

IP-1121 High Performance Process Aid Masterbatch

Introduction

Ingenia Polymers 1121 High Performance Process Aid Masterbatch is a pellet formulation containing a PATENT PENDING PROCESS AID from DuPont Dow Elastomers L.L.C. The High Performance Process Aid is designed for use at very low levels to eliminate melt fracture and improve processing of polymers during film extrusion, profile and sheet extrusion and extrusion blow molding.

The High Performance Process Aid in IP-1121 is less interactive than conventional process aids. It can be used universally in a wide range of applications. It is especially effective in eliminating melt fracture in polyolefin applications containing titanium dioxide, antiblocking agents or other inorganics. It also reduces extruder torque, increases output, improves clarity and gloss. IP-1121 has the potential to be used at half the concentrations of conventional Polymer Process Aids.

Equipment Preparation

Optimum results are realized by cleaning the extrusion equipment before testing IP-1121. The active ingredient in IP-1121 works by coating the metal surfaces of the extrusion equipment. If the extrusion equipment is not cleaned IP-1121 may not be as effective. IP-1121 may also displace built-up pigments or carbonized material resulting in gels or black specs being purged until the die is completely coated with process aid.

Use Levels

When processing polyolefin resins, conditioning of the extrusion equipment

can be done quickly by starting with higher concentrations of IP-1121. Once the equipment has been coated reduced concentrations of 1121 will be sufficient to maintain stable operation. Alternatively the target letdown ratio can be used immediately; however, the equipment will take longer to condition.

The amount of 1121 needed to maintain stable operation can be determined by starting at a low level. If the target film/processing properties have not been reached, raise the level every 30-60 minutes until the desired properties are maintained.

Typical Let-down Ratios*

Elimination of Melt fracture:

Standard resins	1-2.5%
Heavily filled/pigmented resin	2.5-4%

Reduction of Die Lip Buildup: 0.25-1%

*These are typical addition levels only. The level required should be determined by the user. Metallocene resins typically require higher levels of PPA. The use of too much PPA can lead to 'die worms'.

Evaluating 1121

When evaluating 1121 sufficient time must be given for the active ingredient to coat the metal surfaces of the extrusion die. As well, if the 1121 is removed, the effects of the additive will be noticeable until the material is purged from surfaces of the die.

When comparing a formulation without process aid to one containing 1121, the formulation without 1121 should be run first. The 1121 can then be added and the evaluation made after sufficient time has passed to condition the die.

When comparing different process aids a purge compound containing silica (IT-261) or another mineral scrubbing agent should be used between runs.



Product Use Guidelines

Restrictions on Use

The Fluoropolymer used in Ingenia 1121 is subject to certain restrictions under Title 21 of the U.S. Federal Code of Regulations governing polymers intended for use in contact with food. Contact your Ingenia Sales or Technical Service Representative for more information if you are considering using Ingenia 1121 in food contact applications.

Ingenia 1121 meets the Coalition of Northeastern Governors (CONEG) requirements of a total of less than 100 PPM contamination by lead, mercury, cadmium, and hexavalent chromium.

Ingenia 1121 is not known to contain chemicals listed in the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65).

Disclaimer

The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which we assume legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. No warranty of fitness for a particular purpose is made.