

Engineering and High-Performance Plastics For the Medical Industry

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 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.

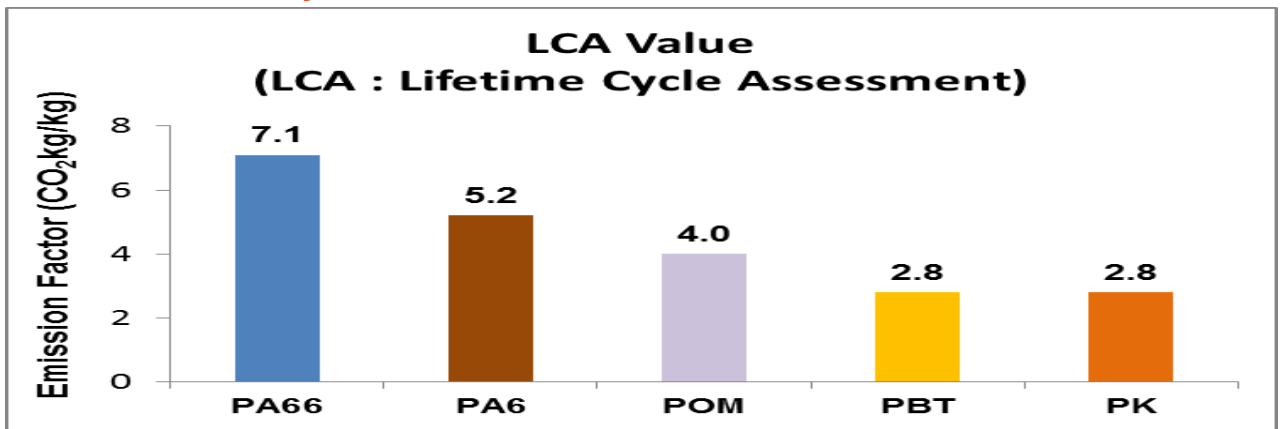


Further Information
www.poketone.com

POKETONE[™]
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 FDA, USP Class VI, and ISO 10993.

✓ Eco-friendly material



+ Source : LCI DB on 2015 & WECOS Simulated on 2016. PK capacity is based on 50k MT/Year

✓ Properties

Properties	Unit	POKETONE M330FS Base resin Natural color	POKETONE M630FS Base resin Natural color	POKETONE M63FX0A-WH1 Base resin UV White color
Density	-	1.24	1.24	1.24
Melt Index	g/10min	60	6	6
Tensile Strength	MPa	60	58	58
Elongation at Break	%	> 240	> 240	>180
Flexural Strength	MPa	57	53	53
Flexural Modulus	MPa	1,500	1,450	1,450
Impact Strength	KJ/m ²	8	17	17

POKETONE is highly resistant to diverse chemicals.

The good hydrolysis resistance as well as the dimensional stability ensure that components made of POKETONE are suitable for sterilization procedures like gamma radiation. Products made of POKETONE especially stand out for their glossy and hard surface.

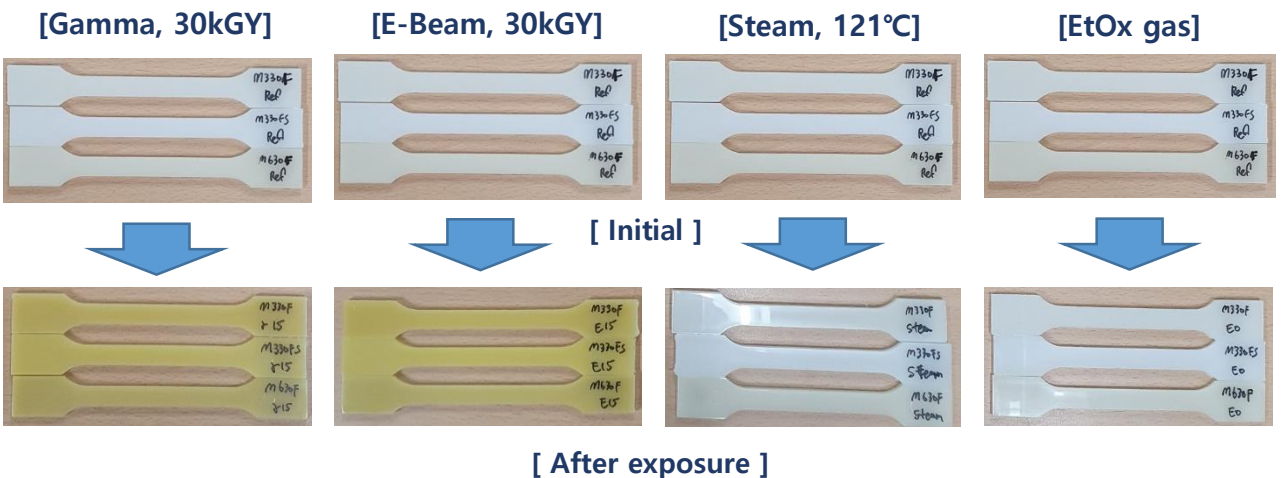
Moreover, POKETONE can withstand mechanical stress very well and shows excellent friction and wear behavior. Due to the combination of outstanding resilience, toughness and sliding behavior POKETONE is highly suitable for the production of functional components such as valves, plugin connectors, gearwheels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

