



**Non Toxic**  
**High Efficiency**

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

**EARTH**  
  
**FRIENDLY**

**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.



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

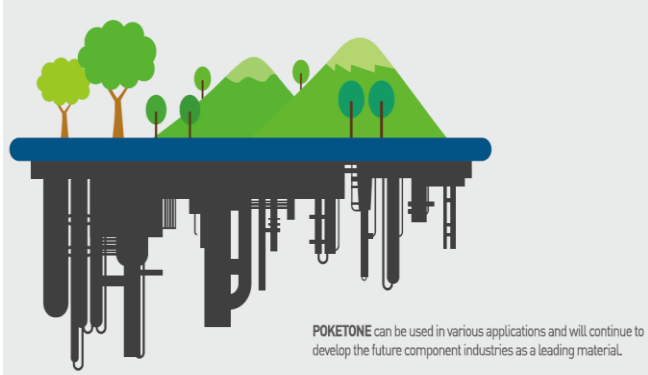
**POKETONE** HYOSUNG POLYKETONE

# POKETONE™ in water meter

POKETONE™ is Hyosung's trade name for a family of Semi-crystalline aliphatic Polyketone and is employed in applications demanding a high performance level of water contact such as water meter, pipe & fitting, water purifier including drinking water contact sector.



**“ Innovative Engineering Plastics we have dreamed of ”**



POKETONE can be used in various applications and will continue to develop the future component industries as a leading material.

Thanks to its low water absorption and eco-friendly characteristic, POKETONE™ Polymers can be a reliable choice for water meter part.

POKETONE™ has high mechanical property retention rate, low water absorption rate, chemical resistance and hydrolytic stability. Moreover, POKETONE™ doesn't have harmful substance like heavy metal, formaldehyde, etc.



**POKETONE™**  
HYOSUNG POLYKETONE

We can expect clean water from transport/supply to its treatment with eco-friendly material, POKETONE. POKETONE can be used for water contact applications, such as water meter, water filtration system, pump housing and water filter.

通过我们研发的POKETONE树脂/塑料，我们可以得到更清洁的水。 POKETONE可用于水接触应用，如水表、水过滤系统、泵壳和水过滤器。

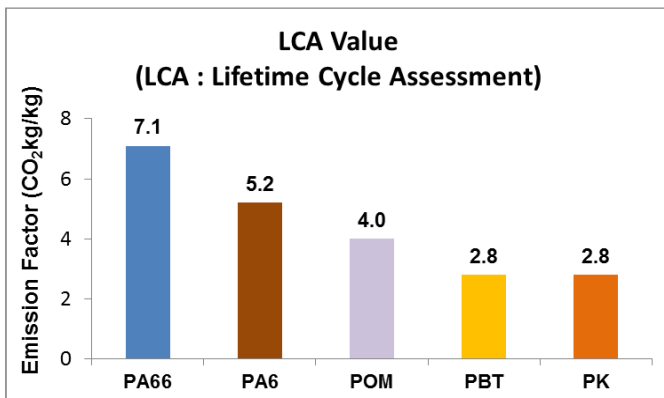
**Sanitary & Water Industries 卫浴产业及水处理产业**

- Water Meter 水表
- Water Purifier 净水器
- Water Tap Fitting 水龙头
- Shower Equipment 淋浴器

## Certification



## Eco-friendly material



POKETONE™ is 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, heavy metal and acrylonitrile, making it perfect for baby toys, food contact and MEDICAL applications. All F grades of POKETONE are satisfied with FDA, NSF 51,61, and USP Class VI.

## Drinking water contact certification

Products	Grade	NSF61	WRAS	ACS	KTW	DVGW, W270
POKETONE™ F Series	M230F		V	OK		OK
	M930F			OK		OK
	M330F			OK		OK
	M630F			OK		OK
	M620F			OK	V	OK
	M730F			OK		OK
	M710F	V		OK	V	OK
POKETONE™ A Series	M230A		V	V	V	V
	M330A		V	V	V	V
	M630A		V	V	V	V

HOT, Warm, Cold, DI(Under Process), OK(Completion), V(No Certificate But No problem to get the certificate)

## Migration test

Material	Specification	Result (mg/L)	
		Lead	Zinc
Brass	0.0001 ↓ ( Lead )	0.0018	1.349
POKETONE	0.001 ↓ ( Zinc )	N.D	N.D

▲ Korean Standard for Migration of Harmful Materials for Drinking Water

► POKETONE Base Resin Test Report (3<sup>rd</sup> Party Surveyor)

