



**High Density Polyethylene - HDPE (HD300)**

HDPE is widely used in automotive, leisure and industrial applications. HDPE has excellent impact strength, even at temperatures as low as -30°C. Coupled with low coefficient of friction and ease of fabrication.

**Technical Specification**

|  | Test method | Units                              | HDPE (HD300)      |
|--|-------------|------------------------------------|-------------------|
| <b>Physical Properties</b>   |             |                                    |                   |
| Specific gravity (p)   | DIN 53479   | g/cm <sup>3</sup>                  | 0.95              |
| Water absorption   | DIN 53495   | %                                  | 0.01              |
| Chemical Resistance  | DIN 53476   | -                                  | DIN 8075          |
| Max. permissible service temperature (no stronger mech. stress involved) |             |                                    |                   |
| upper temperature limit  | -           | °C                                 | 90                |
| lower temperature limit  | -           | °C                                 | -30               |
| <b>Mechanical Properties</b>   |             |                                    |                   |
| Tensile stress at yield  | DIN 53455   | MPa                                | 23                |
| Elongation at yield  | DIN 53455   | %                                  | 8                 |
| Tensile strength at break  | DIN 53455   | MPa                                | 32                |
| Elongation at break  | DIN 53455   | %                                  | >50               |
| Impact strength  | DIN 53453   | kJ/m <sup>2</sup>                  | o.B.              |
| Notch impact strength  | DIN 53453   | kJ/m <sup>2</sup>                  | o.B.              |
| Ball indentation hardn. / Rockwell                                       |             |                                    |                   |
|  | DIN 53456   | MPa                                | 40                |
| Modulus of elasticity  | DIN 53457   | MPa                                | 700               |
| <b>Thermal Properties</b>  |             |                                    |                   |
| Vicat softening temp. VST/B/50   | DIN 53460   | °C                                 | 76                |
| VST/A/50 °C  |             |                                    |                   |
| Heat deflection temperature HDT/B  | DIN 53461   | °C                                 | 70                |
| HDT/A °C   |             |                                    |                   |
| Coef. of linear therm. expansion   | DIN 53752   | k <sup>-1</sup> x 10 <sup>-4</sup> | 2                 |
| Thermal conductivity at 20 °C  | DIN 52612   | W / (m*k)                          | 0.41              |
| <b>Electrical Properties</b>   |             |                                    |                   |
| Volume resistivity   | DIN 53482   | Ω x cm                             | >10 <sup>15</sup> |
| Surface resistivity  | DIN 53482   | Ω                                  | >10 <sup>16</sup> |
| Dielectric constant at 1 MHZ   | DIN 53483   |                                    | 2.3               |
| Dielectric loss factor at 1 MHZ  | DIN 53483   |                                    | 0.0002            |
| Dielectric strength  | DIN 53481   | kV/mm                              | >70               |
| Tracking resistance  | DIN 53480   |                                    | KB>600            |

The data are typical values and are not intended to represent specifications. Their aim is to guide the user towards a material choice. All statements, technical information and recommendation in this product data sheet are presented in good faith, based upon test believed to be reliable and practical experience. However, Bay Plastics Ltd cannot guarantee the accuracy or completeness of this information, and, it is the buyer responsibility to determine the suitability of products in any given application. Therefore no liability whatsoever shall attach to Bay Plastics Ltd for any infringement of the rights owned or controlled by a third party in intellectual, industrial or other property by reason of application, processing or use of the aforementioned information or products by the buyer.