

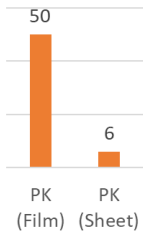
# POKETONE<sup>®</sup>

## New Barrier Solution of PK and EVOH blend

### POKETONE<sup>™</sup>

- Aliphatic Polyketone
- High Barrier
- Excellent Toughness
- Affordable Price
- Chemical Resistance

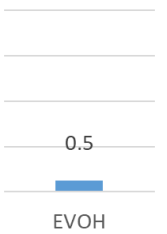
O<sub>2</sub> Permeation  
(cc·30μm/m<sup>2</sup>/day)



### EVOH

- Excellent Barrier
- Rigid
- Expensive

O<sub>2</sub> Permeation  
(cc·30μm/m<sup>2</sup>/day)



### Blend (PK+EVOH+EAA)

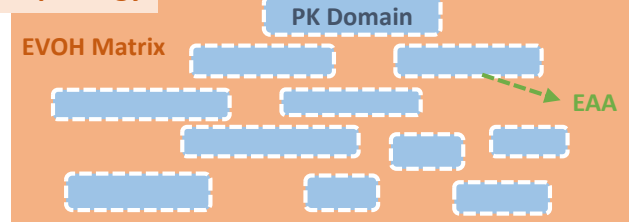
### POKAL(PK+EVOH+EAA)

- Excellent Barrier (Oxygen, Hydrocarbon, etc.)
- Improved Toughness
- Reasonable Cost Down

O<sub>2</sub> Permeation  
(cc·30μm/m<sup>2</sup>/day)



### Morphology



Existing barrier polymers including EVOH, MXD6, PVA, etc., have been enlarged the applications and market by useful characteristics respectively. But, high price and own weaknesses limit their usage. Many customers who want to overcome the existing field need new barrier materials. POKETONE itself has good barrier property because of unique chemical structure and OTR is 10~100 times higher than EVOH as film or sheet. Hyosung discovered that the blend of PK and high flow EVOH showed

extremely high barrier property compared with existing materials. And, finally announced the ternary blend including EAA(Ethylene Acrylic Acid) is the most balanced formulation(POKAL), and could replace the existing barrier polymers. **EAA functions as a compatibilizer between PK and EVOH. Extrudate film and sheet of POKAL without EAA could be discolored or gelled because of excess reaction at high melt temperature.** POKAL formulation's optimal ratio

is 30~48% of POKETONE M710F, 65~48% of high flow EVOH and about 3~5% of EAA. And we propose pellet blending before production for reducing melt degradation. POKAL's extremely low OTR will be applied to much thinner thickness and cost-competitive product. POKETONE itself can be used for a container of fuel and oils, because of excellent barrier property and low swell. The producer can up-grade his products by selecting POKETONE.

Table 1. POKAL's O<sub>2</sub> Permeability(cc·30μm/m<sup>2</sup>/day)

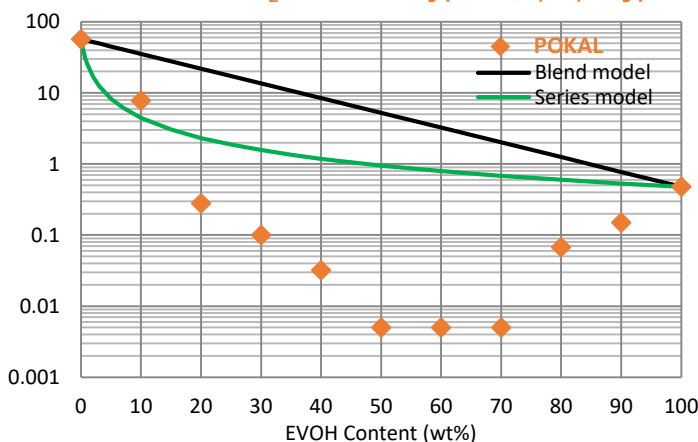


Table 2. Barrier Property against Fuel

