

The image is a 3D architectural rendering of a water treatment facility. In the foreground, two large, dark, ribbed pipes run diagonally across a yellow, textured ground surface. In the background, a large, modern building with a glass facade houses a complex system of green metal frames and numerous small, circular filtration units. The building is situated on a concrete foundation. Beyond the facility, a body of water with waves is visible under a blue sky with scattered white clouds. The SIMONA logo is in the top right corner, and a white text box with red and black text is at the bottom.

SIMONA

SIMONA Water Treatment Systems

Efficient and durable solutions made of plastic

GLOBAL THERMOPLASTIC SOLUTIONS

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Reliable – SIMONA solutions for drinking water supply

SIMONA is one of the leading manufacturers and development partners for thermoplastic products. We are committed to providing best-in-class solutions for your applications: in the chemical process industry, in the field of water and energy supply, and for environmental engineering, mobility, construction and agriculture – worldwide and with a high level of consultative expertise.



System meets safety

Our system solutions engineered from premium-quality plastics to meet a wide range of requirements in the field of water treatment are more economical than conventional (metal) piping systems. This particularly applies to pipes and fittings in seawater desalination plants that operate on the principle of reverse osmosis.

Global Thermoplastic Solutions

Against the backdrop of a growing world population, climate change and the associated reduction in precipitation, a reliable supply of drinking water is to be seen as an ever-increasing challenge throughout the world. For the chemical industry, too, water is an indispensable resource that is used as a coolant, solvent and cleaning agent.

97 per cent of global water resources consist of salt water or brackish water. Therefore, it would appear logical that these resources should also be used for drinking water supply. SIMONA's products help to purify water, convey it safely without any losses, reduce impurities and make salt water potable.

Highly versatile product range

Complementing the sheets and pipes that can be used for a wide variety of applications, SIMONA's system portfolio for water supply also includes fittings and electrofusion sockets.

SIMONA is your system supplier

and one-stop provider of pipelines and sheets for solutions that deliver long-lasting efficiency and cost-effectiveness in the field of water treatment.

Overcoming future challenges together – with plastics for seawater desalination

Almost half of the world's population lives in regions with an insufficient water supply during at least one month of the year. With usable water becoming one of the most valuable resources in existence, the demand for water treatment products has also increased significantly.



Seawater desalination plants for the treatment of salty seawater or brackish water to produce filtered drinking water are an innovative solution when it comes to covering the rising level of water consumption on a sustainable basis.

The production of drinking water is a demanding task and it calls for the use of efficient, premium-quality piping systems. A consistently high quality of water has to be guaranteed throughout all the process stages. In the past, seawater desalination plants often used to be equipped with pipelines made of metal pipe materials. However, the service life of such pipelines tends to be limited by water that is acidic or very salty.

A reliable solution for water supply

SIMONA's plastic piping systems meet the highest possible standards. Apart from excellent corrosion resistance, a long service life of up to 100 years, very smooth interior surfaces to avoid incrustations and a high level of resistance to salt water, they also provide high resistance to many chemicals.

Our contractors (EPC)

As a supplier of sheets, pipes and fittings, SIMONA works in close collaboration with leading contractors (EPC) around the globe. In recent years, we have implemented projects in cooperation with:

- **Veolia**
- **Doosan**
- **Hyflux**
- **IDE**
- **Acciona**

Our approvals – national and international standards

For drinking water applications SIMONA only uses approved and tested materials. DVGW W 270 test certificates regarding protection against microorganisms in drinking water applications confirm the suitability of SIMONA Products. In addition, a manufacturer's certificate is available confirming compliance with the KTW Guideline (organic materials in contact with drinking water) issued by the German Federal Environment Agency.



Changi II NEWater Plant in Singapore equipped with SIMONA Pipes and Fittings.

