

Barrier film grade for EVOH Blend

POKETONE Polymer E700

POKETONE Thermoplastic Polymers are aliphatic polyketones, a revolutionary new class of semi-crystalline thermoplastics. Hyosung developed new catalyst to produce this unique polymer in 2013 and constructed commercial plant in 2015, in Ulsan, Korea.

POKETONE Polymer E700 is extrusion grade with mechanical properties that classify it as an engineering thermoplastic. This grade combines high melt strength and viscosity with high chemical resistance and barrier performance. Moreover, this material exhibits a high impact resistance, both at room temperature and at lower temperatures, and good creep performance. POKETONE Polymer E700 can also withstand short-term exposure to elevated temperatures.

E700 can be mixed with EVOH, can be applied to food packaging and a wide range of areas such as cosmetics, medicine packaging materials, automotive fuel tanks, fuel pipes and vacuum insulation panels, the institute said, adding it has gas blocking equivalent to pure EVOH and showed dramatically improved humidity resistance and flexibility.

By combining the excellent chemical and mechanical properties of polyketone with the high gas blocking of EVOH, we have achieved the best synergy effect. The low-cost, high-quality food preservation technology will be a weapon to effectively respond to the global food problem that will come

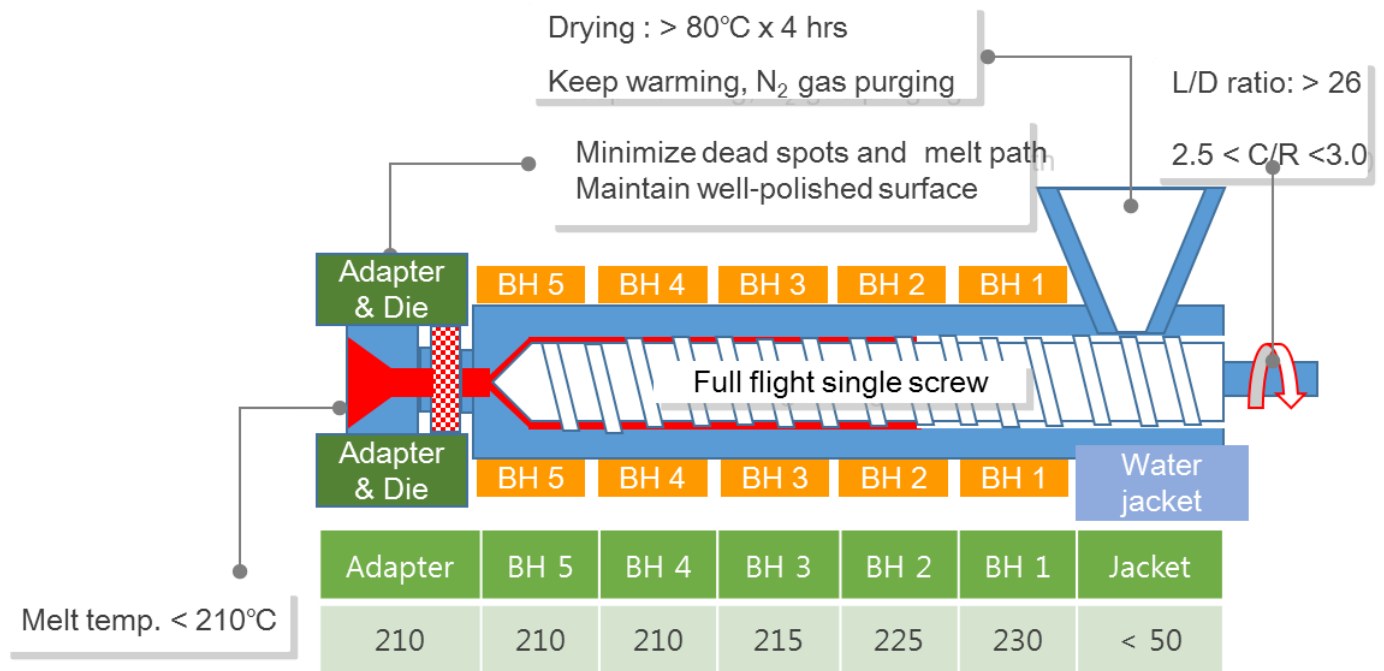
TABLE 1 : TYPICAL PROPERTIES OF POKETONE POLYMER E700
– Measured at 23 °C

	Test Method & Conditions	ASTM Values
	ASTM	SI
Specific gravity	D792	1.18g/cm ³
Melting temperature	D3418	197 °C
Melt flow index 240°C/2.16kg	D1238	6 g/10 min
Tensile strength at yield	D638	37 MPa
Tensile elongation at break	D638	150 %
Flexural strength	D790	33 MPa
Flexural modulus	D790	700 MPa
Notched Charpy impact strength	ISO 179/1eA	27 kJ/m ²

TABLE 2 : TYPICAL INJECTION GUIDE OF POKETONE POLYMER E700

	Nominal Value	Unit
Drying Temperature	80	°C
Drying Time	3.0 to 4.0	hr
Suggested Max Moisture	0.20	%
Rear Temperature	210	°C
Middle Temperature	215 to 220	°C
Front Temperature	230	°C
Nozzle Temperature	240	°C
Processing (Melt) Temp	225 to 240	°C
Mold Temperature	60 to 80	°C
Back Pressure	0.294 to 0.686	MPa
Screw Speed	50 to 100	rpm

POKETONE Extrusion Processing Guide



Setting Temperature

- Recommended melting temperature: 210-230°C (410-446°F).
- Do not exceed 265°C (509°F). Long residence times at high end of the temperature range can cause thermal degradation & loss of physical properties.
- Keep lower melt temperature in order to enhance the melt quality (<210°C).

Start-up and Cleaning Guide

- Start-up with purge polymers (LDPE, PP, HDPE, PETG) first and gradually change to POKETONE.
- If you shut down the machine for more than 0.5 hour, please purge out POKETONE using purge polymers.
- Please immediately clean barrels thoroughly after producing POKETONE products. Other commercial purging compounds are also available.

Drying

- Recommend drying POKETONE pellet at 80°C for about 3~4 hours. POKETONE should be dried by an oven or hopper drier to prevent surface problem like silver streak, drooling or voids.
- If the drying temperature is too high or the drying time is too long, it would be able to bring about discoloration of pellets.

If you need any further technical information, please contact our sales or marketing team who will be happy to assist you with any questions you may have. Feel free to visit our website. www.poly-ketone.com