



Product Information Platilon® U

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	calculated	g/cm ³	1,21 ¹⁾	1,21 ¹⁾	1,17 ¹⁾	1,15 ¹⁾	1,12 ¹⁾
Softening range	TMA Onset – Endset internal method	°C	150 - 175	155 - 175	—	155 - 185	160 - 200
Hardness	DIN 7619-1, DIN EN ISO 868 or ASTM D2240	Shore A	93 ²⁾	94 ²⁾	86 ²⁾	87 ²⁾	87 ²⁾
Tensile stress at break	DIN EN ISO 527	MPa	75 ³⁾	75 ³⁾	55 ³⁾	65 ³⁾	65 ³⁾
Tensile stress at 50% strain	DIN EN ISO 527	MPa	6 - 10	7 - 10	5 - 7	5 - 7	6 - 7
Tensile strain at break	DIN EN ISO 527	%	450 ³⁾	450 ³⁾	650 ³⁾	500 ³⁾	650 ³⁾
Tear propagation resistance	DIN ISO 34-1, B	kN/m	75 ³⁾	80 ³⁾	70 ³⁾	50 ³⁾	60 ³⁾
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.

- ¹⁾ Values for 50 µm films were calculated based on information by raw material suppliers and the film's composition.
- ²⁾ Based on data for the TPU resins provided by their suppliers and based on suppliers standard/procedure, not measured for film sample.
- ³⁾ Blown films may be orientated to a different degree depending on film thickness. The above mentioned values have been measured on 50 µm films and averaged over a long period. The average values from single productions can vary up to 30% subject to thickness, width and orientation.

Comparative data:

xx = excelent
x = good
o = limited

Film Formats

Thickness	(µm)	25 – 1000 (limitations depending on film grade and width)
Width	(mm)	1000 – 2500 (limitations depending on film grade and thickness)
Colours		natural, black, white (other colours upon request)

Our "General Conditions of Sale" also apply.

Product Description

Platilon® U is the trade name for extruded thermoplastic polyurethane (TPU) films made by Epurex Films. The range currently includes aromatic TPU based on polyester and polyether.

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 weathering resistance
- good microbial and hydrolysis resistance of polyether TPU
- good resistance to high-energy radiation
- free of plasticisers
- breathable: watertight, but high water vapour transmission rate
- good adhesion to foams, adhesives, inks and many substrates

Applications

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

- Automotive:
for the production of various interior trim parts e.g. headliners, door panels, seats, parcel shelves, sound insulation parts
- Building & Construction:
roof linings, pipe relining
- Medical:
colostomy bags, inflatable mattresses, anti-decubitus mattresses, wound dressings, extra corporal breast prosthesis
- Industrial:
tank liners, air ducting, conveyor belts etc.
- Sports and Leisure:
sportswear, football outer skins and bladders, air cushions of athletic shoes etc.

Processing

Platilon® U films are suitable for:

- thermoforming and deep drawing
- welding by all standard methods
- heat lamination and flame-bonding
- coating and bonding with adhesives
- printing
- back-foaming
- back injection moulding

The manner in which you use and the purpose to which you put and utilize our products, technical assistance and information (whether verbal, written or by way of production evaluations), including any suggested formulations and recommendations, are beyond our control. Therefore, it is imperative that you test our products, technical assistance, information and recommendations to determine to your own satisfaction whether our products, technical assistance and information are suitable for your intended uses and applications. This application-specific analysis must at least include testing to determine suitability from a technical as well as health, safety, and environmental standpoint. Such testing has not necessarily been done by Epurex Films GmbH & Co. KG.

Unless we otherwise agree in writing, all products are sold strictly pursuant to the terms of our standard conditions of sale which are available upon request. All information and technical assistance is given without warranty or guarantee and is subject to change without notice. It is expressly understood and agreed that you assume and hereby expressly release us from all liability, in tort, contract or otherwise, incurred in connection with the use of our products, technical assistance, and information. Any statement or recommendation not contained herein is unauthorized and shall not bind us. Nothing herein shall be construed as a recommendation to use any product in conflict with any claim of any patent relative to any material or its use. No license is implied or in fact granted under the claims of any patent.



Liability Clauses

General

The manner in which you use and the purpose to which you put and utilize our products, technical assistance and information (whether verbal, written or by way of production evaluations), including any suggested formulations and recommendations, are beyond our control. Therefore, it is imperative that you test our products, technical assistance, information and recommendations to determine to your own satisfaction whether our products, technical assistance and information are suitable for your intended uses and applications. This application-specific analysis must at least include testing to determine suitability from a technical as well as health, safety, and environmental standpoint. Such testing has not necessarily been done by Covestro.

Unless we otherwise agree in writing, all products are sold strictly pursuant to the terms of our standard conditions of sale which are available upon request. All information and technical assistance is given without warranty or guarantee and is subject to change without notice. It is expressly understood and agreed that you assume and hereby expressly release us from all liability, in tort, contract or otherwise, incurred in connection with the use of our products, technical assistance, and information. Any statement or recommendation not contained herein is unauthorized and shall not bind us. Nothing herein shall be construed as a recommendation to use any product in conflict with any claim of any patent relative to any material or its use. No license is implied or in fact granted under the claims of any patent.

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.

Typical value

These values are typical values only. Unless explicitly agreed in written form, they do not constitute a binding material specification or warranted values. Values may be affected by the design of the mold/die, the processing conditions and coloring/pigmentation of the product. Unless specified to the contrary, the property values given have been established on standardized test specimens at room temperature.

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

The customer must not use or resell Covestro products for the use and application in the food, medical or pharmaceutical sector, unless the respective products have explicitly been approved for the application in these sectors. If the intended use of the product is for the manufacture of a medical device or of intermediate products for medical devices, Covestro must be contacted in advance to provide its agreement to sell such product for such purpose. Nonetheless, any determination as to whether a product is appropriate for use in a medical device or intermediate products for medical devices, must be made solely by the purchaser of the product without relying upon any representations by Covestro. For more information on Covestro products in Medical Applications, please request from your sales

Epurex Films
GmbH & Co. KG
Bayershofer Weg 21
29699 Bomlitz
Germany

Telephone
+49 5161 704 3000
Fax
+49 5161 704 3022
E-Mail
films@covestro.com

Registered Office
Bomlitz
Amtsgericht Walsrode
HRA 1136

Personally Liable Partner
Epurex Films
Geschäftsführungs-GmbH

Sitz der Gesellschaft
Bomlitz
Amtsgericht Walsrode
HRB 5557

Managing Director
Thomas Kleßmann



support contact our Guidance document: GUIDANCE ON USE OF COVESTRO PRODUCTS IN A MEDICAL APPLICATION.

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.