National and international standards

- KTW (Germany)
- DVGW (Germany)
- SWGW (Switzerland)
- WRAS (United Kingdom)
- ACS (France)
- NF (France)
- IIP (Italy)
- ApprovalMark (Australia)
- IGH (Croatia)
- KIWA (Netherlands)

Other approvals

- Physiological safety as per BfR
- Food conformity to EU 10/2011
- Food conformity to FDA
- US drinking water approval to NSF61
- DIN 4102 B2 normal flammability
(own assessment without test certificate)



SIMONA Sheets, Pipes and Fittings in seawater desalination plants

1 Seawater intake

SIMONA® PE 100 Pipes can be produced in lengths of 6 m or 12 m as standard. Longer section lengths can be made on request. Long straight pipe sections reduce the amount of on-site welding, and hence total cost. The very smooth interior surfaces of the PE 100 pipes and the high level of corrosion resistance and UV resistance are ideal for conveying seawater to the desalination plant (seawater intake) and for returning brine to the sea (outfall system). Brine is a concentrate that arises as a result of the reverse osmosis process.

2 Pumping station

Pipes and fittings made of PE 100 and PP are used to make the piping at the pumping station. SIMONA Fittings are available in injection-moulded, welded or seamless versions. Our products withstand water pressures up to 16 bar.

3 Storage tanks

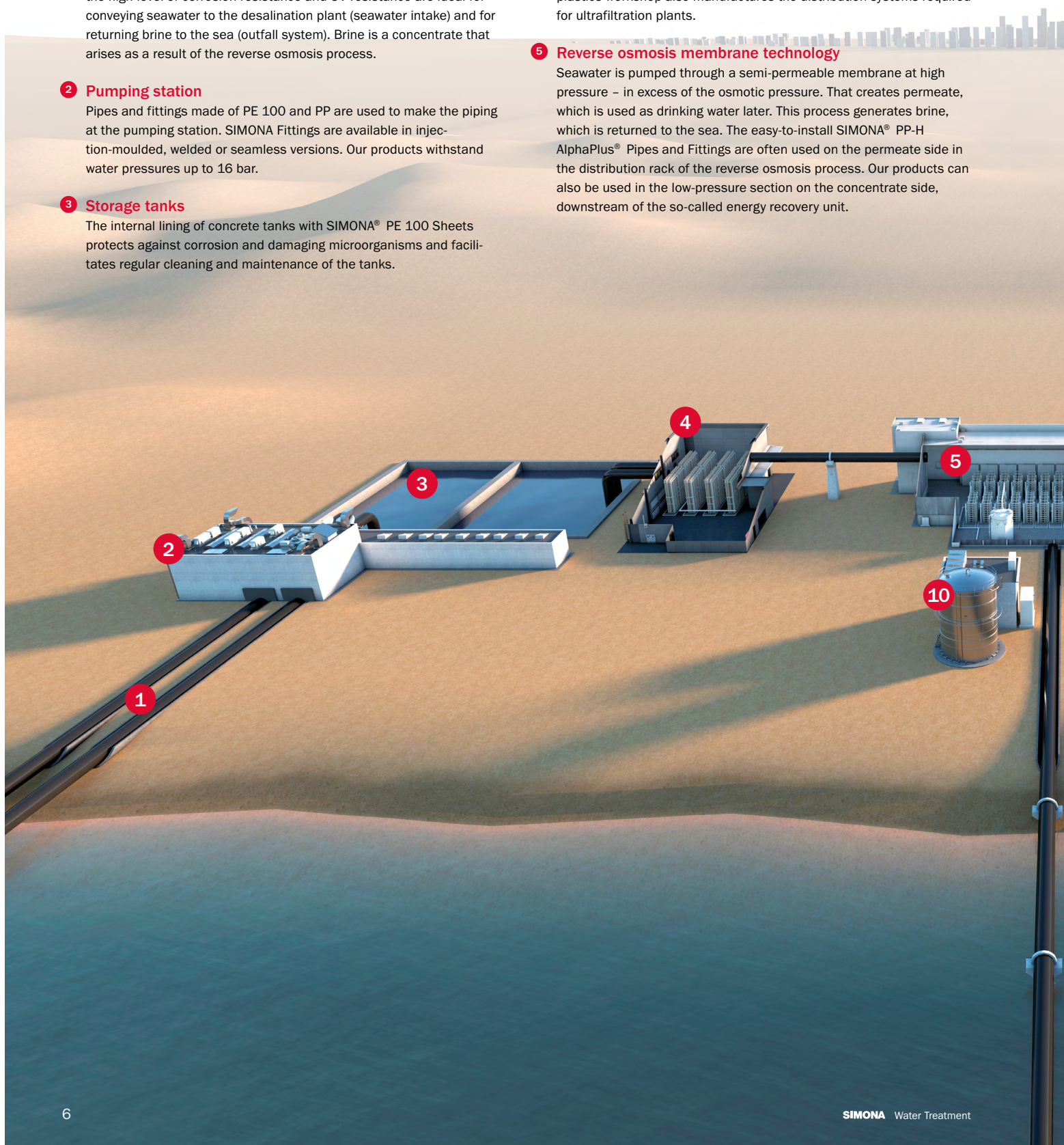
The internal lining of concrete tanks with SIMONA® PE 100 Sheets protects against corrosion and damaging microorganisms and facilitates regular cleaning and maintenance of the tanks.

