

# HabiPLAST™ Material Data Sheet

## PE40+EC for tracks and machined parts



### Material description

- Low friction Ultra High Molecular Weight Polyethylene (PE-UHMW)
- Low electrical resistance, suitable for ESD protected areas (EPA)
- As support material for flame-retardant HabasitLINK belts, the burning behavior is classified as Cfl-S1 according to DIN EN 13501 (comparable to former DIN 4102 B1)
- Low wear rate with antistatic, conductive and or flame-retardant belts or chains
- Good damping properties
- Good impact resistance
- Good resistance against automotive fluids
- Good UV-Light resistance

### Material properties

General	Nominal value
Code	PE40-B+EC
Color	black
Density	0.93 g/cm <sup>3</sup>
Average molecular weight	5 • 10 <sup>6</sup> 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 <sup>4</sup> Ohm•cm
Surface resistivity	>10 <sup>4</sup> Ohm
Mechanical	Nominal value
Tensile modulus	~700 MPa
Tensile strength (ultimate)	~18 Mpa
Tensile elongation (brake)	≥200%
Charpy notched impact resistance	≥140 mJ/mm <sup>2</sup>
Ball hardness	~38 MPa

### Coefficient of friction and wear rate

Belt / Chain	Friction (-) <sup>(1)</sup>	Wear rate <sup>(2)</sup>
HabasitLINK® POM+AS	0.22	A++
HabasitLINK® POM+EC	0.24	A
HabasitLINK® PP+AS	0.25	A++
HabaCHAIN® PP+EC	0.21	A+
HabaCHAIN® PP+FR	0.27	A
HabaCHAIN® PP+FC	0.24	A+
HabaCHAIN® EC	0.24	A

A++, Best performance

A+, Good performance

A, Standard combination

B, Acceptable but not recommended

C, Bad combination, do not use

<sup>(1)</sup> measured on a test conveyor with 1500 kg/m<sup>2</sup> load, speed range 5 – 15 m/min, test distance 800 km, standard conditions

<sup>(2)</sup> evaluated from pin on disk test, total wear rate of pin and disk together, standard conditions

# HabiPLAST™ Material Data Sheet

## PE40+EC for tracks and machined parts



### **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.

### **Disclaimer**

#### **Product Application Disclaimer (valid for ALL Habasit products and mentioned on all PDS)**

This disclaimer is made by and on behalf of Habasit and its affiliated companies, directors, employees, agents and contractors (hereinafter collectively "HABASIT") with respect to the products referred to herein (the "Products"). SAFETY WARNINGS SHOULD BE READ CAREFULLY AND ANY RECOMMENDED SAFETY PRECAUTIONS BE FOLLOWED STRICTLY! Please refer to the Safety Warnings herein, in the Habasit catalogue as well as installation and operating manuals. All indications / information as to the application, use and performance of the Products are recommendations provided with due diligence and care, but no representations or warranties of any kind are made as to their completeness, accuracy or suitability for a particular purpose. The data provided herein are based on laboratory application with small-scale test equipment, running at standard conditions, and do not necessarily match product performance in industrial use. New knowledge and experience may lead to re-assessments and modifications within a short period of time and without prior notice.

EXCEPT AS EXPLICITLY WARRANTED BY HABASIT, WHICH WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, THE PRODUCTS ARE PROVIDED "AS IS". HABASIT DISCLAIMS ALL OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT, OR ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE, ALL OF WHICH ARE HEREBY EXCLUDED TO THE EXTENT ALLOWED BY APPLICABLE LAW. BECAUSE CONDITIONS OF USE IN INDUSTRIAL APPLICATION ARE OUTSIDE OF HABASIT'S CONTROL, HABASIT DOES NOT ASSUME ANY LIABILITY CONCERNING THE SUITABILITY AND PROCESS ABILITY OF THE PRODUCTS, INCLUDING INDICATIONS ON PROCESS RESULTS AND OUTPUT.