

A person wearing a black wetsuit and a blue and yellow swim cap stands on a sandy beach at sunset. Their arms are outstretched horizontally, pointing towards the horizon. The person has a prosthetic leg on their right side. The background shows the ocean and a bright, low sun creating a silhouette effect.

# SIMONA

## SIMOLIFE

Product Range for Orthotics and Prosthetics

GLOBAL THERMOPLASTIC SOLUTIONS

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### Key – Fields of application



Trunk orthoses



Orthoses for upper extremities



Orthoses for lower extremities



Foot/leg prostheses



Hand/arm prostheses



## Global Thermoplastic Solutions – Welcome to SIMONA

**SIMONA is acknowledged as one of the leading producers and development partners in the field of thermoplastics. We are able to offer you best-in-class solutions tailored to your applications: in the chemical processing industry, in the water and energy supply sector as well as in the field of environmental technology, mobility, construction and agriculture. What is more, our operations span the globe.**

Our semi-finished products, piping systems and finished parts are designed to help meet key challenges of the future. A team of 1,300 SIMONA employees ensures that each application is matched up with the perfect material, while also being fully focused on developing superior solutions and providing the best possible technical support imaginable.

### SIMOLIFE – Plastics in service of health

Acknowledged for its consistently high quality, SIMONA has been a trusted partner to the orthopaedic technology sector for more than 35 years. The SIMOLIFE line of sheet materials represents the most extensive range of products tailored to the specific requirements of orthosis and prosthesis fabrication. Using certified raw materials, we manufacture premium-quality products that meet the highest standards applicable within the health care sector.





### Extensive product range

SIMONA boasts one of the world's largest portfolios of thermo-plastic products:

- Sheets
- Finished parts and profiles
- Welding rods
- Solid and hollow rods
- Pipes and fittings
- Valves

We use a wide selection of premium-quality materials to manufacture our products. Working in close cooperation with your team, we are also able to modify existing materials or develop entirely new solutions for the purpose of creating customised products that meet your specific requirements.

### Expert advice

As a customer, you always take centre stage: from project development and materials procurement through to production and onsite planning, we are committed to providing the very best professional advice and assistance. At the same time, we are inspired and spurred on by new technical challenges.

### Global distribution network

SIMONA operates production plants in Europe, America and Asia. Maintaining a global network of subsidiaries and distribution partners, we are renowned for providing a fast, flexible and reliable service.

### Compelling solutions

SIMONA City is designed to capture the spirit of diversity that infuses our portfolio of products. Discover SIMONA City!

 [www.simona-city.com](http://www.simona-city.com)

### Quality, environment, energy

Our integrated quality, environmental and energy management system forms the basis for continuous improvement in the quality of our products and processes, the sustainability of our environmental protection measures and our efforts to reduce our energy consumption and carbon footprint. It is fully compliant with DIN EN ISO 9001, DIN EN ISO 14001, DIN EN ISO 50001, Pressure Equipment Directive 97/23/EC Annex I Paragraph 4.3 and ISO/TS 16949.



## SIMOLIFE – Diversity of materials

Thermoplastics have been instrumental in the evolution of modern-day orthopaedic technology and are now an integral part of this area of application. Today, they have almost completely replaced classic materials such as wood and leather.

The range of plastics to choose from is extensive, with polyethylene, polypropylene, ethylene-vinyl acetate, copolyester, etc. being used as compact sheet materials.

Specially developed for the field of orthopaedic technology, the SIMOLIFE line includes a range of products that is virtually all-embracing.

