# Data sheet **for thermoplastics_**

# *in general*

| | | Low density Polyethylene LDPE | High density Polyethylene HDPE | Polypropylene PP | PVC rigid | Co-Polyester PETG | Polyamide | Polycarbonate |
|---|---|---|---|---|---|---|---|---|
| Physical properties of thermo-plastics | natural colour | transparent | translucent white | transparent | crystal clear | crystal clear | up to 0.5 mm wall thickness crystal clear | crystal clear |
| | state at 20 °C | flexible | flexible/rigid | flexible/rigid | brittle/ impact resistant | brittle/ impact resistant | flexible/tough vulnerable to folding | glasklar |
| | specific weight at 20 °C | approx. 0.92 | approx. 0.95 | approx. 0.905 | approx. 1.38 | approx. 1.25 | approx. 1.12 | approx. 1.2 |
| | shore hardness 20 °C | approx. 40 | approx. 50 | approx. 65 | approx. 80 | approx. 65 | approx. 50 | approx. 80 |
| | tear strength at 20 °C | approx. 10 N/mm² | approx. 20N/mm² | approx. 30 N/mm² | approx. 50 N/mm² | approx. 50 N/mm² | approx. 45 N/mm² | approx. 60 N/mm² |
| | elongation at 20 °C | approx. 500 % | approx. 500 % | approx. 650 % | approx. 30 % | approx. 15 % | approx. 200 % | approx. 100% |
| | water absorption | Traces | Traces | Traces | Traces | Traces | high | Traces |
| | diffusion | Hydrocarbons | Hydrocarbons | Hydrocarbons | Hydrocarbons | Hydrocarbons | water, Hydrocarbons | water, Hydrocarbons |
| | This information only provides a general indication. | | | | | | | |
| Chemical properties of thermo plastics | resistant against | non oxidising alkalis, organic solvents, excl. chlorinated hydrocarbons; it is advisable to carry out storage tests for testing diffusion | | see LDPE/ HPDE | acids, alkalis, petrol, oil, fats, turpentine, alcohol | petrol, oils, fats, turpentine | petrol, benzene, chlorinated hydrocarbons, oils, fats | weak acids |
| | not resistant against | oxidising acids, oils, fats, chlorinated hydrocarbons | oxidising acids, chlorinated hydrocarbons | oxidising acids, oils, fats, chlorinated hydrocarbons | esters, ketone, benzene, chlorinated hydrocarbons, hydrogene sulphide | esters, keto-ne, benzene, chlorinated hydrocarbons | acids, alkalis, alcohol, water | alkalis, strong acids, esterbenzene, chlorinated hydrocarbons |
| | This information only provides a general indication. | | | | | | | |
| Applications | container size | 0.001 to 1.000 l | 0.001 to 3.000 l | 0.01 to 120 l | 0.01 to 5 l | 0.01 to 1 l | 0.01 to 60 l | 0.01 to 30 l |
| | type of contents | cosmetic preparations, foodstuffs and chemicals | see LDPE, aromatic hydrocarbons, oils, fats | cosmetic preparations, foodstuffs and chemicals | wash polish, petrol, oils, fats, shoe cream, cosmetic preparations, foodstuffs | cosmetic preparations, foodstuffs | petrol, oils, fats, stain remover (tri, tetra) | cosmetic preparations, foodstuffs |
| | trans-formation of contents | none caused by the material itself, possibly due to diffusion | | | - | - | drying out without becoming moist due to diffusion of water | none caused by material itself, possibly due to diffusion |
| | printing-options | Screen printing | Screen printing | Screen printing | Screen printing | Screen printing | Screen printing | Screen printing |
| | engraving suitability | good | good | very good | vulnerable to cracking around sharp edges | vulnerable to cracking around sharp edges | vulnerable to cracking around sharp edges | vulnerable to cracking around sharp edges |
| | operational temperature | -40 °C to 95 °C | -40 °C to 110 °C | 0 °C to 130 °C | -30 °C to 70 °C | 0 °C to 65 °C | 0 °C to 80 °C | -40 °C to 115 °C |