4 Pretreatment

SIMONA® PP-H AlphaPlus® and PE 100 Pipes and Fittings are ideal for equipping the pre-filtration unit used for the pre-treatment of seawater. They have a pressure resistance of up to 16 bar and good long-term properties with regard to many substances. The SIMONA plastics workshop also manufactures the distribution systems required for ultrafiltration plants.

5 Reverse osmosis membrane technology

Seawater is pumped through a semi-permeable membrane at high pressure – in excess of the osmotic pressure. That creates permeate, which is used as drinking water later. This process generates brine, which is returned to the sea. The easy-to-install SIMONA® PP-H AlphaPlus® Pipes and Fittings are often used on the permeate side in the distribution rack of the reverse osmosis process. Our products can also be used in the low-pressure section on the concentrate side, downstream of the so-called energy recovery unit.



6 After-treatment

Permeate generated as part of the reverse osmosis process is disinfected and, by adding minerals, it is prepared for use as drinking water. To ensure that the drinking water has the quality required, chemical products must be used, e.g. calcium carbonate and chlorine. SIMONA's comprehensive range of chemical-resistant products made of PE, PP, PVDF and ECTFE is the perfect choice for such applications.

7 Drinking water tanks

Tanks that are internally lined with SIMONA® PE 100 Blue 340 Sheets and equipped with appropriate pipes and fittings are quick and easy to clean without having to use expensive cleaning chemicals; this helps to keep maintenance costs low.

