

**Platilon® U****Hochelastische Polyurethanfolien | *Highly Elastic Polyurethane Films*****Typical Properties**

Basic Material			Polyurethane (Ester)			Polyurethane (Ether)	
Grade			2102 A	4100 D	U04/PE	4201 AU	U073
Property	Standard/ Procedure	Unit					
Density <sup>**)</sup>	calculated	g/cm <sup>3</sup>	1,21	1,21	1,17	1,15	1,12
Softening range	TMA Onset –Endset internal method	°C	150-175	155-175	—	155-185	160 -200
Hardness <sup>**)</sup>	DIN 53505	Shore A	93	94	86	87	87
Tensile stress at break	DIN EN ISO 527	MPa	70 <sup>*)</sup>	70 <sup>*)</sup>	55 <sup>*)</sup>	60 <sup>*)</sup>	55 <sup>*)</sup>
Tensile stress at 50% strain	DIN EN ISO 527	MPa	6-9	7-10	6-7	5-7	6-7
Tensile strain at break	DIN EN ISO 527	%	450 <sup>*)</sup>	450 <sup>*)</sup>	650 <sup>*)</sup>	550 <sup>*)</sup>	650 <sup>*)</sup>
Tear propagation resistance	DIN ISO 34-1, B	kN/m	75 <sup>*)</sup>	75 <sup>*)</sup>	70 <sup>*)</sup>	50 <sup>*)</sup>	60 <sup>*)</sup>
UV-stability	empirical	-	o	o	o	x	o
Hydrolysis resistance	empirical	-	o	o	o	xx	xx
Microbial resistance	empirical	-	o	o	o	x	x
Weldability	empirical	-	xx	xx	x	xx	x
Thermoformability	empirical	-	xx	xx	x	xx	x
Carrier film (PE)			no	no	yes	no	yes

These data are provided as general information only. They are approximate values and not intended for use in preparing specifications! Please contact us before writing specifications on this product.

<sup>\*)</sup> Blown films may be differently orientated depending on film thickness. The a.m. values have been measured on 50 µm films averaged over a long period. The average values from single productions can vary up to 30% of the a.m. values subject to thickness, width and orientation.

abweichen

<sup>\*\*)</sup> Values for 50 µm-films are calculated considering the film receipts after information from raw material manufacturers

<sup>\*\*\*)</sup> Manufacturers' data for the base raw material, not measured on film

Comparative data:

xx = very suitable

x = suitable

o = conditional

**Film formats**

Thickness (mm)	0,025 - 1,000 (depending on film grade)
Width (mm)	1.000 – 2.500 (depending on film thickness)
Colours (standard)	natural, black, white (other colours upon request)

Our "General Conditions of Sale" also apply.

Release 2011/ 05

Our technical advice-whether verbal, in writing or by way of trials – is given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved, it does not release you from the obligation to test products supplied by us as to their suitability for the intended processes and uses. The application, use and processing of the products are beyond our control, and therefore, entirely your own responsibility.

Epurex Films GmbH & Co. KG | P.O. Box 1652 | 29656 Walsrode | Germany  
Fon +49 5161 44-3312 | Fax +49 5161 44-3314 | www.epurex.com

**epurex films**

A  Bayer MaterialScience Company

# Platilon® U

## Hochelastische Polyurethanfolien | *Highly Elastic Polyurethane Films*

### Product description

Platilon® U is the trade names for extruded thermoplastic Polyurethane (TPU) films made by Epurex Films.

The range currently includes the two basic types: Polyester TPU and Polyether TPU based on aromatic diisocyanates.

### Properties

Platilon® U films are noted for the following properties:

- high abrasion resistance
- flexibility over a wide temperature range
- high resistance to oils, greases and solvents
- good resistance to weather exposure
- good microbial and hydrolysis resistance for Polyether TPU's
- good resistance to high-energy radiation
- free of plasticiser
- good resistance to many liquids but still high water vapour permeability
- good adhesion to foams

### Applications

The wide range of properties of Platilon® U films is used in many different applications, such as the following:

- automotive industry:  
for the production of various interior trim parts e.g. headliners, door panels, seats, parcel shelves, sound insulation parts
- building industry:  
roof linings, pipe relining
- medical industry:  
colostomy bags, inflatable mattresses, mattress covers, therapy beds, wound dressings, extra corporal breastprosthesis
- industrial equipment:  
tank liners, air ducting, conveyor belts etc.
- sports and leisure industry:  
sportswear, football outer skins and bladders, air cushions in sports shoes etc.

