

# Datenblatt | Data sheet

## Plastic ball HDPE

Very light material balls, they are available in three versions (high/low density and ultra high molecular weight). High density polyethylene presents best mechanical characteristics. They provide good wear and abrasion resistance. Excellent corrosion resistance and resistance to radiations, they are electric insulators.

### Field of application

Anti evaporation and anti smell devices, they are useful for floating applications. Used in electronic, pharmaceutical and medical industry.

### Corrosion resistance

Excellent corrosion resistance in contact with acids, alcohols, basis, esters, petrol, greases and oils. Fairish resistance to aliphatic and aromatic hydrocarbons, mineral oils, oxidizing agents. They are not resisting in contact with halogenated hydrocarbons.

### Material

| Technical name            | Alternative Name          | Abbreviation |
|---------------------------|---------------------------|--------------|
| High Density Polyethylene | High Density Polyethylene | HDPE         |

### Physical / mechanical / thermal / electrical / magnetic characteristics

| Characteristic                          | Symbol    | Unit                 | Type       | Note                       | Value              |
|---|-----------|----------------------|------------|----------------------------|--------------------|
| Density                                 | $\delta$  | g/cm <sup>3</sup>    | Physical   | Ambient temperature        | 0,97               |
| Modulus of Elasticity                   | E         | MPa                  | Mechanical |                            | 950                |
| Friction coefficient                    | $\mu$     | -                    | Mechanical | Ambient temperature        | 0,30               |
| Specific heat                           | C         | J/kg*K               | Thermal    | Ambient temperature        | 0,10               |
| Coefficient of linear thermal expansion | $\alpha$  | 10 <sup>-5</sup> /°C | Thermal    | ( $\Delta T = 0 - 100$ °C) | 126                |
| Thermal conductivity                    | $\lambda$ | W/(m*K)              | Thermal    | Ambient temperature        | 0,46               |
| Volume resistivity                      | $\rho$    | $\Omega$ *m          | Electrical | -                          | > 10 <sup>13</sup> |
| Relative magnetic permeability          | $\mu$     | -                    | Magnetical | Diamagnetic                | <~1                |

### Technical characteristics

| Characteristic                  | Type       | Unit    | Value    | Unit                | Value     |
|---------------------------------|------------|---------|----------|---------------------|-----------|
| Hardness                        | Mechanical | Shore D | 60 - 73  | -                   | -         |
| Yield point load in compression | Mechanical | MPa     | 20 - 32  | psi*10 <sup>3</sup> | 2,9 - 4,6 |
| Operating temperature           | Thermal    | °C      | -30 - 70 | ° F                 | -22 - 158 |

### Available with

| Diameter min/max (mm) | Diameter min/max (in) | Precision grade       |
|-----------------------|-----------------------|-----------------------|
| 1,500 - 100,000       | 1/16 - 4              | 0 / I / II / III / IV |