8 Drinking water supply

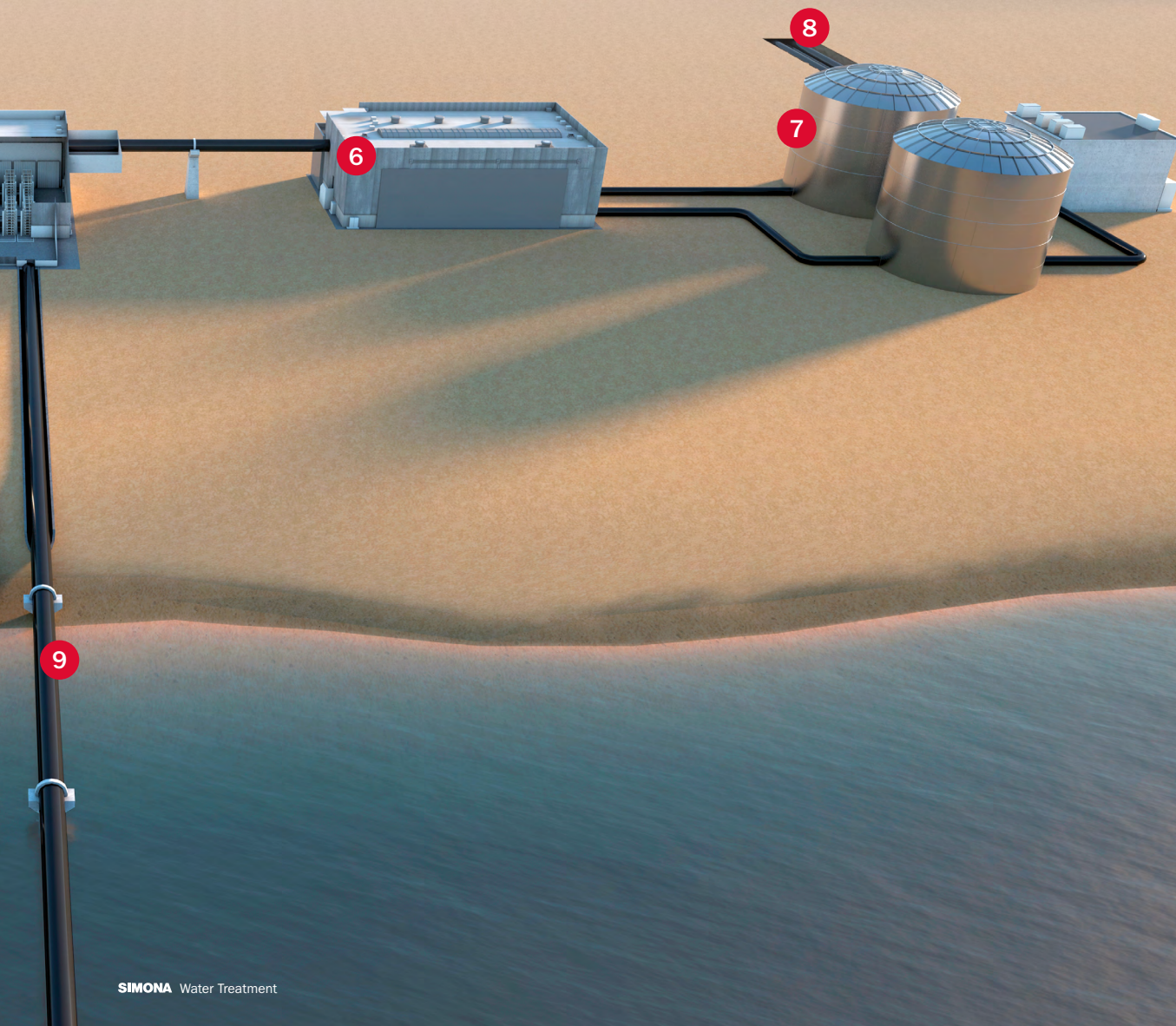
SIMONA® PE 100 SPC RC-Line Piping Systems have a high level of stress crack resistance and resistance to point loads. As a result, they are well protected against external damage and ensure safe and loss-free transport of drinking water. They have the commonly required drinking water approval certificates.

9 Brine discharge pipe (seawater outfall)

For returning brine to the sea, i.e. the concentrate that arises as a result of the reverse osmosis process, SIMONA® PE 100 Pipes are ideal on account of their excellent corrosion resistance to salt water. Owing to their good UV resistance, the black PE 100 pipes are also suitable for returning brine to the sea above ground.

10 Neutralisation tanks

Effluent that arises within the seawater desalination process cannot be fed into the sewer network without prior treatment. Its pH has to be adjusted first in order to comply with applicable sewage regulations. For this purpose tank interior linings consisting of SIMONA® PE 100 or PP-H AlphaPlus® Sheets are the perfect choice. They ensure chemical resistance and minimise deposits on the tank interior wall. pH adjustment of the water is performed by adding acids and alkalis. Especially for the purpose of adding sulphuric acid, metering pipes made of high-performance materials such as SIMONA® PVDF or ECTFE are considered the best choice (see also our SIMCHEM Practical Guide to Chemical Resistance, page 10).



SIMONA Pipes and Fittings in use

Excellent corrosion resistance and long service lives are just two of the key benefits explaining the use of SIMONA Piping Systems in water treatment plants around the globe.



