

A full-page background image showing a person from behind, standing on a sandy beach at sunset. The person is wearing a black wetsuit and a blue and yellow swim cap. Their arms are outstretched horizontally to the sides. The sun is low on the horizon, creating a warm, golden glow across the sky and reflecting on the wet sand. The ocean waves are visible in the distance.

**SIMONA**  
**AMERICA**  
**INDUSTRIES**

**SIMOLIFE**

Product Range for Orthotics and Prosthetics

GLOBAL THERMOPLASTIC SOLUTIONS

## Key

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### Application areas



Trunk orthoses



Orthotics for upper  
extremities



Orthotics for lower  
extremities



Foot/leg prosthetics



Hand/arm prosthetics

## Contents

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### Product Overview

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## SIMONA – A Trusted Partner in Plastics for the Health Care Industry



### **The SIMONA Group**

Acknowledged for the consistently high quality of its products, SIMONA has been a trusted partner to the orthopedic 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 the orthopedics industry. Using certified orthotic grade raw materials and rigid manufacturing controls, we manufacture premium-quality products that meet the highest standards applicable within the health care sector.

### **SIMONA AMERICA Industries**

From our state of the art manufacturing and logistics operations in Pennsylvania, SIMONA AMERICA Industries has become a major supplier of PVC and olefin-based sheets and rods to the North American market.

Recent acquisitions, coupled with new product development, have added new high performance sheet products for more demanding applications in aerospace, chemical and semiconductor processing equipment as well as orthopedic and prosthetic devices.

# SIMOLIFE

## Your Benefits at a Glance



### **More than 35 years' commitment to product quality and integrity**

Acknowledged for the consistently high quality of its products, SIMONA has been a trusted partner to the orthopedic industry for many years.

Frequent product audits and endurance testing provide essential data for our R&D engineers to make targeted improvements to the SIMONA products on a continual basis.

### **Rigid controls: certified purity and fabrication consistency**

SIMONA uses only certified orthotic grade raw materials for the manufacture of SIMOLIFE products. Stringent incoming goods inspections safeguard purity.

Continuous production monitoring ensures a controlled, consistent range of low stress in our O&P grade materials.

This strict control of raw materials and production conditions provides high purity and consistent dimensional stability in fabrication from lot to lot.

### **Skin compatibility for safety and long-term reliability**

All SIMOLIFE products are physiologically safe per FDA. This feature, coupled with resistance to sweat, cosmetics, skin creams, detergents and disinfectants, provides users with longterm safety and reliability.

# SIMOLIFE

## Product Range and Material Specifications

### Product Range

|  | SIMOLIFE<br>HDPE | SIMOLIFE<br>LDPE | SIMOLIFE<br>PP-Homo-<br>polymer | SIMOLIFE<br>PP-Copolymer | SIMOLIFE<br>EVA flex | SIMOLIFE<br>EVA superflex | SIMOLIFE<br>PETG |
|--|------------------|------------------|---------------------------------|--------------------------|----------------------|---------------------------|------------------|
|--|------------------|------------------|---------------------------------|--------------------------|----------------------|---------------------------|------------------|

### Sheets (sizes/thicknesses)

|   |                                     |   |                                  |   |  |               |                      |                      |
|---|-------------------------------------|---|----------------------------------|---|--|---------------|----------------------|----------------------|
|  | 16 x 16 inch<br>406 x 406 mm        |   |                                  |   |  | 10, 12, 15 mm | <b>10, 12, 15 mm</b> | <b>12, 15, 20 mm</b> |
|   | 33 x 49 inch<br>840 x 1250 mm       |   |                                  |   |  | 10, 12, 15 mm | <b>10, 12, 15 mm</b> |                      |
|   | 96 x 48 inch<br>2440 x 1220 mm      | <b>1/16, 1/8, 5/32, 3/16, 1/4, 1/2 inch</b> | <b>1/16, 1/8, 3/16, 1/4 inch</b> | <b>1/16, 3/32, 1/8, 3/16, 1/4, 3/8 inch</b> | <b>1/16, 3/32, 1/8, 3/16, 1/4 inch</b> |               |                      |                      |
|   | 98 x 49 inch<br>2490 x 1250 mm      |   |                                  |   |  |               |                      | 12, 15, 20 mm        |
|   | Colors                              | natural, flesh, black                       | natural                          | natural, flesh, black                       | natural, black                         | natural       | natural              | transparent          |
|   | Antimicrobial properties on request | ✓   | -                                | ✓   | -                                      | ✓             | -                    | ✓                    |

**Bold type** = available immediately (color: natural or transparent); light-faced type = available on request  
The sizes specified are standard sizes. Other sizes, thicknesses and colors available on request.