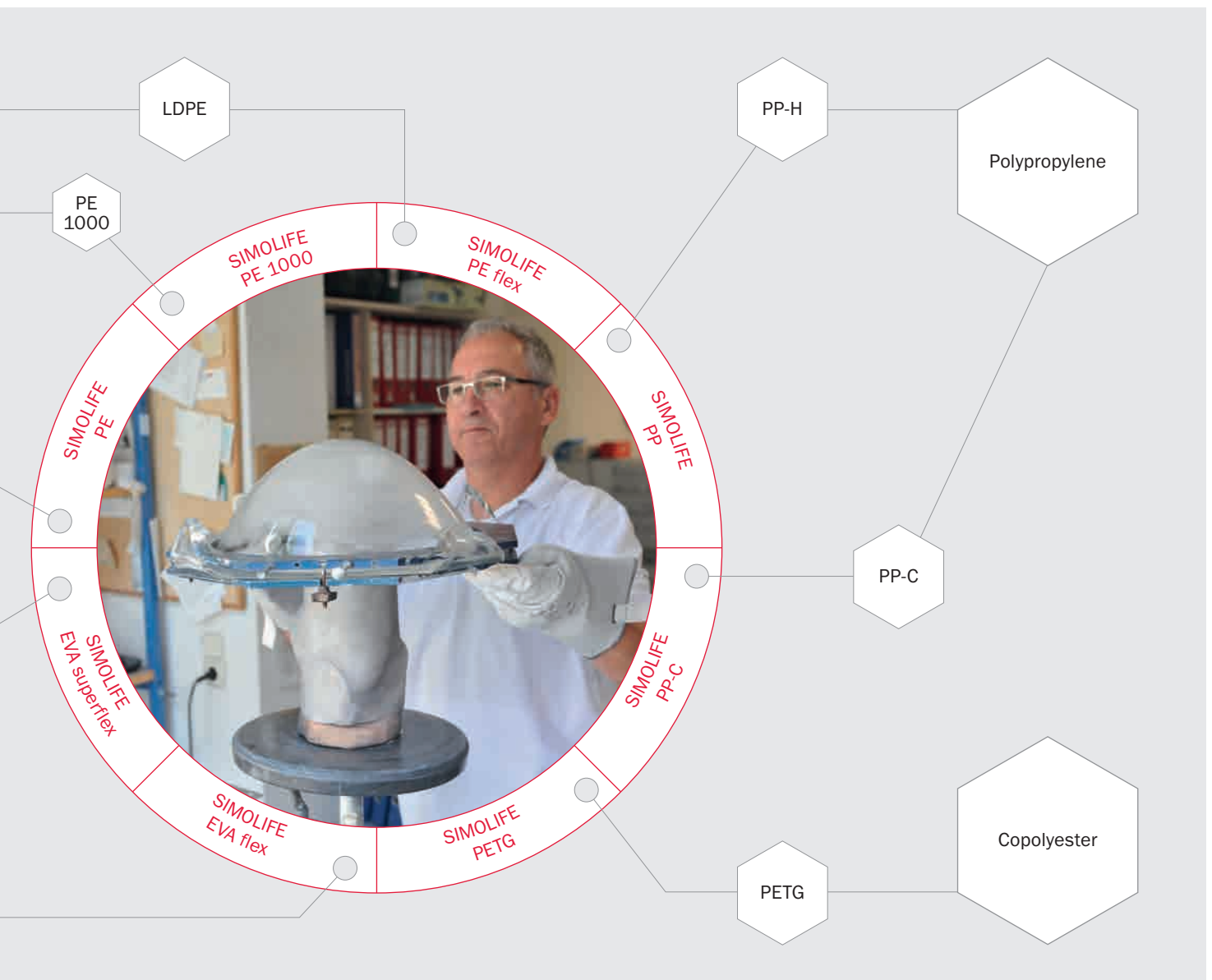
The various types of polymer used within this area display different characteristics. Thus, the demands of orthopaedic technicians with regard to specific production methods can be met in full, as can the personal requirements of each patient.

Plastics are generally acknowledged for their lightweight, skin-friendly properties, as well as offering the benefit of long-lasting functionality. Thanks to the high dimensional stability and efficient processability of the sheet materials, orthopaedic technicians can create orthoses and prostheses that are perfectly adapted to the patient's anatomy.

Each type of plastic offers specific benefits within its defined fields of application.

### From polymer category to product range





## SIMOLIFE –

### The right material for each application

	Diagnosis/test sockets	Final prosthetic sockets	Flexible interior prosthetic sockets
			
<b>SIMOLIFE PE</b>		✓	
<b>SIMOLIFE PE 1000</b>			
<b>SIMOLIFE PE flex</b>			✓
<b>SIMOLIFE PP</b>		✓	
<b>SIMOLIFE PP-C</b>		✓	
<b>SIMOLIFE PETG</b>	✓		
<b>SIMOLIFE EVA</b>			✓

Foot/leg orthoses (AFO, DAFO, KAFO)	Functional foot orthoses (FFO)	Hand/arm orthoses	Corsets
			
✓	✓	✓	✓
✓	✓		
✓	✓	✓	✓
✓	✓		✓
✓	✓	✓	✓
	✓		

## SIMOLIFE – Your benefits at a glance

### + Many years of experience

Acknowledged for the consistently high quality of its products, SIMONA has been a trusted partner to the orthopaedic technology sector for more than 35 years. Frequent product audits and endurance testing provide essential data for our R&D engineers to make targeted improvements to the SIMONA portfolio on a continual basis. Committed to excellence, we are thus able to offer an innovative, high-quality product range.

### + Highest quality standards

We only use certified raw materials of the highest quality for the manufacture of SIMOLIFE products. The purity of these raw materials is safeguarded by stringent incoming goods inspections. Continuous quality monitoring during the production process and low-stress sheet extrusion help to guarantee consistent material properties for subsequent use in your field of application.

### + Excellent processing characteristics

SIMOLIFE products have excellent thermoforming properties. With the help of advanced process engineering, we have reduced the level of material shrinkage to a minimum – a tangible benefit particularly in the field of orthopaedic technology. This translates into excellent dimensional stability and best possible fit.

### + Very good skin compatibility


On request, selected SIMOLIFE materials can be supplied with antimicrobial properties. This permanently reduces the propagation of microorganisms, such as bacteria and yeasts, thus preventing odours and discolouration to the material. What is more, SIMOLIFE products with antimicrobial properties do not contain silver.

All SIMOLIFE products are physiologically safe in accordance with BfR as well as being FDA food compliant. In addition, products within the standard portfolio are certified as biocompatible in accordance with DIN EN ISO 10993-5/-10. As a result of these properties and the resistance to sweat, cosmetics, skin creams, detergents and disinfectants, they offer users the combined benefits of safety and reliability.