California, USA
Largest water desalination plant in the USA (Carlsbad)

- 200,000 m³ of drinking water per day
- Reverse osmosis
- Operator: Poseidon Water
- Pipelines made of: SIMONA® PP-H AlphaPlus® with NSF drinking water approval



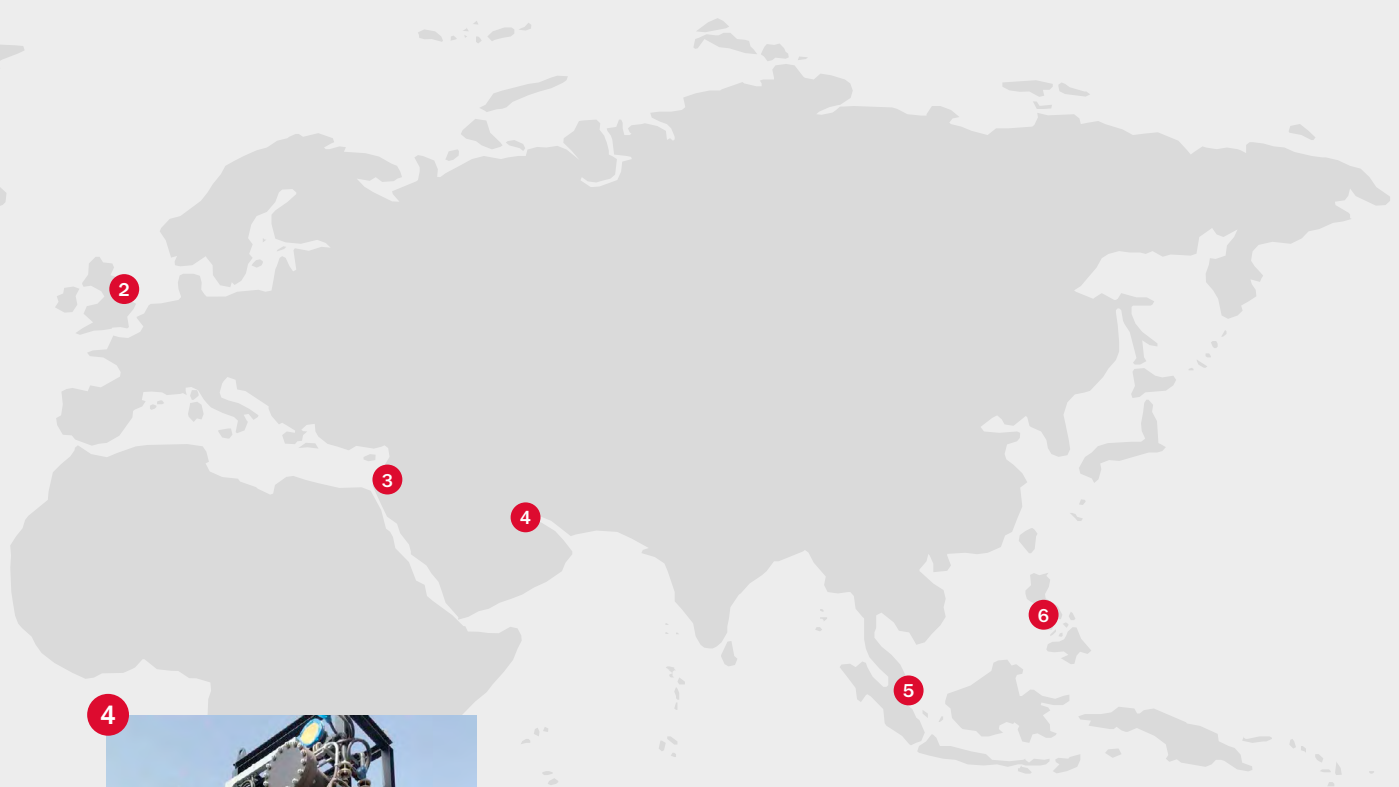
London, UK
UK's first desalination plant in London (Beckton)

