

HYOSUNG CHEMICAL

# Engineering and High-Performance Plastics For the Food conveyor belt

## POKETONE® (Aliphatic Polyketone)

### Non Toxic High Efficiency



Acrylate Free  
Melamine Free  
Bisphenol A Free  
Formaldehyde Free  
Lead/ Chrome/ Free  
Phthalate Free

### Global Warming Potential

* PA6	6.70	
* PA66	6.40	
* PC	3.40	
* POM	3.20	
* ABS	3.10	
** PK	3.08	(kg CO <sub>2</sub> eq)

\* Other ETP data is based upon the Eco-profiles data from [www.plasticseurope.org](http://www.plasticseurope.org)

\*\* PK Data is based upon Korea LCI database and Ecoinvent database.

- PK belts lasts up to 2.5 longer in a highly abrasive environment than acetal belts
- PK belts are 3 times more impact resistant than acetal belts
- PK belts are reduced product sticking and instantly reduce yield loss

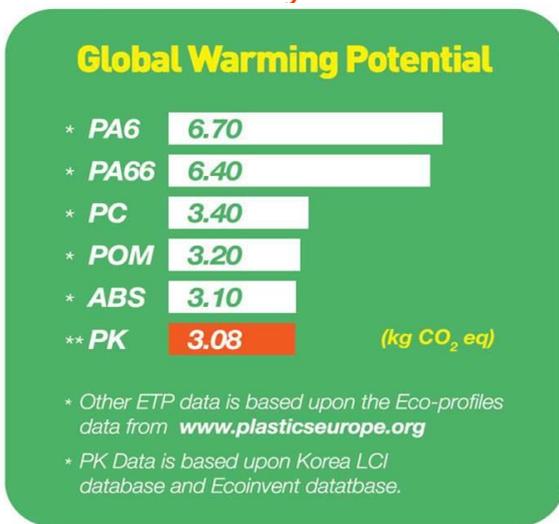
+Belt image is from googling researching, considered as public open information

Further Information  
[www.poketone.com](http://www.poketone.com)

**POKETONE**<sup>TM</sup>  
HYOSUNG POLYKETONE

A new thermoplastic polymer HYOSUNG POKETONE is a family of Semi-crystalline aliphatic polyketone, made of carbon monoxide(CO) and olefins. POKETONE Terpolymer of CO, ethylene and propylene are used as engineering plastics in a broad range of application with eco-friendly (LCA, Lifetime Cycle Assessment is lower than PA66, POM) and non-toxic characteristics, such as no VOCs (Volatile Organic compounds), free of formaldehyde and acrylonitrile, making it perfect for baby toys, FOOD CONTACT and medical applications. All F grades of POKETONE are satisfied with ISO 10993, USP Class VI and FDA.

## ✓ Eco-friendly material



## ✓ Certification



## ✓ Properties

Properties	Unit	POKETONE M330F Base resin	POKETONE M630F Base resin	POKETONE M730F Base resin	POKETONE M640F Base resin
Density	-	1.24	1.24	1.24	1.24
Melt Index	g/10min	60	6	3	7
Tensile Strength	MPa	60	58	58	67
Elongation at Break	%	> 240	> 240	> 240	>270
Flexural Strength	MPa	57	53	48	60
Flexural Modulus	MPa	1,400	1,250	1,200	1,600
Impact Strength	KJ/m <sup>2</sup>	8	17	19	19
Toughness	-	Best	Excellent	Excellent	Excellent

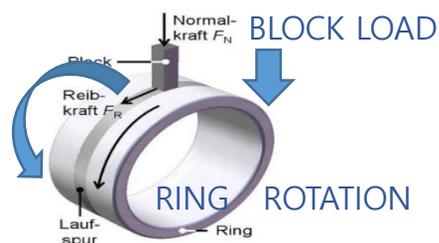
**POKETONE is highly resistant to diverse chemicals, such as disinfectant and sanitation.**

The good hydrolysis resistance as well as the dimensional stability ensure that components made of POKETONE are suitable for Food Manufactures to safely produced food. Products made of POKETONE especially stand out for longer life cycle of long term sanitation chemical exposure than POM.