### Material specifications

|   | SIMOLIFE<br>HDPE | SIMOLIFE<br>LDPE | SIMOLIFE<br>PP-Homo-<br>polymer | SIMOLIFE<br>PP-Copolymer | SIMOLIFE<br>EVA flex | SIMOLIFE<br>EVA superflex | SIMOLIFE<br>PETG |
|---|------------------|------------------|---------------------------------|--------------------------|----------------------|---------------------------|------------------|
| Density, g/cc, ASTM D-792                                   | 0.963            | 0.920            | 0.905                           | 0.910                    | 0.934                | 0.955                     | 1.270            |
| Tensile modulus of elasticity, psi, ASTM D-638              | 230,000          | 36,000           | 210,000                         | 195,000                  | 10,900               | 2,800                     | 275,000          |
| Shore hardness, ISO 868                                     | 70               | 45               | 78                              | 74                       | 39                   | 29                        | 78               |
| Izod impact, notched, ft-lbs/in, ASTM D-256                 | 2.4              | No break         | 0.8                             | 14.0                     | No break             | No break                  | 1.8              |
| Oven temperature for forming, °F *                          | 330 – 360        | 250 – 270        | 360 – 420                       | 360 – 420                | 300 – 320            | 300 – 320                 | 320 – 340        |
| Oven heating time for forming, minutes/mm sheet thickness * | 2 – 3            | 2 – 3            | 2 – 3                           | 2 – 3                    | 1.5 – 2.5            | 1.5 – 2.5                 | 3 – 4            |
| Physiological safety 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 exact parameters will have to be determined by the user.

# SIMOLIFE

## The Right Material for Each Application

|                                | Diagnostic/test sockets   | Final prosthetic sockets   | Flexible interior prosthetic sockets  |
|--------------------------------|---|--|---|
|                                |  |  |  |
| <b>SIMOLIFE HDPE</b>           |   | ✓  |   |
| <b>SIMOLIFE LDPE</b>           |   |  | ✓   |
| <b>SIMOLIFE PP-Homopolymer</b> |   | ✓  |   |
| <b>SIMOLIFE PP-Copolymer</b>   |   | ✓  |   |
| <b>SIMOLIFE EVA</b>            |   |  | ✓   |
| <b>SIMOLIFE PETG</b>           | ✓   |  |   |

| Foot/leg orthotics   | Functional foot orthotics   | Hand/arm orthotics   | Corsets   |
|--|---|--|---|
|  |  |  |  |
| ✓  | ✓   | ✓  | ✓   |
| ✓  | ✓   | ✓  | ✓   |
| ✓  | ✓   |  | ✓   |
| ✓  | ✓   | ✓  | ✓   |
|  | ✓   |  |   |
|  |   |  |   |



# SIMOLIFE HDPE and LDPE



## SIMOLIFE HDPE

| Application areas | Description                      | Properties   | Certifications                              |
|-------------------|----------------------------------|--|---|
|                   | High density polyethylene (HDPE) | Higher rigidity and strength than LDPE                                   | Physiological safety in accordance with FDA |
|                   |                                  | Low, consistent shrinkage in forming, optimized for O&P                  |   |
|                   |                                  | Resistant to sweat, cosmetics, skin creams, detergents and disinfectants |   |

## SIMOLIFE LDPE

| Application areas | Description                     | Properties   | Certifications                              |
|-------------------|---------------------------------|--|---|
|                   | Low density polyethylene (LDPE) | Lower rigidity and strength than HDPE                                    | Physiological safety in accordance with FDA |
|                   |                                 | High flexibility   |   |
|                   |                                 | Low, consistent shrinkage in forming, optimized for O&P                  |   |
|                   |                                 | Resistant to sweat, cosmetics, skin creams, detergents and disinfectants |   |



