

HDPE Natural

PE300/PE-HWST

(High Density Polyethylene)

Colour: Natural

Density: 0.947g/cm³

Material Data Sheet

| Mechanical Properties | Value | Unit | DIN/EN/ISO |
|--|-----------|-------------------|------------|
| Tensile strength at yield | 25 | MPa | 527/D638 |
| Elongation at yield | 9 | % | 527 |
| Modulus of elasticity in tension | 1000 | MPa | 527/D638 |
| Modulus of elasticity in flexure | 1000-1400 | MPa | 178/D790 |
| Impact strength | No br. | kJ/m ² | 179/D256 |
| Creep rupture strength after 1000hrs with static load | 12.5 | MPa | - |
| Time yield limit for 1% elongation after 1000hrs | 3 | MPa | - |
| Coefficient of friction against hardened and ground steel P= 0.05 N/mm ² , v= 0.6m/s | 0.29 | - | - |
| Ball indentation hardness | 43 | MPa | 2039-1 |
| Shore hardness D | 64 | - | 868 |

| Thermal Properties | Value | Unit | DIN/EN/ISO |
|-------------------------------------|-----------|--------------------|------------|
| Glass transition temperature | -95 | °C | 53736 |
| Crystalline melting point | 130 | °C | 53736 |
| Service temperature (short term) | 90 | °C | - |
| Service temperature (long term) | 80 | °C | - |
| Coefficient of thermal expansion | 13-15 | 10 ⁻⁵ K | 53483/D696 |
| Specific heat | 1.7-2 | J/(g*K) | - |
| Coefficient of thermal conductivity | 0.35-0.43 | W/(K*m) | - |

| Electrical properties | Value | Unit | DIN/IEC |
|-----------------------|------------------|-------|---------|
| Surface resistivity | 10 ¹⁴ | Ohm | 60093 |
| Dielectric strength | 50 | kV/mm | 60243-1 |

| Other properties | Value | Unit | DIN/EN/ISO/IEC |
|---------------------------------------|-----------|------|----------------|
| Water absorption @ saturation @ 23°C | <0.05 | % | 62 |
| Resistance to hot water, washing soda | Resistant | - | - |
| Resistance to weathering | No | - | - |
| Flammability (UL94) | HB | - | - |



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The following information corresponds with our current knowledge and indicates our products and possible applications. We cannot give a legally binding guarantee of certain properties or the suitability for a specific application. Existing commercial patents must be observed. A definitive quality guarantee is given in our general conditions of sales.

Unless otherwise stated, these values represent averages taken from injection moulding samples.

We reserve the right of technical alterations.

HDPE Black

PE300/PE-HWU

(High Density Polyethylene)

Colour: Black

Density: 0.955g/cm³

Material Data Sheet

| Mechanical Properties | Value | Unit | DIN/EN/ISO |
|--|-----------|-------------------|------------|
| Tensile strength at yield | 25 | MPa | 527/D638 |
| Elongation at yield | 9 | % | 527 |
| Modulus of elasticity in tension | 1000 | MPa | 527/D638 |
| Modulus of elasticity in flexure | 1000-1400 | MPa | 178/D790 |
| Impact strength | No br. | kJ/m ² | 179/D256 |
| Creep rupture strength after 1000hrs with static load | 12.5 | MPa | - |
| Time yield limit for 1% elongation after 1000hrs | 3 | MPa | - |
| Coefficient of friction against hardened and ground steel P= 0.05 N/mm ² , v= 0.6m/s | 0.29 | - | - |
| Ball indentation hardness | 50 | MPa | 2039-1 |
| Shore hardness D | 64 | - | 868 |

| Thermal Properties | Value | Unit | DIN/EN/ISO |
|-------------------------------------|-----------|--------------------|------------|
| Glass transition temperature | -95 | °C | 53736 |
| Crystalline melting point | 130 | °C | 53736 |
| Service temperature (short term) | 90 | °C | - |
| Service temperature (long term) | 80 | °C | - |
| Coefficient of thermal expansion | 13-15 | 10 ⁻⁵ K | 53483/D696 |
| Specific heat | 1.7-2 | J/(g*K) | - |
| Coefficient of thermal conductivity | 0.35-0.43 | W/(K*m) | - |

| Electrical properties | Value | Unit | DIN/IEC |
|-----------------------|------------------|-------|---------|
| Surface resistivity | 10 ¹⁴ | Ohm | 60093 |
| Dielectric strength | 47 | kV/mm | 60243-1 |

| Other properties | Value | Unit | DIN/EN/ISO/IEC |
|---------------------------------------|-----------|------|----------------|
| Water absorption @ saturation @ 23°C | <0.05 | % | 62 |
| Resistance to hot water, washing soda | Resistant | - | - |
| Resistance to weathering | Resistant | - | - |
| Flammability (UL94) | HB | - | - |



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