Tedlar bag size / Sampling Volume			3 L / 1.5 L (N2)		
Analysis Conditions			65 °C , 2h		
Analytes	Test Method	Unit	MDL	Limit	Results
Formaldehyde	MS 300-55:2014, DNPH Cartridge, HPLC	µg/m <sup>3</sup>	20	210	N.D.
Acetaldehyde	MS 300-55:2014, DNPH Cartridge, HPLC	µg/m <sup>3</sup>	20	50	N.D.
Acrolein (=Acrylaldehyde)	MS 300-55:2014, DNPH Cartridge, HPLC	µg/m <sup>3</sup>	20	50	N.D.

► PK vs POM Formaldehyde Migration Test (HYOSUNG R&D Center)

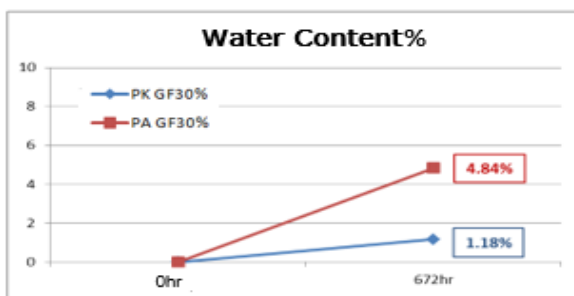
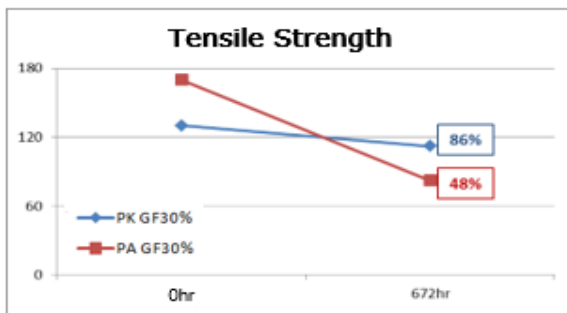
Material	Unit	Migration
POM	ppm	0.30
PK	ppm	0.00

## Pressure test

Size(mm)	Test Method		Results
	Pressure ( Bar )	Time ( Min )	
100	30	3	PASS
	40	4	
	50	4	
	55	4	

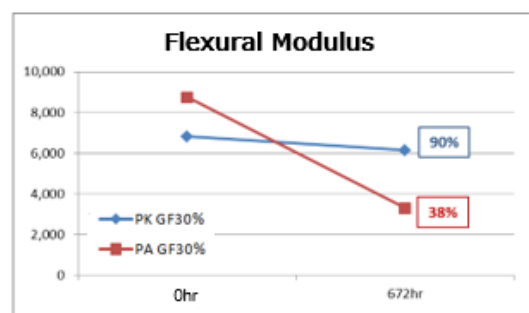
▲ Water Meter Pressure Test

## Low water absorption & Dimension stability



\* Properties Retention Rate after immersed in Water (23°C, 672hr)

- Tensile Strength: PK 86% vs PA 48%, Flexural Modulus: PK 90% vs PA 38%





· POKETONE commercial Plant in South Korea, Ul-san City, Production capacity : 50,000 MT/Year



· Excellent Wear Resistance · Low Noise · Low abrasion loss (no particle) · Excellent chemical resistance

### **H.Q. (Korea)**

235, Banpo-Daero, Seocho-Gu, Seoul, Korea

Tel +82-2-2146-5570~5577

Email: [poketone@hyosung.com](mailto:poketone@hyosung.com)

### **Asia (China)**

Room 1115, Shanghai International Trading Center No.2201 Yan An Xi Road Road, Shanghai, 200336, China

Tel +86-21-6209-0123(Ext. 194 or 161)

### **Asia (India)**

Building No 8, 2nd Floor, Tower B, DLF Cyber City,

Phase II Gurgaon Haryana 122002, India

Tel: +91-124-626-7777(Ext.122)

### **America**

235, Banpo-Daero, Seocho-Gu, Seoul, Korea

Tel +82-2-2146-557

### **Europe (Germany)**

3. Obergeschoss Mergenthalerallee 15-21, 65760 Eschborn

Tel: +49-6172-855-3222

### **Europe(Turkey)**

Büyükdere Cad.Noramin Is Mrk. No:237

Kat:3 D:303-304 34398 Maslak/Istanbul

Tel: +90-212-284-1601(Ext.122)

Further Information

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

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

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