

Soaresin™ PG201

High Performance Purging Resin for EVOH

Application

Soaresin™ PG201 is purging resin for EVOH. Using this purging resin, EVOH in extruder will be quickly purged out. High performance purging resin PG201 can reduce the risk of gel problem and get long-run processing.

General Properties

Properties	Unit	Value
MFR ¹⁾ (190 degree C, 2160g)	g/10min	0.6
Melting Point ²⁾	degree C	117
Volatile Matter ³⁾	wt%	≤0.10
Density ⁴⁾ (23 degree C)	g/cm ³	0.94

1): Measured with Melt Indexer

2): Measured with DSC, both heating and cooling speeds of 10 degree C/min

3) 105 degree C, 2 hours

4): Measured with Micromeritics Gas Pycnometer

*The above figures are representative values and are not guaranteed.

Melt Viscosity

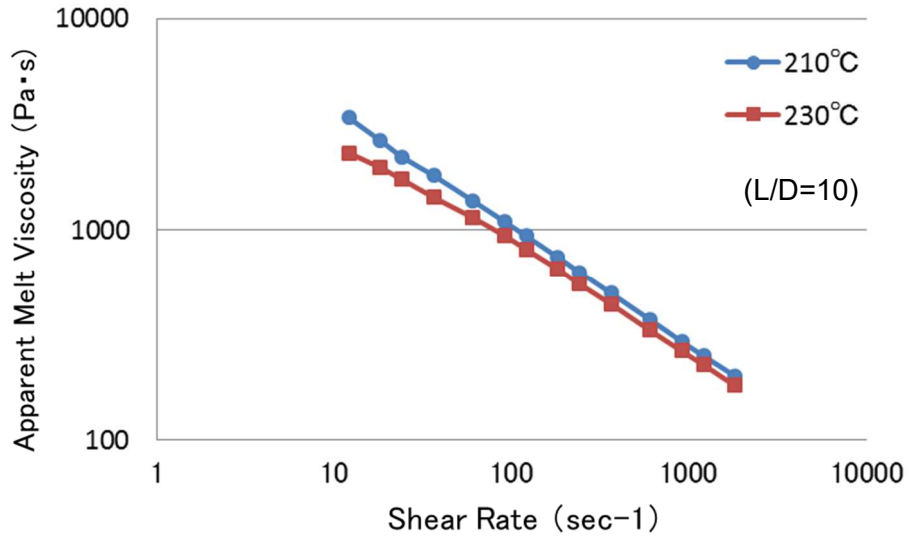


Fig. 1 Melt Viscosity of Soaresin™ PG201

Performance of Purging Resin

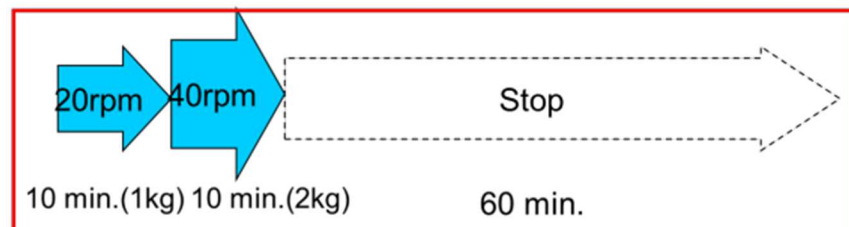
<Evaluation>

Machine : ϕ 40mm single screw extruder

Setting Temperature : C1/C2/C3/C4/H/D = 220/250/260/260/260/240 degree C

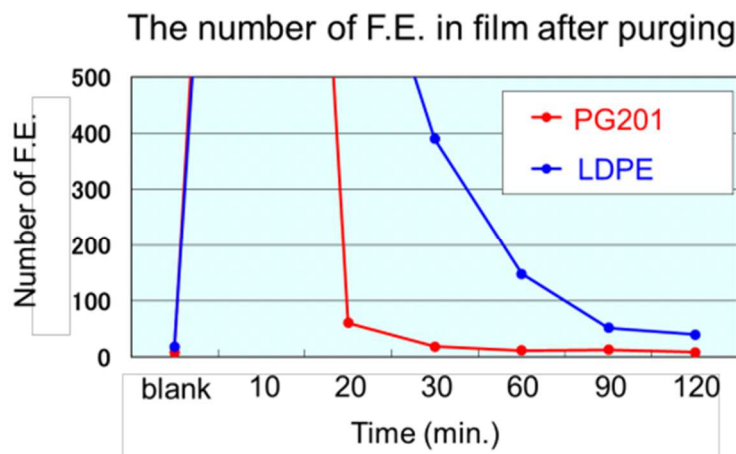