**+ Extensive product range**

		<b>SIMOLIFE PE</b>	<b>SIMOLIFE PE 1000</b>	<b>SIMOLIFE PE flex</b>	<b>SIMOLIFE PP</b>	<b>SIMOLIFE PP-C</b>	<b>SIMOLIFE PETG</b>	<b>SIMOLIFE EVA flex</b>	<b>SIMOLIFE EVA superflex</b>
<b>Sheets</b> (sizes/thicknesses in mm)									
	400 x 400						9, 10, <b>12</b> , <b>15</b> , <b>20</b>	6, 8, 9, <b>10</b> , <b>12</b> , <b>15</b>	6, 9, <b>10</b> , <b>12</b> , <b>15</b>
	1,208 x 804						8, 9, 10, 12, 15, 20		
	2,000 x 1,000	<b>2, 3, 4, 5, 6, 8, 10, 12, 15</b>	<b>1, 2, 3, 4, 5, 6</b>	<b>1, 1.5, 2, 3, 4, 4.5, 5, 6</b>	<b>2, 3, 4, 5, 6, 8, 10, 12, 15</b>	<b>2, 3, 4, 5, 6</b>		3, 4, 6, 8, 9, 10, 12, 15	
	50,000 x 1,000			1, 1.5, 2					
	Colours	natural, skin-coloured	natural, green	natural, skin-coloured	natural	natural	transparent	natural, skin-coloured	natural
	Antimicrobial properties* on request	✓	-	-	✓	-	✓	✓	-

\* Effect against bacteria (= antibacterial) as well as against other microorganisms, e.g. fungi and algae.

**Bold type** = available immediately (colour: natural or transparent); light-faced type = available on request

The sizes specified are standard sizes. Other sizes, thicknesses and colours available on request.



# SIMOLIFE PE



## SIMOLIFE PE

Fields of application	Description	Properties	Certifications
	Polyethylene (HDPE)	Superior to LDPE in rigidity and strength	Biocompatibility in accordance with DIN EN ISO 10993-5 and DIN EN ISO 10993-10
		Minimal shrinkage, optimized for O&P	
		Resistant to sweat, cosmetics, skin creams, detergents and disinfectants	Physiological safety in accordance with BfR and food conformity in accordance with FDA

## Material specifications

Density, g/cm <sup>3</sup> , DIN EN ISO 1183	0.94
Tensile modulus of elasticity, MPa, DIN EN ISO 527	900
Shore hardness D (15 s), DIN EN ISO 868	64
Processing temperature (oven temperature), °C *	165 – 180
Heat-up time (retention time in oven), min/mm sheet thickness *	2 – 3

\* The actual parameters can vary depending on the type and condition of the oven as well as the sheet thickness. Therefore, all figures presented here are for orientation purposes only. The warm-up time in convection ovens tends to be longer than in infrared ovens. The exact parameters will have to be determined by the user.

## Product range

Sizes in mm	Thicknesses in mm	Colours	Antimicrobial properties* on request
2,000 x 1,000	<b>2, 3, 4, 5, 6, 8, 10, 12, 15</b>	natural	✓
2,000 x 1,000	2, 3, 4, 5, 6	skin-coloured	✓

\* Effect against bacteria (= antibacterial) as well as against other microorganisms, e.g. fungi and algae.

**Bold type** = available immediately; light-faced type = available on request  
The sizes specified are standard sizes. Other sizes, thicknesses and colours available on request.

# SIMOLIFE PE 1000



## SIMOLIFE PE 1000

Fields of application	Description	Properties	Certifications
	Ultra-high-molecular-weight polyethylene (PE-UHMW)	High abrasion and wear resistance	Biocompatibility in accordance with DIN EN ISO 10993-5 and DIN EN ISO 10993-10
		High impact strength	
		Resistant to sweat, cosmetics, skin creams, detergents and disinfectants	Physiological safety in accordance with BfR and food conformity in accordance with FDA

## Material specifications

Density, g/cm <sup>3</sup> , DIN EN ISO 1183	0.93
Tensile modulus of elasticity, MPa, DIN EN ISO 527	700
Shore hardness D (15 s), DIN EN ISO 868	60
Processing temperature (oven temperature), °C *	190 – 215
Heat-up time (retention time in oven), min/mm sheet thickness *	3 – 4

\* The actual parameters can vary depending on the type and condition of the oven as well as the sheet thickness. Therefore, all figures presented here are for orientation purposes only. The warm-up time in convection ovens tends to be longer than in infrared ovens. The exact parameters will have to be determined by the user.

## Product range

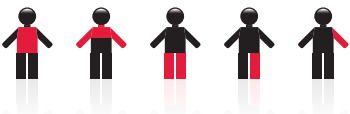
Sizes in mm	Thicknesses in mm	Colours
2,000 x 1,000	<b>1, 2, 3, 4, 5, 6</b>	natural
2,000 x 1,000	<b>1, 2, 3, 4, 5, 6</b>	green

**Bold type** = available immediately; light-faced type = available on request  
The sizes specified are standard sizes. Other sizes, thicknesses and colours available on request.

