

HYOSUNG CHEMICAL

POKETONE In Electronic Cigarette Industry

**Non Toxic
High Efficiency**

EARTH FRIENDLY

- 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 ₂ eq)

• Other ETP data is based upon the Eco-profiles data from www.plasticseurope.org

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



Further Information
www.poketone.com

POKETONETM
HYOSUNG POLYKETONE

■ **POKETONE** is a family of semi-crystalline aliphatic Polyketone, made of CO and olefins

- Low water absorption and high chemical resistance
- Good wear/abrasion resistance and NVH(Noise, Vibration, Harshness) performance
- Balanced properties: tensile strength, impact strength and elongation
- Short cycle time for injection molding

■ **POKETONE is TOUGH ENOUGH for Electronic cigarette Industry**

POKETONE™ is Hyosung's brand name for Semi-crystalline aliphatic Polyketone and is used in e-cigarette industry requiring chemical resistance, flame retardant and eco-friendliness.

Thanks to its balanced properties, POKETONE™ can cover a variety of Electronic cigarette industry . POKETONE™ can be a solution for various Electronic cigarette industry.



E-cigarettes heating holder

- Commercialized in China
- PK grade: M330F



E-cigarettes top opening cap

- Commercialized in Korea
- PK GRADE: M33AF2Y

1. BASE POKETONE(M330F)

PK excellent chemical resistance

PK BASE resins are sold around the world for e-cigarette parts (E-cigarettes heating holder, E-cigarettes top opening cap, etc.) due to their excellent chemical resistance.

	Semi-Crystalline							Amorphous		
	PK	PA66	PA12	POM	PBT	PPS	PVDF	PPO	PSU	PC
Hydrocarbons										
Aliphatic	○	○	○	○	○	○	○	●	●	●
Aromatic	○	○	○	○	○	○	○	●	●	●
Halogenated	○	○		○		○	○	●	●	●
Ketones	○	○	○	○	○	○		●	●	●
Esters/Ethers	○	○	○	○	○	○	○	●	●	●
Aldehydes	○	●	●	○	○	○	○	●	●	●
Aqueous										
Water	○	●	○	○	●	○	○	○	○	○
Weak Acids	○	●	●	●	●	○	○	○	○	○
Weak Bases	○	●	●	○	●	○	●	○	●	○
Strong Acids	●	●	●	●	●	●	○	○	●	○
Strong Bases	●	●	●	○	●	●	●	●	●	●

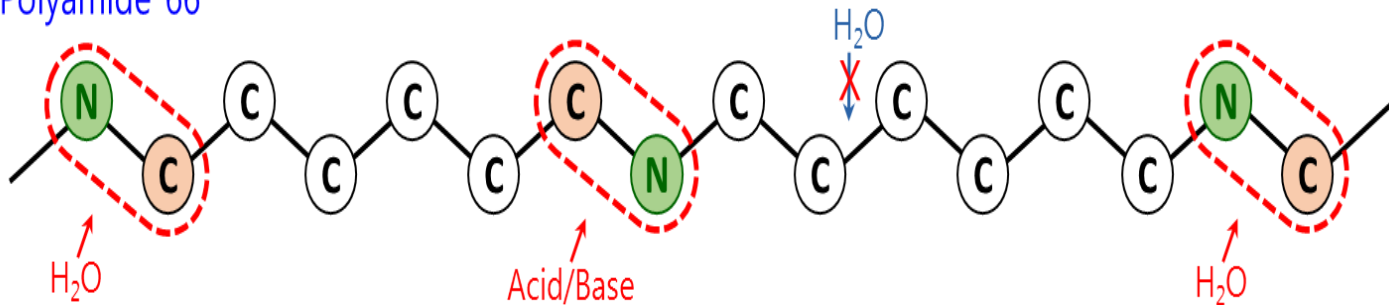
○ : Resistant ● : Not Resistant

1. BASE POKETONE(M330F)

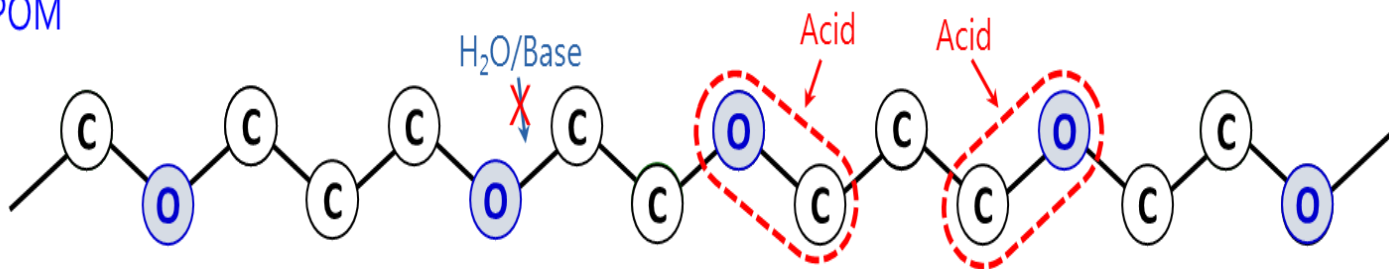
PK Chemical Resistance – Structural Stability