✓ POKETONE properties after sterilization exposure

Grade	Properties	Initial	Gamma		E-Beam 30kGY	Steam 121°C	EtOx
			VD MAX 15, 30kGY	VD MAX 25,50kGY			
M330F M330FS	Tensile Strength [MPa]	61	62	62	61	65	62
	Elongation at break [%]	239	235	253	252	107	247
	Flexural Modulus [MPa]	1,692	1,710	1,725	1,689	1,461	1,712
M630F M630FS	Tensile Strength [MPa]	59	60	60	60	67	60
	Elongation at break [%]	265	269	278	265	165	263
	Flexural Modulus [MPa]	1,529	1,604	1,594	1,587	1,550	1,607

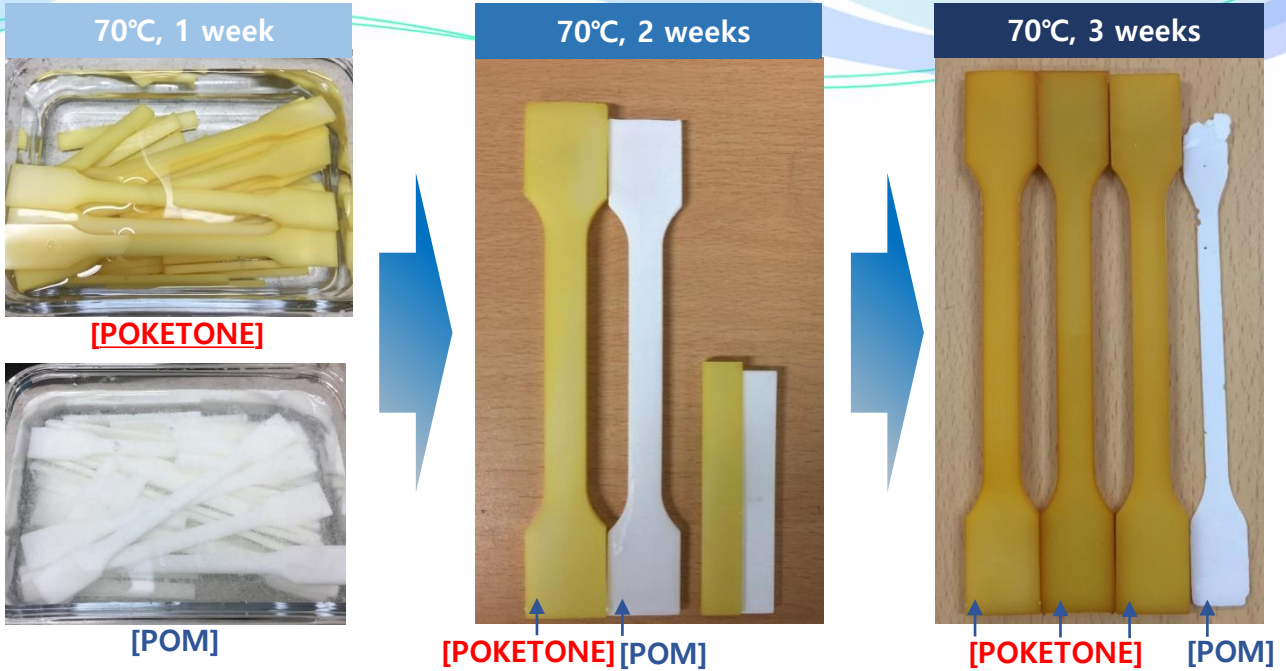
+ Tested by Hyosung R&D lab, and 3rd party test center in Korea

+ Steam test is ISO 17665-1,2 at 121°C, 15min / EtOx test is ISO 11135-1,2, 50°C, Rh 50%, 5hr



[After exposure]

✓ Visual & properties change after exposure chloramines (ph3)



+Bowl cleaner 100g at water 6 liters, 70°C → appx. 1.63% concentrate
 +POKETONE initial weight is 10.6g per bar → final weight is 10.9g (103% retention rate)
 +POM initial weight is 11.8g per bar → final weight is 2.25g (19% retention rate)

Certifications and Approvals



Eco-friendly material

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

- 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.



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

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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.