# SIMOLIFE PE flex



## SIMOLIFE PE flex

Fields of application	Description	Properties	Certifications
	Polyethylene (LDPE)	Lower rigidity and strength than HDPE	Biocompatibility in accordance with DIN EN ISO 10993-5 and DIN EN ISO 10993-10
		High flexibility	
		Resistant to sweat, cosmetics, skin creams, detergents and disinfectants	Physiological safety in accordance with BfR and food conformity in accordance with FDA

## Material specifications

Density, g/cm³, DIN EN ISO 1183	0.92
Tensile modulus of elasticity, MPa, DIN EN ISO 527	350
Shore hardness D (15 s), DIN EN ISO 868	54
Processing temperature (oven temperature), °C *	120 – 130
Heat-up time (retention time in oven), min/mm sheet thickness *	2 – 3

\* The actual parameters can vary depending on the type and condition of the oven as well as the sheet thickness. Therefore, all figures presented here are for orientation purposes only. The warm-up time in convection ovens tends to be longer than in infrared ovens. The exact parameters will have to be determined by the user.

## Product range

Sizes in mm	Thicknesses in mm	Colours
2,000 x 1,000	<b>1</b> , 1.5, <b>2</b> , <b>3</b> , <b>4</b> , <b>5</b> , 6	natural
2,000 x 1,000	1.5, 3, 4, 4.5, 6	skin-coloured
50,000 x 1,000	1, 1.5, 2	natural

**Bold type** = available immediately; light-faced type = available on request  
The sizes specified are standard sizes. Other sizes, thicknesses and colours available on request.

# SIMOLIFE PP



## SIMOLIFE PP

Fields of application	Description	Properties	Certifications
	Polypropylene homopolymer (PP-H)	Higher rigidity and strength than PP-C	Biocompatibility in accordance with DIN EN ISO 10993-5 and DIN EN ISO 10993-10
		Fatigue stability	
		Minimal shrinkage, optimized for O&P	
		Resistant to sweat, cosmetics, skin creams, detergents and disinfectants	Physiological safety in accordance with BfR and food conformity in accordance with FDA

## Material specifications

Density, g/cm³, DIN EN ISO 1183	0.90
Tensile modulus of elasticity, MPa, DIN EN ISO 527	1,380
Shore hardness D (15 s), DIN EN ISO 868	70
Processing temperature (oven temperature), °C *	185 – 215
Heat-up time (retention time in oven), min/mm sheet thickness *	2 – 3

\* The actual parameters can vary depending on the type and condition of the oven as well as the sheet thickness. Therefore, all figures presented here are for orientation purposes only. The warm-up time in convection ovens tends to be longer than in infrared ovens. The exact parameters will have to be determined by the user.

## Product range

Sizes in mm	Thicknesses in mm	Colours	Antimicrobial properties* on request
2,000 x 1,000	2, <b>3, 4, 5</b> , 6, 8, <b>10, 12, 15</b>	natural	✓

\* Effect against bacteria (= antibacterial) as well as against other microorganisms, e.g. fungi and algae.

**Bold type** = available immediately; light-faced type = available on request  
The sizes specified are standard sizes. Other sizes, thicknesses and colours available on request.



# SIMOLIFE PP-C



## SIMOLIFE PP-C

Fields of application	Description	Properties	Certifications
	Polypropylene copolymer (PP-C)	Higher impact strength than PP-H	Biocompatibility in accordance with DIN EN ISO 10993-5 and DIN EN ISO 10993-10
		Lower susceptibility to stress cracks	
		Resistant to sweat, cosmetics, skin creams, detergents and disinfectants	Physiological safety in accordance with BfR and food conformity in accordance with FDA

## Material specifications

Density, g/cm <sup>3</sup> , DIN EN ISO 1183	0.91
Tensile modulus of elasticity, MPa, DIN EN ISO 527	1,200
Shore hardness D (15 s), DIN EN ISO 868	67
Processing temperature (oven temperature), °C *	185 – 215
Heat-up time (retention time in oven), min/mm sheet thickness *	2 – 3

\* The actual parameters can vary depending on the type and condition of the oven as well as the sheet thickness. Therefore, all figures presented here are for orientation purposes only. The warm-up time in convection ovens tends to be longer than in infrared ovens. The exact parameters will have to be determined by the user.

## Product range

Sizes in mm	Thicknesses in mm	Colours
2,000 x 1,000	2, <b>3</b> , <b>4</b> , <b>5</b> , 6	natural

**Bold type** = available immediately; light-faced type = available on request  
The sizes specified are standard sizes. Other sizes, thicknesses and colours available on request.