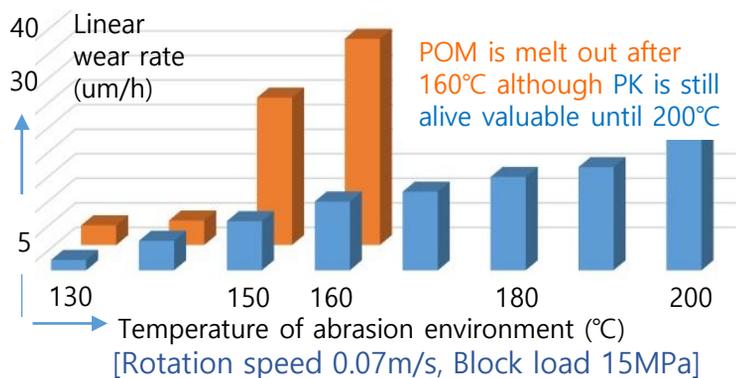
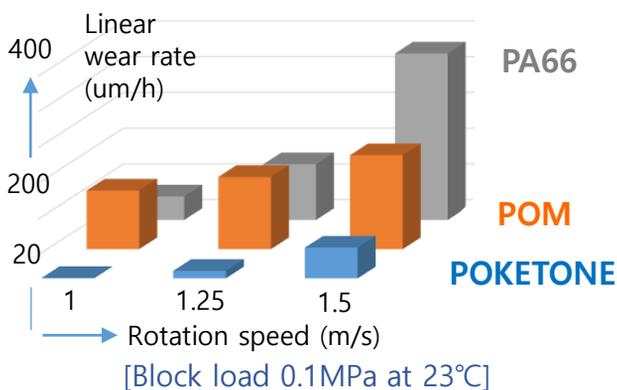
Moreover, POKETONE withstands mechanical stress very well and shows excellent friction and wear behavior. Due to the combination of outstanding resilience, toughness behavior POKETONE is highly suitable for the production of functional components such as food conveyor belt, valves, plugin connectors, gearwheels and spring elements.

✓ **Excellent abrasion behavior**

**POKETONE abrasion loss is the lowest than other materials**



[Test standard : ASTM G137, Block on ring]



✓ **Superior toughness**



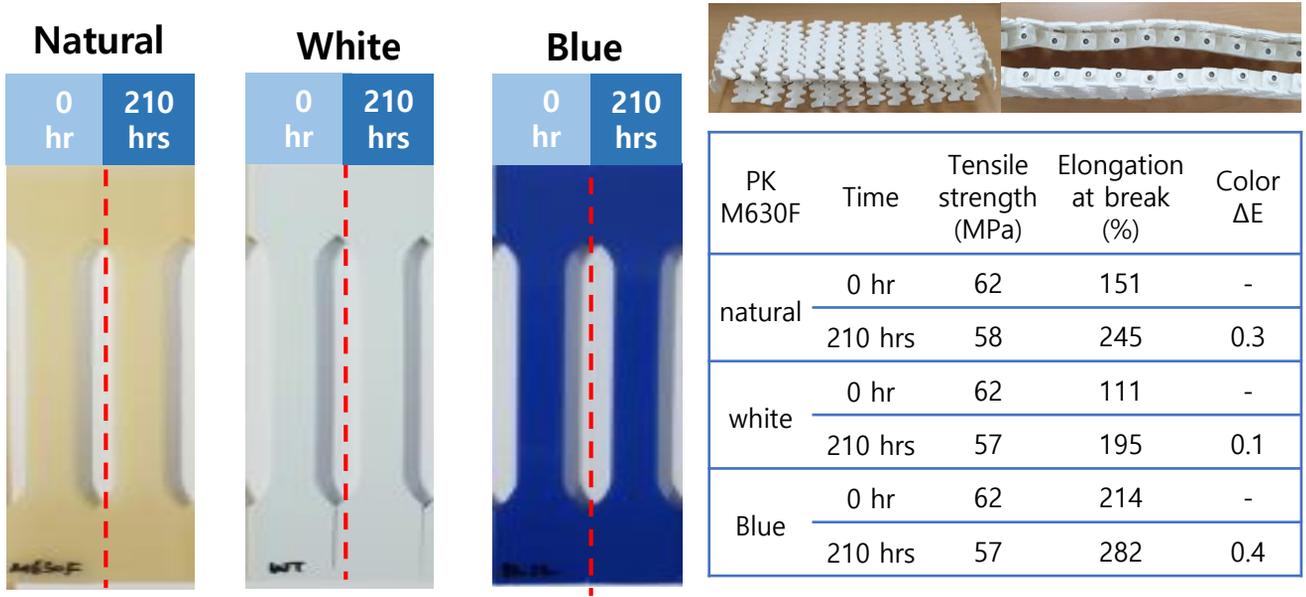
[POKETONE molded part of food tray Never Deformed after vehicle load]



[Melamine food tray Completely Cracked after vehicle load]