- 150,000 m³ of drinking water per day
- Reverse osmosis
- Operator: Thames Water
- Contractor: Pipex Ltd.
- Pipelines made of: SIMONA® PE 100



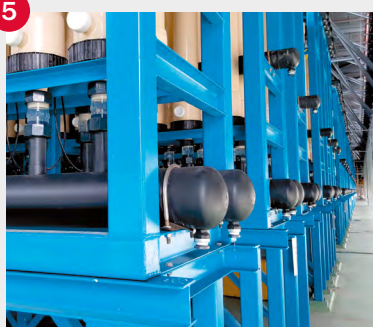
Sorek, Israel
Largest desalination plant in the world

- 624,000 m³ of drinking water per day
- Reverse osmosis
- Contractor: IDE Technologies Israel
- Pipelines made of: SIMONA® PP-H AlphaPlus®
- SIMONA® PE 100 Semi-Finished Parts



Doha, Kuwait
Seawater desalination plant

- 230,000 m³ of drinking water per day
- Reverse osmosis
- Contractor: Doosan Heavy Industries & Construction Co Korea
- Pipelines made of: SIMONA® PE 100



Singapore
Desalination plant – Changi II NEWater

- Treatment of 228,000 m³ of effluent per day
- Reverse osmosis
- End customer: PUB (Public Utilities Board)
- Pipelines made of: SIMONA® PE 100



Rizal, Philippines
Water desalination plant

- 100,000 m³ of drinking water per day
- Reverse osmosis
- Contractor: Veolia Water Technologies
- Pipelines made of: SIMONA® PE 100

SIMCHEM ONLINE – which material is most suitable for the medium I wish to convey?

SIMCHEM is your professional and comprehensive practical guide on all issues concerning the chemical resistance of our materials; it provides important guidance for your daily work. SIMCHEM lists over 4,500 media and proprietary products. In addition, it provides valuable information about SIMONA materials and the properties of plastics.

Typical chemicals in seawater desalination plants

Chemical	Typical application	Usual product concentration, %	Usual concentration used, %
Iron chloride	Flocculant	40	5
Iron sulphate	Flocculant	40	5
Sulphuric acid	pH adjustment	98	20
Sodium hypochlorite	Chlorination	13	5
Sodium bisulphite	Dechlorination	99	20
Antiscalant	Avoidance of scaling / deposits	99	20
Sodium hydroxide solution	pH adjustment	50	20

Source: Desalination Engineering Planning and Design, Nikolay Voutchkov

Example of an evaluation using SIMCHEM ONLINE: 98% sulphuric acid in aqueous solution

Sulphuric acid is a standard chemical used for pH adjustment in seawater desalination plants. To ensure reliable application with a suitable piping system, the SIMCHEM database provided

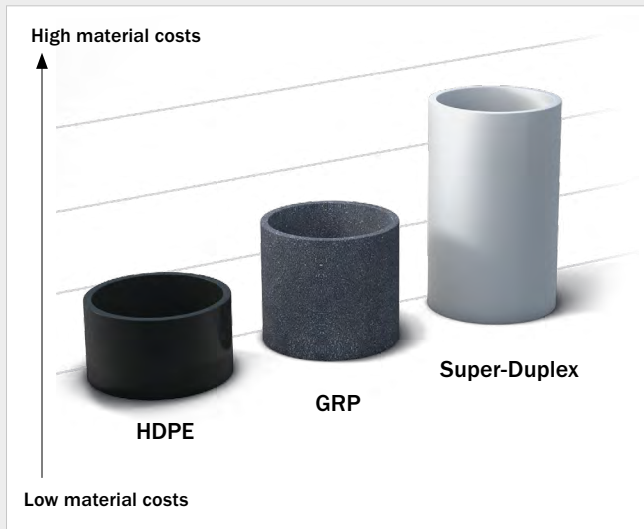
by SIMONA can help you to select the most appropriate media-carrying pipe material:

PE 100/PE 100 RC																
0	10	20	30	40	50	60 °C	70	80	90	100	110	120	130	140	150	
PP-H AlphaPlus®																
0	10	20	30	40	50	60	70	80	90	100 °C	110	120	130	140	150	
PVDF																
0	10	20	30	40	50	60	80	80	90	100	110	120 °C	130	140	150	
ECTFE																
0	10	20	30	40	50	60	70	80	90	100	110	120	130	140 °C	150	
Explanation																
Resistant Partially resistant Non-resistant																

i Register online with our free mySIMONA portal to gain access to SIMCHEM and many other benefits.

www.simona-simchem.de

Plastic – a cost-effective alternative to conventional materials

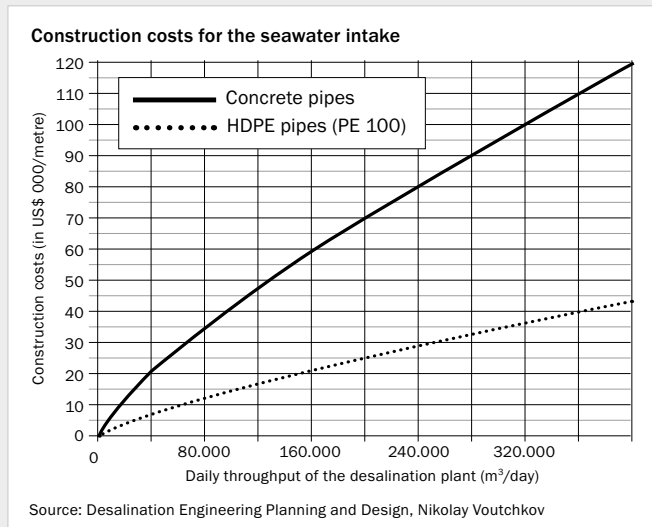


Super-Duplex

Super-Duplex pipes (material 1.4410) can be 4–5 times more expensive than SIMONA® PP-H Pipes and 8–9 times more expensive than SIMONA® PE 100 Pipes.

GRP

Piping systems made of glass-fibre reinforced plastic (GRP) can be up to 25–30% more expensive than comparable systems made of PE 100.



Concrete

Concrete pipes are also used for seawater intake (inlet pipes) and seawater outfall systems (discharge pipes). As the table shows, however, pipes made of PE 100 are the least expensive option, even at minimal levels of throughput.



SIMONA Plastics in seawater desalination – benefits at a glance

- High chemical resistance prolongs service life
- Very good hydraulic properties due to smooth interior pipe surfaces reduce maintenance costs
- Permanent corrosion resistance prevents expensive repairs later
- Excellent processing parameters and compatibility with other manufacturers' products
- Low-cost alternative to conventional materials such as GRP, concrete or Super-Duplex
- Absolutely watertight welded systems for safe plant operation
- Good long-term properties with regard to many substances
- Less pressure loss because no incrustations develop in the pipe – running costs in pump operations are reduced
- Cleaning is easy and safe
- Quick and easy installation saves time
- Competent technical consulting

Fields of application of SIMONA Plastics in water treatment

Owing to the many demanding fields of application and materials used, the water treatment industry requires safe, reliable, efficient and economical plants, components and piping systems.



Conveying solids

SIMONA® PE 100 AP-Line
Abrasion-resistant piping systems for conveying effluent containing solids

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Sewage treatment

SIMONA® PP-H AlphaPlus®
Aeration systems for sewage treatment

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Industrial water processing and treatment

SIMONA® PE, PP, PVDF and ECTFE
Piping systems for water processing and treatment

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Drinking water supply

**SIMONA® PE 100 SPC RC-Line
Protective-Jacket Pipes**
Safe laying of drinking water
pipes

Page 20



Drinking water storage

**SIMONA® PE 100 Blue 340
Sheets**
Internal lining of drinking water
tanks

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Customised components

SIMONA plastics workshop
Customised distribution
systems for reverse osmosis or
ultrafiltration plants