# SIMOLIFE PETG



## SIMOLIFE PETG

Fields of application	Description	Properties	Certifications
	Thermoplastic copolyester (PETG)	Highly transparent even after processing	Biocompatibility in accordance with DIN EN ISO 10993-5 and DIN EN ISO 10993-10
		Excellent thermoforming properties	Physiological safety in accordance with BfR and food conformity in accordance with FDA
		Good postforming properties	

## Material specifications

Density, g/cm <sup>3</sup> , DIN EN ISO 1183	1.27
Tensile modulus of elasticity, MPa, DIN EN ISO 527	1,900
Shore hardness D (15 s), DIN EN ISO 868	78
Processing temperature (oven temperature), °C *	160 – 170
Heat-up time (retention time in oven), min/mm sheet thickness *	3 – 4

\* The actual parameters can vary depending on the type and condition of the oven as well as the sheet thickness. Therefore, all figures presented here are for orientation purposes only. The warm-up time in convection ovens tends to be longer than in infrared ovens. The exact parameters will have to be determined by the user.

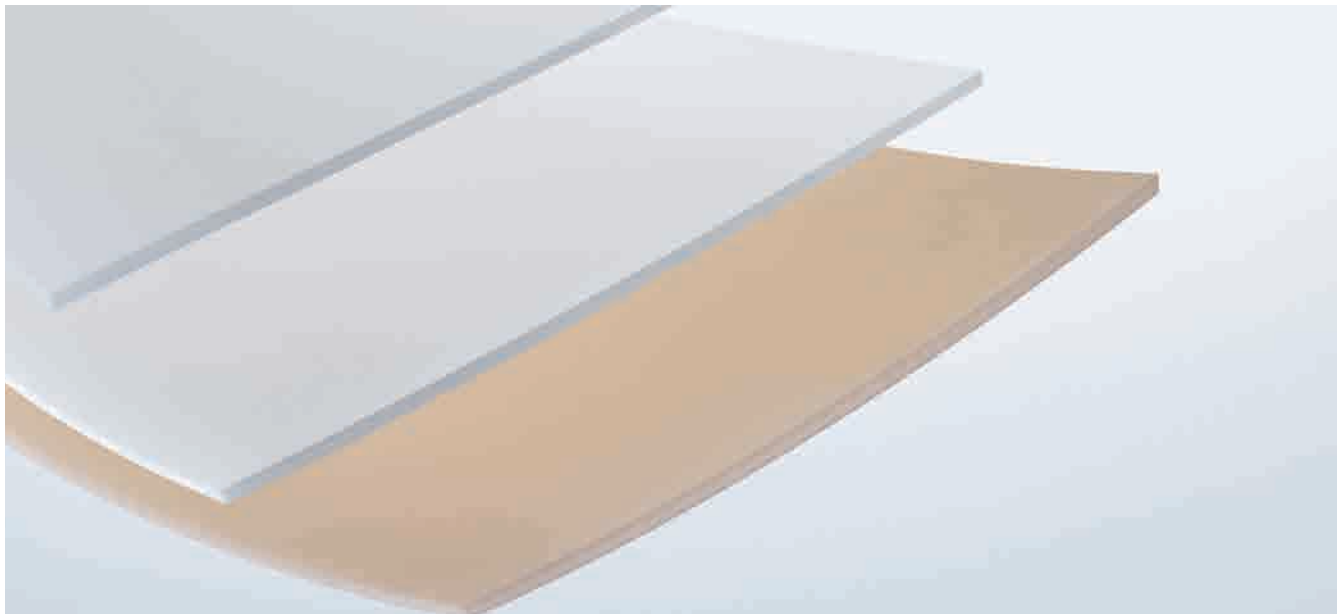
## Product range

Sizes in mm	Thicknesses in mm	Colours	Antimicrobial properties* on request
400 x 400	9, 10, <b>12, 15, 20</b>	transparent	✓
1,208 x 804	8, 9, 10, 12, 15, 20	transparent	✓

\* Effect against bacteria (= antibacterial) as well as against other microorganisms, e.g. fungi and algae.

**Bold type** = available immediately; light-faced type = available on request  
The sizes specified are standard sizes. Other sizes, thicknesses and colours available on request.

# SIMOLIFE EVA flex



## SIMOLIFE EVA flex

Fields of application	Description	Properties	Certifications
	Ethylene-vinyl acetate (EVA)	High flexibility	Biocompatibility in accordance with DIN EN ISO 10993-5 and DIN EN ISO 10993-10
		Minimal shrinkage, optimized for O&P	Physiological safety in accordance with BfR and food conformity in accordance with FDA
		Excellent formability	

## Material specifications

Density, g/cm <sup>3</sup> , DIN EN ISO 1183	0.93
Tensile modulus of elasticity, MPa, DIN EN ISO 527	75
Shore hardness D (15 s), DIN EN ISO 868	39
Processing temperature (oven temperature), °C *	150 – 160
Heat-up time (retention time in oven), min/mm sheet thickness *	1 – 2

\* The actual parameters can vary depending on the type and condition of the oven as well as the sheet thickness. Therefore, all figures presented here are for orientation purposes only. The warm-up time in convection ovens tends to be longer than in infrared ovens. The exact parameters will have to be determined by the user.