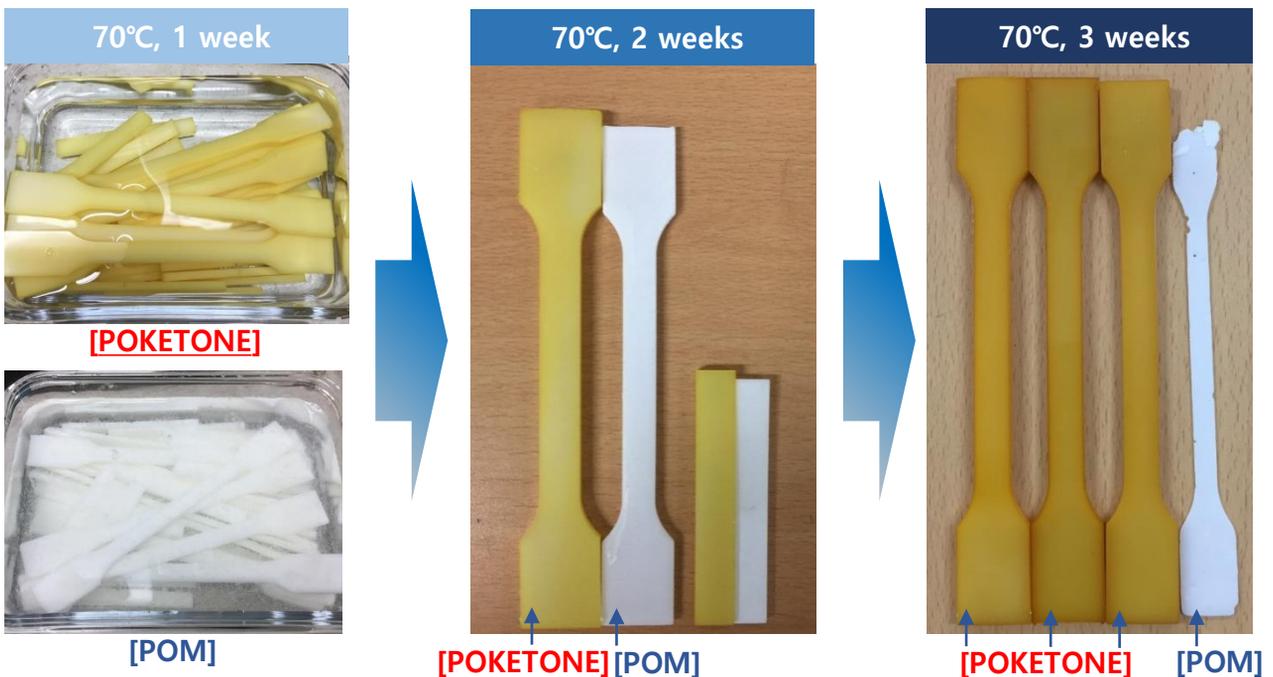
# POKETONE withstands continuous exposure to both of acids and bases with various pH levels which required disinfectant and sanitation

✓ Visual & properties change after exposure NaOH 1.5% (pH 13.7)



+Actual exposure environment : Starting at 71°C → Cooling down to finally 31°C for 210hrs

✓ Visual & properties change after exposure chloramines (ph3)



+Bowl cleaner 100 grams at water 6 liters, 70°C → appx. 1.63% concentrate

+POKETONE initial weight is 10.6 gram per bar → final weight is 10.9 gram (**103%** retention rate)

+POM initial weight is 11.8 gram per bar → final weight is 2.25 gram (**19%** retention rate)



· No formaldehyde · FDA & EU food contact · Low abrasion loss (no particle) · Excellent chemical resistance

## **CONTACT US**

### **Republic of Korea**

+82 2 2146 5589, [issooho@hyosung.com](mailto:issooho@hyosung.com) / +82 2 2146 5575, [sej@hyosung.com](mailto:sej@hyosung.com)

### **China**

+86 021 62250312 (ext.8030), [yjkim77@hyosung.com](mailto:yjkim77@hyosung.com) / +82 2 2146 5573, [ropopchem@hyosung.com](mailto:ropopchem@hyosung.com), [kibeom.kang@hyosung.com](mailto:kibeom.kang@hyosung.com)

### **Europe**

+49 6172 8553222, [jakelee@hyosung.com](mailto:jakelee@hyosung.com) / +82 2 2146 5591, [lovetoken@hyosung.com](mailto:lovetoken@hyosung.com), [hjkim13@hyosung.com](mailto:hjkim13@hyosung.com)

### **America**

+82 2 2146 5572, [mkjung@hyosung.com](mailto:mkjung@hyosung.com) for NA and SA

### **R.O.W (Rest of world)**

+82 2 2146 5551, [jaejung@hyosung.com](mailto:jaejung@hyosung.com)

**Further Information**  
**[www.poketone.com](http://www.poketone.com)**

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+Note : The data contained in this publication are based on our current internal knowledge and experience, these do not imply any guarantee of certain properties. Most images are from googling image researching, which is considered as public open information.