### Processing

Platilon® U films can be:

- thermoformed
- welded by conventional methods
- heat laminated and flame-bonded
- glued
- printed
- back-foamed

Unsere anwendungstechnische Beratung in Wort, Schrift und durch Versuche erfolgt nach bestem Wissen, gilt jedoch nur als unverbindlicher Hinweis, auch in Bezug auf etwaige Schutzrechte Dritter und befreit Sie nicht von der eigenen Prüfung der von uns gelieferten Produkte auf ihre Eignung für die beabsichtigten Verfahren und Zwecke. Anwendung, Verwendung und Verarbeitung der Produkte erfolgen außerhalb unserer Kontrollmöglichkeiten und liegen daher ausschließlich in Ihrem Verantwortungsbereich.

## Liability clauses

---

### Sales products

This information and our technical advice - whether verbal, in writing or by way of trials - are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. Our advice does not release you from the obligation to verify the information currently provided - especially that contained in our safety data and technical information sheets- and to test our products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility. Our products are sold in accordance with the current version of our General Conditions of Sale and Delivery.

### Trial products „VPT“ and „LPT“

Products with the designation „VPT“ or „LPT“ are sold as trial stage or developmental stage products, respectively. Further information, including amended or supplementary data on hazards associated with its use, may be compiled in the future. For this reason no assurances are given as to type conformity, processability, long-term performance characteristics or other production or application parameters. Therefore, the purchaser/user uses the product entirely at his own risk without having been given any warranty or guarantee and agrees that the supplier shall not be liable for any damages, of whatever nature, arising out of such use.

Commercialization and continued supply of this material are not assured. Its supply may be discontinued at any time.

### Test specimens - Reference data

Unless specified to the contrary, the values given have been established on standardised test specimens at room temperature. The figures should be regarded as guide values only and not as binding minimum values. Kindly note that, under certain conditions, the properties can be affected to a considerable extent by the design of the mould/die, the processing conditions and the colouring.

### Medical

Epurex films products should not be used for long-term applications or with long-term contact with endogenous substances (body fluids).

### Responsibility of the manufacturer of the medical device

As regards the production conditions of the processor of our material which are not known to us, it is the responsibility of the processor to ascertain the suitability of our materials in the finished product in terms of directives and statutes to be observed.

### The suitability of our materials also depends on the ambient conditions (see below) for the finished product

Chemical compatibility, temperature, design of the medical article, method of sterilisation, internal stress within the finished article, and external stress all influence suitability, and are therefore the responsibility of the processor and the manufacturer of the finished product.

### Multiple-use of medical articles

Medical articles which are intended for single use and which were manufactured from our films are not suitable for multiple use. If the medical article was manufactured for multiple use, it is the responsibility of the manufacturer of the finished product to determine an appropriate number of times it may be used, by determining and evaluating the conditions of sterilisation and final use. Appropriate warnings and instructions must be given to the final user.

### Sterilisation

The use of various methods of sterilisation and the permitted number of sterilisation cycles for a medical article which is made from our materials depend on the design of the parts, the processing parameters, the sterilisation temperature and the chemical environment. Therefore the manufacturer must determine and evaluate the most suitable method of sterilisation (and if applicable the permitted number of sterilisation cycles) for each medical article. Appropriate instructions and warnings must be given to the final user.

### Singular tests

In order to demonstrate characteristic properties, data may be generated in special tests which were performed possibly only once. Such data are typically provided with the identification of the specific roll (lot) number. These data are not considered as general information, nor are they an indication of minimum values. They are not part of the product specifications.

### General conditions of sale

Our „General Conditions of Sale“ also apply.

### Technical advice

Our technical advice –whether verbal, in writing or by way of trials – is given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. It does not release you from the obligation to test products supplied by us as to their suitability for the intended processes and uses. The application, use, and processing of the products are beyond our control, and therefore, entirely your own responsibility.