## Product range

Sizes in mm	Thicknesses in mm	Colours	Antimicrobial properties* on request
400 x 400	6, 8, 9, <b>10, 12, 15</b>	natural	✓
400 x 400	6, 8, 10, 12	skin-coloured	✓
2,000 x 1,000	3, 4, 6, 8, 9, 10, 12, 15	natural	✓

\* Effect against bacteria (= antibacterial) as well as against other microorganisms, e.g. fungi and algae.

**Bold type** = available immediately; light-faced type = available on request  
The sizes specified are standard sizes. Other sizes, thicknesses and colours available on request.

# SIMOLIFE EVA superflex



## SIMOLIFE EVA superflex

Fields of application	Description	Properties	Certifications
	Ethylene-vinyl acetate (EVA)	Very high flexibility	Biocompatibility in accordance with DIN EN ISO 10993-5 and DIN EN ISO 10993-10
		Minimal shrinkage, optimized for O&P	Physiological safety in accordance with BfR and food conformity in accordance with FDA
		Excellent formability	

## Material specifications

Density, g/cm <sup>3</sup> , DIN EN ISO 1183	0.95
Tensile modulus of elasticity, MPa, DIN EN ISO 527	19
Shore hardness D (15 s), DIN EN ISO 868	29
Processing temperature (oven temperature), °C *	150 – 160
Heat-up time (retention time in oven), min/mm sheet thickness *	1 – 2

\* The actual parameters can vary depending on the type and condition of the oven as well as the sheet thickness. Therefore, all figures presented here are for orientation purposes only. The warm-up time in convection ovens tends to be longer than in infrared ovens. The exact parameters will have to be determined by the user.

## Product range

Sizes in mm	Thicknesses in mm	Colours
400 x 400	6, 9, <b>10, 12, 15</b>	natural

**Bold type** = available immediately; light-faced type = available on request  
The sizes specified are standard sizes. Other sizes, thicknesses and colours available on request.

## Processing information

**SIMOLIFE sheets have excellent hot-forming properties. Displaying minimal material shrinkage during cool-down, they also offer the advantage of high dimensional stability with uniform wall thickness distribution. In combination, this ensures the very best in fit, together with superior adhesive properties and soft-touch comfort.**

### Material specifications

	<b>SIMOLIFE PE</b>	<b>SIMOLIFE PE 1000</b>	<b>SIMOLIFE PE flex</b>	<b>SIMOLIFE PP</b>	<b>SIMOLIFE PP-C</b>	<b>SIMOLIFE PETG</b>	<b>SIMOLIFE EVA flex</b>	<b>SIMOLIFE EVA superflex</b>
Density, g/cm <sup>3</sup> , DIN EN ISO 1183	0.94	0.93	0.92	0.90	0.91	1.27	0.93	0.95
Tensile modulus of elasticity, MPa, DIN EN ISO 527	900	700	350	1,380	1,200	1,900	75	19
Shore hardness D (15 s), DIN EN ISO 868	64	60	54	70	67	78	39	29
Temperature range, °C	-50 – 80	-260 – 80	50 – 80	0 – 100	-20 – 80	-40 – 65	-50 – 40	-50 – 40
Processing temperature (oven temperature), °C*	165 – 180	190 – 215	120 – 130	185 – 215	185 – 215	160 – 170	150 – 160	150 – 160
Heat-up time (retention time in oven), min/mm sheet thickness*	2 – 3	3 – 4	2 – 3	2 – 3	2 – 3	3 – 4	1 – 2	1 – 2
Biocompatibility in accordance with DIN EN ISO 10993-5/-10	✓	✓	✓	✓	✓	✓	✓	✓
Physiological safety in accordance with BfR	✓	✓	✓	✓	✓	✓	✓	✓
Food conformity in accordance with FDA	✓	✓	✓	✓	✓	✓	✓	✓

\* The actual parameters can vary depending on the type and condition of the oven as well as the sheet thickness. Therefore, all figures presented here are for orientation purposes only. The warm-up time in convection ovens tends to be longer than in infrared ovens. The exact parameters will have to be determined by the user.

### Ovens

Essentially, two types of oven can be used: an infrared oven or a convection oven. Infrared (IR) ovens tend to display more consistent warm-up properties than convection ovens. Depending on the source of convection heat, the distribution of warm air within the oven housing will vary somewhat. In the case of IR ovens, not only the number and layout of the heating units is a key determinant but also the size of the oven. A small oven – and therefore a shorter distance to the sides and oven doors – means that the edges of the sheet will cool down faster, as the metal parts of the oven draw heat away. If the sheet product and heat source have not been matched up appropriately, the rate of thermal absorption will be inconsistent. Therefore, a larger IR oven that can accommodate a small sheet in the centre – i.e. in the best possible location – is considered a good option.

### Base

When SIMOLIFE sheets are heated, the material may adhere to the surface of the oven as soon as it becomes transparent and pliable. To prevent this and ensure that the heated sheet can be removed effortlessly, we recommend the use of a PTFE (Teflon®) film. PTFE film is supplied in various forms (mesh distance/fibre thickness). The design of the film will influence the adhesive characteristics of the sheet and may thus also reduce the natural shrinkage of the sheets while they are being heated. Sometimes talcum or special textile fabrics are used as a base. However, it should be noted that both may adhere to the plastic sheets to such an extent that it is noticeable.