1. 29mol% EVOH is extruded for 30 minutes.
2. EVOH is got out from extruder and kept for 2 hours (with heating).
3. Extruder is purged with PG201 (or LDPE) by following process.

(MFR of LDPE : 1.1 at 190C, 2160gf)



4. 29mol%EVOH is extruded for 2 hours. (measurement of F.E.)
5. Extruder is disassembled, screw and die are observed.

<Result>



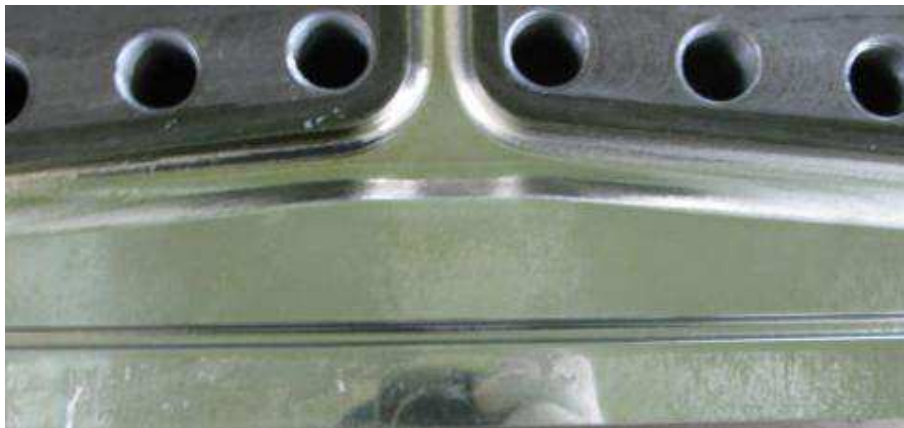
In case of using LDPE, the number of F.E. does not recover to original number of F.E. in 120 minutes. On the other hand, the number of F.E. recovers to original number of F.E. in 30 minutes by using PG201.

<Result>

Die appearance



In case of LDPE



In case of PG201

In case of using PG201, resin is almost not remained on the die surface and die can be cleaned up easily. This result shows PG201 have high performance as purging agent.

Example of Processing

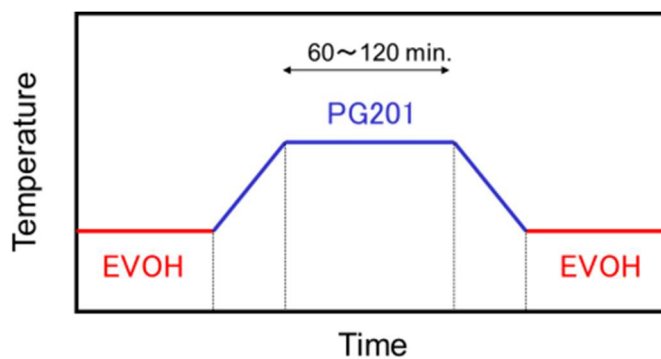
Extruder : $\phi 40\text{mm}$ L/D = 28
Screw : full flight, constant pitch type, C.R. = 3.5
Screen pack : 90/90 mesh

Processing Temperature (degree C)