- In case of PA, Amide group (-NH-CO-) is present repeatedly, and vulnerable to moisture/acid/base.
- In case of POM, Ether group (R-O-R') is repeatedly present, and Ether Decomposition occurs due to weak/strong acid.
- In case of PK, the Main Chain consists of only CC bonds, and is stable in moisture/acid/base.

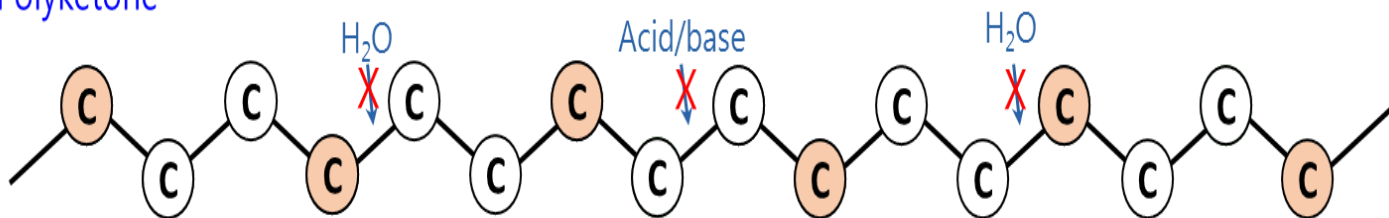
Polyamide 66



POM

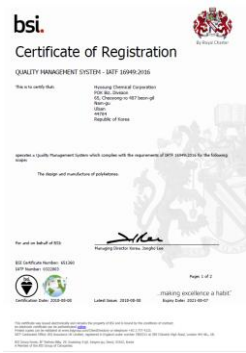


Polyketone

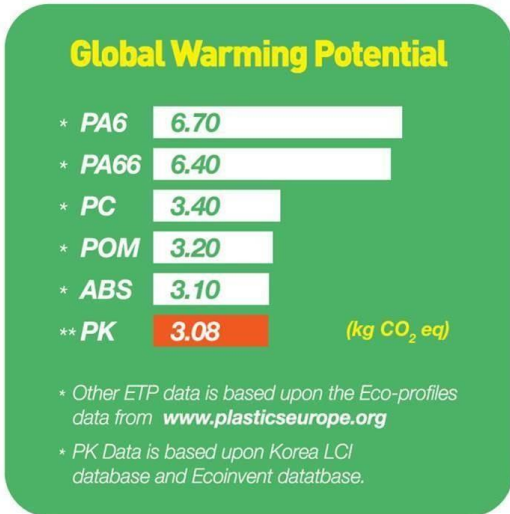


1. BASE POKETONE(M330F)

Certifications and Approvals



GWP	**PK	*ABS	*POM	*PC	*PA66	*PA6
Figure	3.08	3.10	3.20	3.40	6.40	6.70



Eco-friendly material

- POKETONE™ is eco-friendly with low Global Warming Potential. (lower than PA66, POM)
- POKETONE™ is Non-toxic: no VOCs (Volatile Organic compounds), free of formaldehyde, heavy metal and acrylonitrile
- 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.

2. Flame retardant POKETONE M33AF2Y



■ **Flame retardant POKETONE has good flame retardant, dimensional stability, and electrical property.**

Properties		Method	Unit	M33AF2Y
Flammability	t=0.8mm	UL 94	Class	V0
Glow Wire Flammability Index (GWFI)	t=0.8mm	IEC 60695-2-12	°C	960°C
Hot-wire Ignition (HWI)	t=1mm	UL 746A	Class	PLC 1
Comparative Tracking Index (CTI)		UL 746A	Class	PLC 0
Density		ASTM D792	g/cm ³	1.26
Tensile Strength at Yield		ASTM D638	MPa	50
Elongation at Break		ASTM D638	%	40
Flexural Strength		ASTM D790	MPa	58
Flexural Modulus		ASTM D790	MPa	1,700
Notched Impact strength		ISO 79/1eA	kJ/m ²	8
Melting Temperature		ASTM D3418		
Melt Flow Index (240°C, 2.16kg)		ASTM D1238	g/10min	34



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

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