

Methacrylic ester polymer  
**Hi-pearl**  
general catalogue



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# 1. Overview of Hi-pearl

## Feature

Thermoplastic acrylic resin mainly synthesized by suspension polymerization technology.

It has excellent weather resistance and transparency, and can be dissolved in various solvents and monomers.

Hi-pearl is a hard (high Tg) grade and is supplied in beads.

## Application

Hi-pearl is used in paint / ink binders, ceramic binders, resist materials, etc.

## 2. Feature of Hi-pearl

### 2-1 M-4000, 5000 series

Product name	M-4006	M-4501	M-5000
Appearance	White beads type	White beads type	White beads type
Tg(°C)	105	84	65
Mw	35,000	1,000,000	1,000,000
Functional group	None	None	None
Toluene solution characteristics	40% 1500mPa·s	10% 500mPa·s	10% 250mPa·s

Features: Dissolvable in organic solvents such as ketones and esters in addition to toluene

Applications: Paints, inks (binders)

## 2. Feature of Hi-pearl

### 2-2 MA-4620

Product name	MA-4620
Appearance	White beads type
Tg(°C)	56
Mw	90,000
Functional group	COOH 130KOHmg/g

Features: High acid value, alkaline development possible

Applications: Dry film resist, binder for resist ink and conductive paste

## 2. Feature of Hi-pearl

### 2-3 M-6000 series

Product name	M-6003
Appearance	White block type
Tg(°C)	20
Mw	200,000
Functional group	None

Features: Can be decomposed at low temperature

Applications: Ceramic binder

## 2. Feature of Hi-pearl

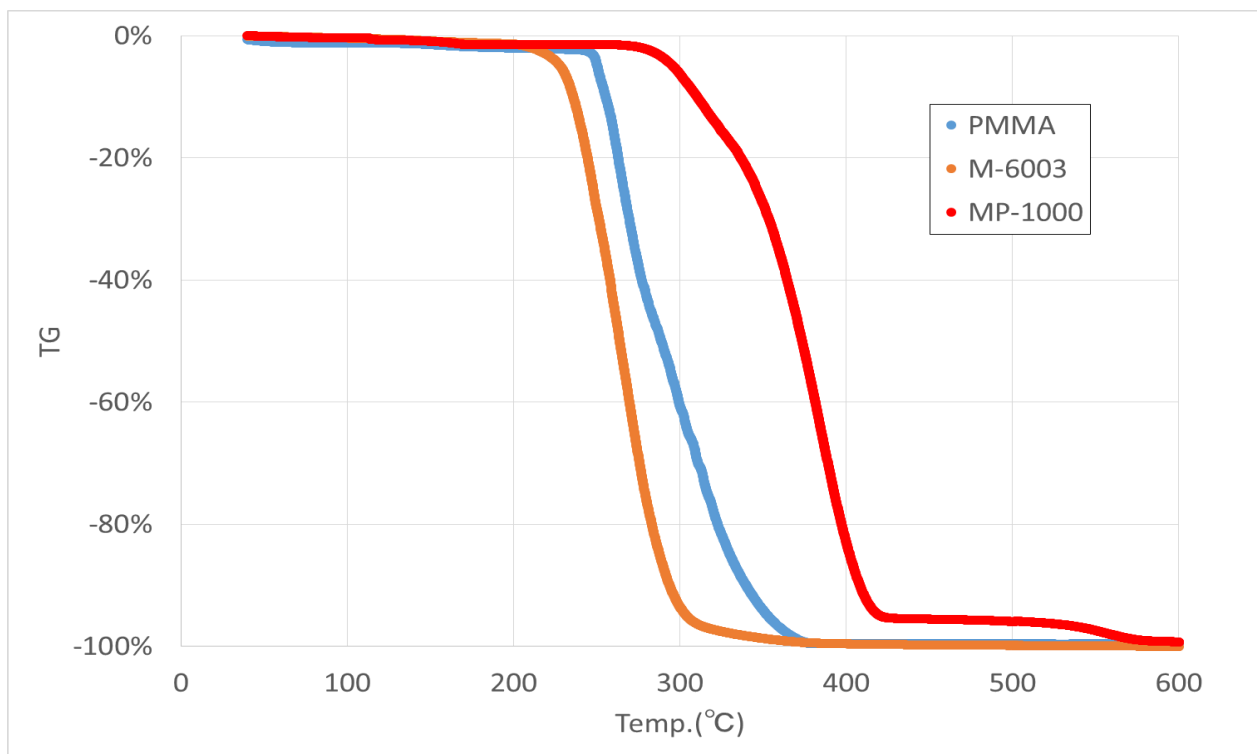
### 2-4 MP-1000

Product name	MP-1000
Appearance	Light brown beads type
Tg(°C)	129
Mw	130,000
Functional group	None

Features: High heat resistance

Applications: Paints that require heat resistance, etc.

# Pyrolysis curve



Product name	PMMA	M-6003	MP-1000
5% decomposition temp. (°C)	250	228	296
50% decomposition temp. (°C)	289	263	375
95% decomposition temp. (°C)	353	304	563



### 3. Chemical Inventories

Hi-pearl	JAPAN	TSCA	CHINA	TAIWAN	KOREA
M-4006	○	○	○	○	○
M-4501	○	○	○	○	○
M-5000	○	○	○	○	○
MA-4620	○	×	○	○	○
M-6003	○	○	○	○	○
MP-1000	○	×	○	○	×