## Shrinkage

Shrinkage refers to the change in dimensions of a semi-finished product after it has been stored at a defined temperature:

Shrinkage in % = (dimensions before test – dimensions after test) / dimensions before test

In order to determine shrinkage during the forming process, it is advisable to heat up a semi-finished product of defined dimensions to the forming temperature in a convection oven – placed on a Teflon film base that has been sprinkled with talcum. To determine anisotropy, i.e. the property of being directionally dependent, the shrinkage values should be measured in all directions, especially in line with and transversely to the direction of extrusion. Shrinkage in the direction of extrusion is usually much more pronounced than it is transversely to the direction of extrusion. Anisotropic shrinkage is attributable to the method of production.

During the extrusion process the plastic is stretched/drawn in the direction of extrusion to a greater extent than in the transverse direction. The wider the extruded sheets, the faster the material has to flow to the edge. As a result, extruded sheets can have different shrinkage values along the width of the sheet. When it is heated the material tries to return to its original shape. As a result, the molecules of the plastic that are oriented in the direction of extrusion will relax and trigger the process of shrinkage as they re-orient themselves.

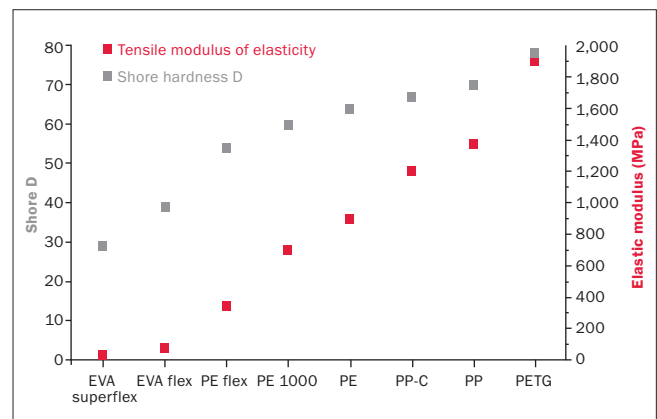
Due to their optimised processing parameters (e.g. specially adapted speed of extrusion), SIMOLIFE products display less shrinkage than comparable products and are therefore particularly suited to thermoforming processes used in the production of orthoses and prostheses.

The following factors generally have an influence on shrinkage:

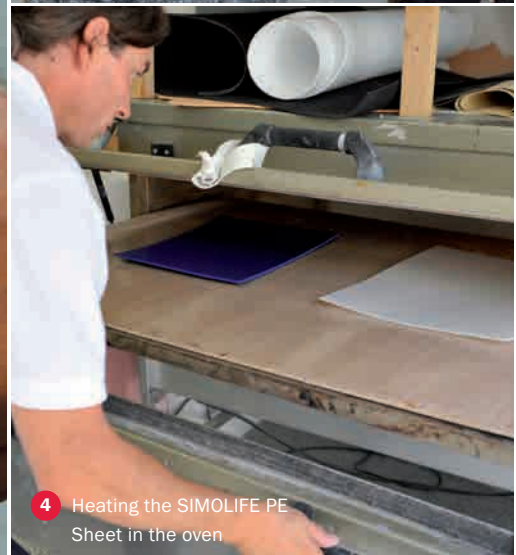
- Oven or maximum sheet temperature
- Heat-up or processing time
- Type of plastic (with possible fluctuations in raw materials and batch as a result of variations in molar mass)
- Cooling down temperature
- Demoulding temperature
- Stretch rate
- Direction of extrusion (shrinkage will vary)

## Cooling down

If the mould cools down too fast, the molecular structure will “freeze”. As a result, stresses and strains may remain within the orthosis or prosthesis, which in turn could make it more susceptible to impact or deformation even at room temperature.



## SIMOLIFE PE – Processing example: Lower arm orthosis





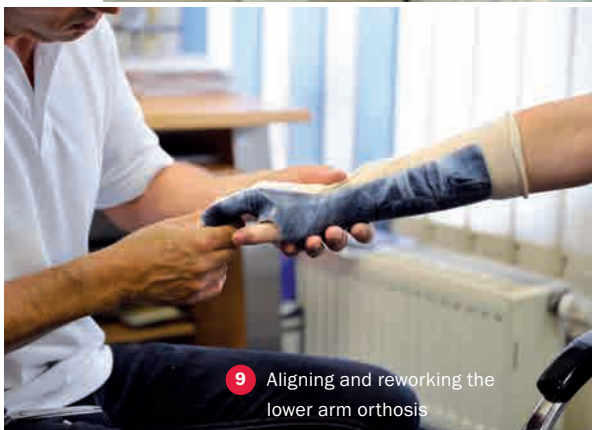
**6** Deep-drawing the heated sheet over the plaster model by means of vacuum forming



