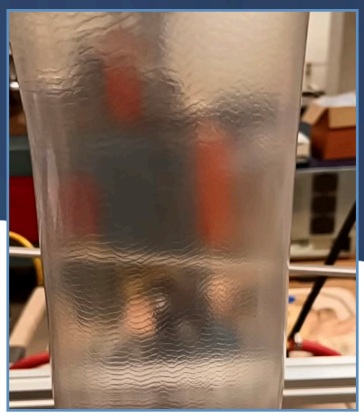
FDA approved (LLDPE only)

DoverClear™

PFAS-Free and Siloxane-Free Processing Aid

When a polymer is extruded, it can undergo shear stress, leading to surface defects, called melt fracture – sometimes called "shark skin," etc. A polymer process aid is used to improve the surface of the polymer. Typically these process aids have been fluoropolymers, which are a subset of perfluoroalkyl substances (PFAS). PFAS are under increased public and regulatory scrutiny and are being phased out.

Dover Chemical introduces the DoverClear™ line of polymer process aids that are **PFAS-free** and **siloxane-free** for processing of polyethylene sheet and film. DoverClear process aids clear melt fracture as well or better than fluoropolymers without sacrificing throughput due to over-lubrication. The ingredients in DoverClear are **FDA approved*** and are proven in polyolefin systems. The DoverClear line of products can clear melt fracture in a broad range of PE films, both metallocene and Ziegler-Natta catalyzed, across a wide-range of melt-indexes.



Blown Film Without Process Aid



Blown Film with DoverClear™

1-hexene mLLDPE, 1.0 MI

DoverClear™ 840

Standard grade of PPA offered in masterbatch form in LLDPE carrier.
Recommended for resins with a melt index >1

DoverClear™ 841

High-performance grade of PPA offered in masterbatch form in LLDPE carrier.
Recommended for resins with a melt index <1

DoverClear process aids are available in a wide variety of forms and carrier resins, which can be custom tailored to individual lines. Typical let down ratios range from 0.5% - 2.0%, depending on the application and equipment configuration.

*FDA approval in LLDPE

DOVERCLEAR™ is a trademark of Dover Chemical Corporation.

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