# SIMOLIFE PP-Homopolymer and PP-Copolymer



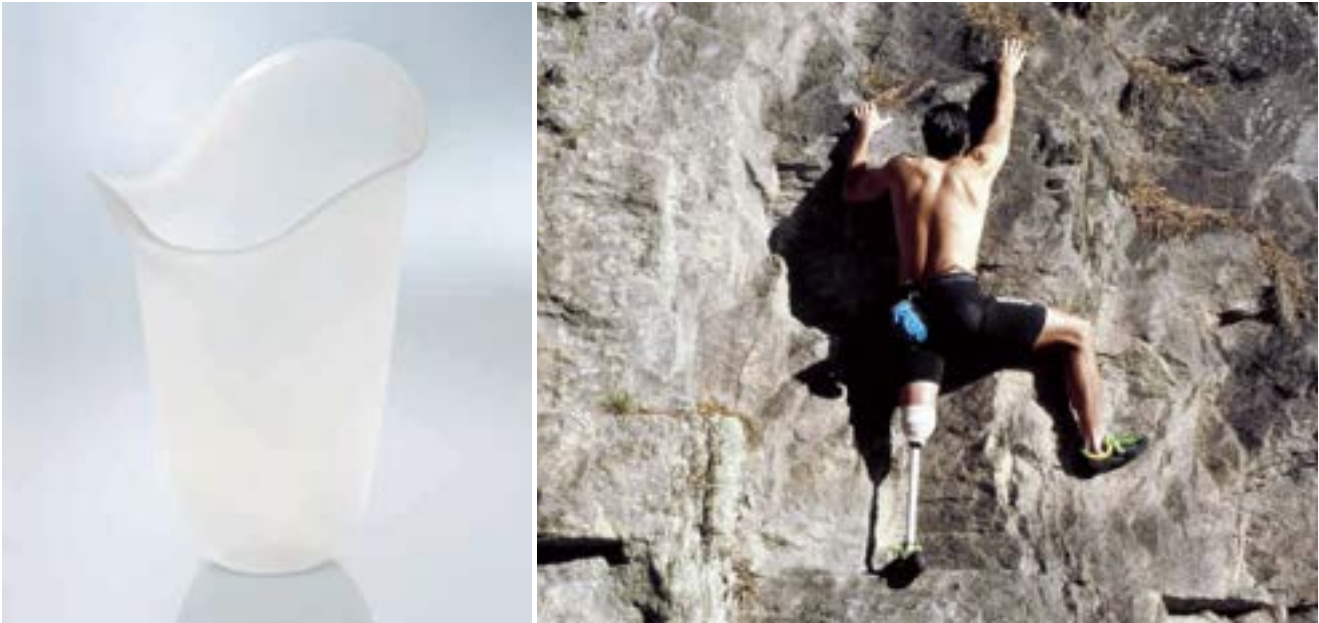
## SIMOLIFE PP-Homopolymer

| Application areas | Description               | Properties   | Certifications                              |
|-------------------|---------------------------|--|---|
|                   | Polypropylene homopolymer | Higher rigidity and strength than PP-Copolymer                           | Physiological safety in accordance with FDA |
|                   |                           | High fatigue resistance  |   |
|                   |                           | Low, consistent shrinkage in forming, optimized for O&P                  |   |
|                   |                           | Resistant to sweat, cosmetics, skin creams, detergents and disinfectants |   |

## SIMOLIFE PP-Copolymer

| Application areas | Description             | Properties   | Certifications                              |
|-------------------|-------------------------|--|---|
|                   | Polypropylene copolymer | Higher impact strength than PP-Homopolymer                               | Physiological safety in accordance with FDA |
|                   |                         | Lower susceptibility to stress cracks                                    |   |
|                   |                         | Low, consistent shrinkage in forming, optimized for O&P                  |   |
|                   |                         | Resistant to sweat, cosmetics, skin creams, detergents and disinfectants |   |

# SIMOLIFE EVA flex and EVA superflex



## SIMOLIFE EVA flex

| Application areas | Description            | Properties  | Certifications                              |
|-------------------|------------------------|---|---|
|                   | Ethylene-vinyl acetate | High flexibility  | Physiological safety in accordance with FDA |
|                   |                        | Low, consistent shrinkage in forming, optimized for O&P |   |
|                   |                        | Excellent formability                                   |   |

## SIMOLIFE EVA superflex

| Application areas | Description            | Properties  | Certifications                              |
|-------------------|------------------------|---|---|
|                   | Ethylene-vinyl acetate | Very high flexibility                                   | Physiological safety in accordance with FDA |
|                   |                        | Low, consistent shrinkage in forming, optimized for O&P |   |
|                   |                        | Excellent formability                                   |   |

# SIMOLIFE PETG



## SIMOLIFE PETG

| Application areas | Description               | Properties  | Certifications                              |
|-------------------|---------------------------|---|---|
|                   | Thermoplastic copolyester | Highly transparent even after thermoforming             | Physiological safety in accordance with FDA |
|                   |                           | Optically monitored for high purity                     |   |
|                   |                           | Low, consistent shrinkage in forming, optimized for O&P |   |
|                   |                           | Excellent thermoforming and postforming properties      |   |

# Advice and Information

## Consulting Service

We are committed to offering our customers an extensive range of customised solutions so that they can compete successfully within the business arena. SIMONA AMERICA can draw on many years of experience in the manufacture of sheets, rods, pipes and fittings. Providing in-depth knowledge and significant technical expertise, we are acknowledged as a reliable and trustworthy partner. Our Technical Service Center team looks forward to assisting you:

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Fax +1 800 522 4857  
mail@simona-america.com

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## SIMONA Sales Academy

We organise seminars at our Technology Center 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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**i** Phone +49(0)67 52 14-251  
Fax +49(0)67 52 14-60251  
salesacademy@simona.de

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## Information Service

Further information is available in the form of catalogs, 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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**i** Phone +49(0)67 52 14-383  
Fax +49(0)67 52 14-738  
marketing@simona.de

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## Delivery Service

Our central warehouse supplies SIMONA standard products from stock, thus guaranteeing speedy and flexible delivery. Various sizes and thicknesses always available from stock. Please contact our sales department for further details concerning stock available product offer.

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