**7** Cutting and removing the lower arm orthosis



**8** Unmachined lower arm orthosis



**9** Aligning and reworking the lower arm orthosis



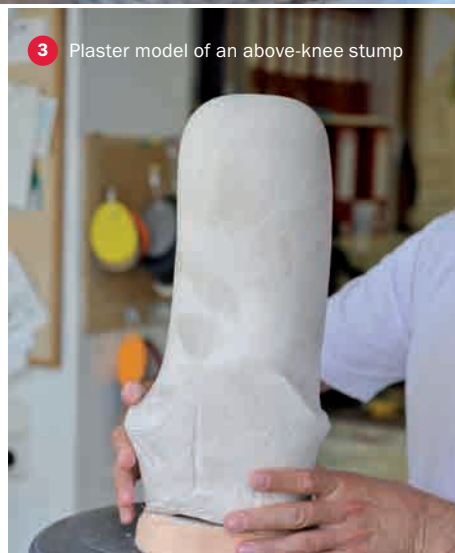
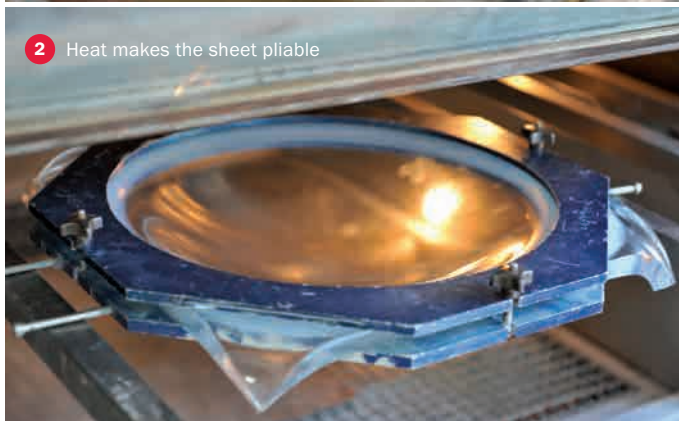
**10** Fitting the finished lower arm orthosis



**1** For further information, please view our video:  
[SIMOLIFE PE - Lower arm orthosis](#)



## SIMOLIFE EVA – Processing example: Interior prosthetic socket

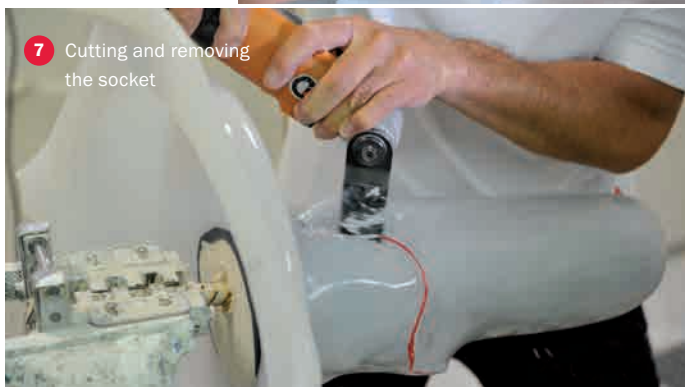




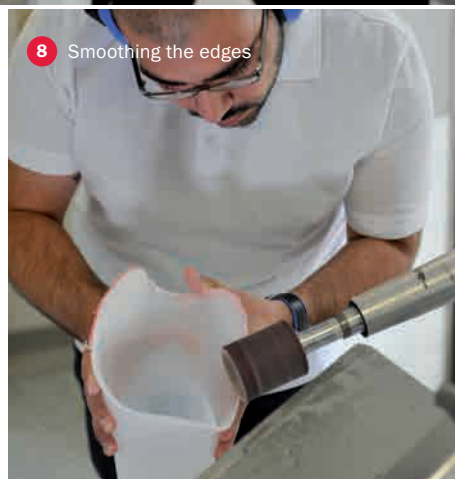
**6** Marking the edge of the socket



**9** Fitting the interior socket to the frame



**7** Cutting and removing the socket



**8** Smoothing the edges



**10** Finished leg prosthesis system

With the kind assistance of the medical supply store  
“Sanitätshaus Guckes” in Worms.



**i** For further information, please view our video:  
[SIMOLIFE EVA – Interior prosthetic socket](#)



## Advice and information



### Consulting service

Our customers benefit from customised solutions that help them compete successfully within the business arena. SIMONA can draw on many years of experience in the manufacture of sheets, pipes and fittings. You will also be able to rely on our extensive know-how and high level of technical expertise in the field of polymer engineering. Our Technical Service Centre team looks forward to assisting you:

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### Delivery service

Our central warehouse and global distribution centres supply SIMONA standard products from stock, thus guaranteeing speedy and flexible delivery. Various sizes and thicknesses available from stock. Please contact our sales department for further details concerning availability.

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### **SIMONA Academy**

We organise seminars at our Technology Centre and educational facilities in Kirn for the purpose of providing product training and information on the very latest processing and fabrication methods. On request, we can also provide training at your own premises. Contact details:

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### **Information service**

Further information is available in the form of catalogues, brochures, case studies and project reports. We also offer DVDs, technical data sheets and product samples. Please feel free to contact our Marketing department:

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#### **TIP**

Visit our website to find out about our customised training programme focusing on "Semi-Finished Products for Prostheses and Orthoses":  
[www.simona.de/academy](http://www.simona.de/academy)

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