

# PP Balls

**Formula:** PP

**Product Shape:** Hollow

**Diameter:** 19.05mm

**Quantity:** 100 Pcs

**Type:** Precision Sphere

**Colour:** Natural

**CAS Number:** 9003-07-0

**UOM Code:** 001-075-03

**SKU:** 1000000144-group

**Product Code:** PP30-SP-000180

## Material Properties for Polymers

### Chemical Resistance

| Element                  | Value     |
|--------------------------|-----------|
| Acids - concentrated     | Good-Fair |
| Acids - dilute           | Good-Fair |
| Alcohols                 | Good      |
| Alkalis                  | Good      |
| Aromatic hydrocarbons    | Fair      |
| Greases and Oils         | Good-Fair |
| Halogenated Hydrocarbons | Good-Poor |
| Halogens                 | Poor      |
| Ketones                  | Good      |

### Mechanical Properties

| Element  | Value                          |
|--|--------------------------------|
| Coefficient of friction                            | 0.1-0.3                        |
| Hardness - Rockwell                                | R80-100                        |
| Elongation at break( % )                           | 150-300, for biax film >50     |
| Tensile modulus( GPa )                             | 0.9-1.5, for biax film 2.2-4.2 |
| Izod impact strength( J m <sup>2</sup> )           | 20-100                         |
| Abrasive resistance - ASTM D1044( mg/1000 cycles ) | 13-16                          |
| Tensile strength( MPa )                            | 25-40, for biax film 130-300,  |

## Electrical Properties

| Element                                    | Value                              |
|--|------------------------------------|
| Dielectric constant @ 1MHz                 | 2.2-2.6                            |
| Dissipation factor @ 1MHz                  | 0.0003-0.0005                      |
| Dielectric strength( kV mm <sup>-1</sup> ) | 30-40                              |
| Surface resistivity( Ohm/sq )              | 10 <sup>13</sup>                   |
| Volume resistivity( Ohmcm )                | 10 <sup>12</sup> -10 <sup>14</sup> |

## Physical Properties

| Element                             | Value |
|-------------------------------------|-------|
| Flammability                        | HB    |
| Radiation resistance                | Fair  |
| Refractive index                    | 1.49  |
| Resistance to Ultra-violet          | Poor  |
| Limiting oxygen index( % )          | 18    |
| Water absorption - equilibrium( % ) | 0.03  |
| Density( gcm <sup>-3</sup> )        | 0.9   |

## Thermal Properties

| Element   | Value         |
|---|---------------|
| Heat-deflection temperature - 0.45MPa( C )                            | 100-105       |
| Heat-deflection temperature - 1.8MPa( C )                             | 60-65         |
| Lower working temperature( C )  | 50            |
| Upper working temperature( C )  | 90-120        |
| Specific heat( J K <sup>-1</sup> kg <sup>-1</sup> )                   | 1700-1900     |
| Thermal conductivity( W m <sup>-1</sup> K <sup>-1</sup> )             | 0.1-0.22@23°C |
| Coefficient of thermal expansion( x10 <sup>-4</sup> K <sup>-1</sup> ) | 100-180       |