

# Polyurethane Beads for Cosmetics

## ▶ Application

Raw materials for cosmetics, such as powder foundation and antiperspirant

## ▶ Characteristics

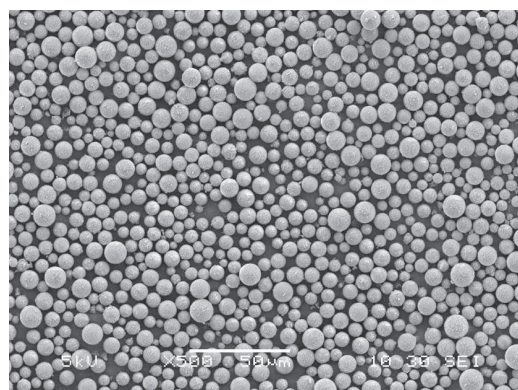
- Non-yellowing spherical cross-linked polyurethane beads
- Functional materials, capable of controlling polyurethane resin composition and particle size (from several  $\mu\text{m}$  to several tens of  $\mu\text{m}$ ) with our original synthesis technology
- Capable of controlling shore hardness (between A50 and A100 according to JIS) because of our molecular design offering great flexibility/elasticity
- Excellent in mechanical strength/rubber elasticity/flex-resistance/cold-resistance/abrasion-resistance/oil-resistance because of cross-linked polyurethane particles; also excellent in heat-resistance/light-fastness because of non-yellowing polyurethane
- Expected effects as cosmetic application :
  - (1) Pliability (soft touch feeling similar to human skin)
  - (2) Hiding of wrinkles/pores; excellent rollability of beads on skin (spreadability/slipperiness)
  - (3) Skin transparency (refractive index=1.49), soft-matte finish (natural look)
  - (4) Excellent absorptivity of sebum (oleic acid)

## ▶ Representative Products

Produce name item	Average particle size ( $\mu\text{m}$ )	Circularity	True specific gravity ( $\text{g}/\text{cm}^3$ )	Bulk specific gravity ( $\text{g}/\text{ml}$ )	Non-volatile component (%)	Melting point ( $^{\circ}\text{C}$ )	Degree of hardness (JIS-A)	Dynamic friction coefficient ( $\mu$ )
UCN-8070CM Clear	7	0.96	1.15	0.40	99 $\leq$	250 $\leq$	74	0.50 $\leq$
UCN-8150CM Clear	15	0.96	1.15	0.48	99 $\leq$	250 $\leq$	74	0.36
Measuring method	Laser diffraction	Particle shape analysis	JIS K7112	JIS K6720	Infrared moisture meter	Thermomechanical analysis	JIS K7215	Surface friction testing equipment

## ▶ Evaluation Results

### Electron micrographs



UCN-8070CM Clear

50  $\mu\text{m}$

### Particle size distribution curve