C ₁	C ₂	C ₃	C ₄	C ₅	AD
200-220	220-240	230-250	230-250	230-250	230-250

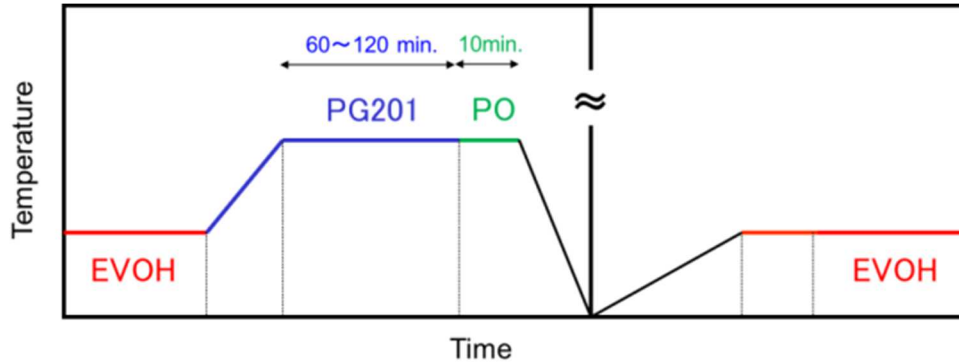
<Purging procedure with PG201>

1. In case purging is conducted while processing



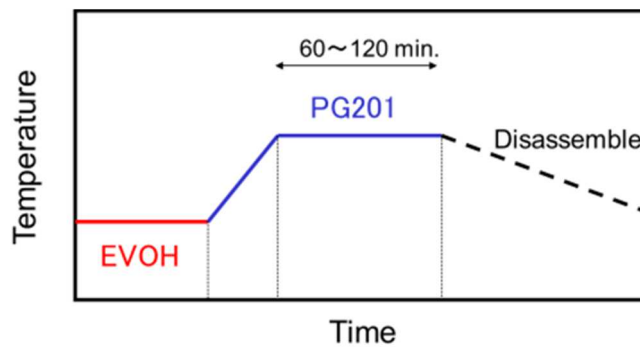
- After replaced from EVOH to PG201, elevate temperature to 230-250 C.
- To get effective performance, keeping PG201 in extruder for 1-2 hours.
- If it is difficult to keep PG201, change screw rotation up and down.
- After lowering the temperature for EVOH extrusion, restart with EVOH.

2. In case of stopping extruder during production campaign



- After replaced from EVOH to PG201, elevate temperature to 230-250 C.
- To get effective performance, Keeping PG201 in extruder for 1-2 hours.
(If it is difficult to keep PG201, change screw rotation up and down)
- After discharging PG201 with PO, stop the extruder.
- Restart with EVOH.

3. Extruder is disassembled after purging with PG201



- After replaced from EVOH to PG201, elevate temperature to 230-250 C.
- To get effective performance, Keeping PG201 in extruder for 1-2 hours.
- If it is difficult to keep PG201, change screw rotation up and down.
- disassemble extruder.

<Attention in using PG201>

- Odor may be generated. Please ventilate if necessary.

- If PG201 is used in outermost layer, resins may be scattered by foam formation. That may occur not only during extruding PG201 but also in just after extruding PG201.

- PG201 has hygroscopic performance. If PG201 with high moisture is extruded, white defect may be appeared in film depending on the extruding condition. That may continue after purging, so please be careful in following caution.
 - ✓ When the opened bag of PG201 is stored, please close it air tight by heat-sealing. (Recommended)

 - ✓ In case of stopping extruder during production campaign, please change PG201 to PO.

Quality and Safety for Application of Soaresin™ PG201

High quality Soaresin™ is produced by Okayama plant in Japan, Mitsubishi Chemical America Inc. in U.S.A. and Mitsubishi Chemical UK Ltd. in U.K.. All plants are certified to meet the requirement of ISO 9001.

Soaresin™ contains no heavy metals or other harmful substances. Soaresin™ meets the Food Sanitation Standards of various countries.

Please contact us to inquire about food product hygiene for the various Soaresin™ brands or for food hygiene conformity in other countries.

JAPAN : Ministry of Health and Welfare Announcement No.370(1959) and Its Latest Amendment No.196(2020)

U.S.A : US FDA 21 C.F.R.

EU : Commission Regulation (EU)No. 10/2011 and its amendments

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