

HabiPLAST™ Material Data Sheet

PE40 for tracks and machined parts



Material description

- Low friction Ultra High Molecular Weight Polyethylene (PE-UHMW)
- Good damping properties
- Good impact resistance
- Resistant against cleaning agents typically used in food applications
- Not resistant against UV-Light

| コード | Property |
|-----------|----------|
| PE40-W+FG | |

Material properties

| General | Nominal value |
|--------------------------------------|---------------------------|
| Code | PE40-W+FG |
| Color | natural white |
| Density | 0.93 g/cm ³ |
| Average molecular weight | 5 • 10 ⁶ g/mol |
| Water absorption | <0.01 % |
| Thermal | Nominal value |
| Temperature range | -70°C to +65°C |
| Coeff. of linear thermal expansion a | 0.20 mm/(m•K) |
| Electrical | Nominal value |
| Volume resistivity | >10 ¹² Ohm•cm |
| Surface resistivity | >10 ¹² Ohm |
| Mechanical | Nominal value |
| Tensile modulus | ~700 MPa |
| Tensile strength (yield) | ~18 Mpa |
| Tensile elongation (brake) | ≥200% |
| Charpy notched impact resistance | ≥170 mJ/mm ² |
| Ball hardness | ~38 MPa |

Coefficient of friction and wear rate

| Belt / Chain | Friction (-) ⁽¹⁾ | Wear rate ⁽²⁾ |
|------------------|-----------------------------|--------------------------|
| HabasitLINK® POM | 0.23 | B |
| HabasitLINK® PP | 0.23 | C |
| HabasitLINK® PA | 0.31 | A+ |
| HabaCHAIN® DP | 0.26 | B |
| HabaCHAIN® LF | 0.22 | C |
| HabaCHAIN® PT | 0.25 | B |
| HabaCHAIN® TS | 0.22 | C |
| HabaCHAIN® NG | 0.24 | A |
| Stainless Steel | 0.27 | A+ |

A++, Best performance
A+, Good performance
A, Standard combination
B, Acceptable but not recommended
C, Bad combination, do not use

⁽¹⁾ measured on a test conveyor with 1500 kg/m² load, speed range 5 – 15 m/min, test distance 800 km, standard conditions
⁽²⁾ evaluated from pin on disk test, total wear rate of pin and disk together, standard conditions

Habasit support for design and calculation

To assist the layout and calculation of Habasit plastic modular belt conveyors, Habasit provides additional documentation and instruments on request.

- Engineering Guide with further complementary details to the design and calculation of conveyors.
- Calculation Program to analyze the dimensioning and acting forces of a planned conveyor design.

For further information or additional documentation please contact Habasit.

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