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Abrasion-resistant piping systems for conveying effluent containing solids – SIMONA® PE 100 AP-Line

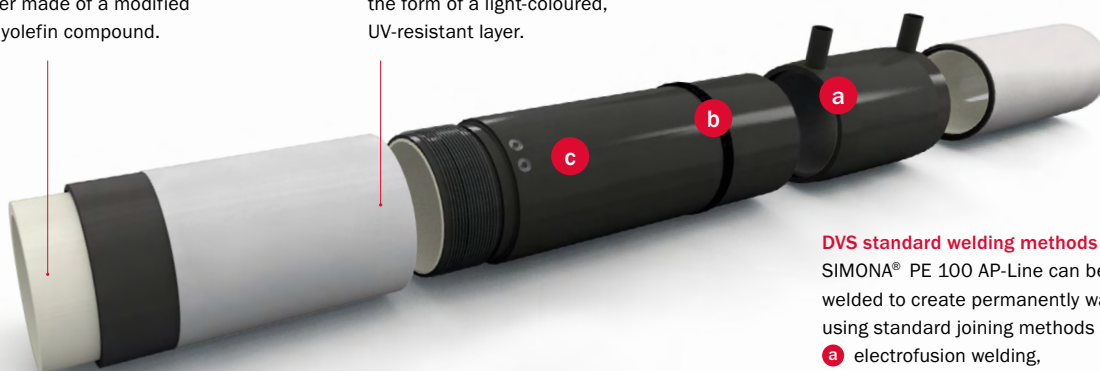
Not only must the supply of drinking water be made reliable, the disposal of water consumed is also essential. A larger flow of wastewater simultaneously generates a larger flow of sludge, which then has to be treated accordingly and conveyed.

Abrasion-resistant inner layer

Co-extruded pipes and fittings are produced with an integrated inner layer made of a modified polyolefin compound.

UV-resistant outer layer

For outdoor use an additive outer layer can be applied in the form of a light-coloured, UV-resistant layer.



DVS standard welding methods

SIMONA® PE 100 AP-Line can be integrally welded to create permanently watertight joints using standard joining methods such as

- a** electrofusion welding,
- b** heated-tool butt welding and the
- c** SIMOFUSE® joining method.

The recycling of sludge recovered from sewage treatment plants plays a crucial role. Eco-friendly solutions such as phosphate recovery from sludge and use as organic fertiliser are being increasingly promoted. On account of the high level of solids and the resulting abrasive properties the demands made of the piping system for conveying sludge are correspondingly high.

The SIMONA® PE 100 AP-Line Piping System was developed for such requirements (AP = Abrasion Protection). Compared to other common pipe materials, SIMONA® PE 100 AP-Line exhibits much less volume wear in sand-slurry tests – 2.5 to 4.6 times less than with various metal pipe materials.

Consequently, SIMONA® PE 100 AP-Line Pipes have longer service life expectancies. The inner layer also features a very high level of notched impact strength, in conjunction with the property of being able to absorb a large amount of impact energy.

SIMONA® PE 100 AP-Line Piping Systems are a compelling choice because of their outstanding processing capability and easy installation, thus ensuring much lower total costs over the entire service life.





Fields of application

- Conventional sewage treatment plants
- Sewage treatment systems for the recovery of phosphate
- Sludge conveyance in filtration plants

Product range

Diameter d (mm)

		SIMONA® PE 100 AP-Line, SDR 11/SDR 17 ¹
Pipes		
	Pressure pipes ²	160 – 630
Fittings		
	Branches, welded ³	160 – 630
	SIMOFUSE® stub flanges (F-piece)	160 – 630
	Bends, welded, 30° to 90°	160 – 630
	Bends, seamless, 11° to 90° ⁴	160 – 400

¹ Nominal pressure load in relation to effective PE 100 wall thickness.

² Pipes with additive inner layer for full pressure-specific load-bearing capacity available on request.

³ Full pressure-specific load-bearing capacity available on request.

⁴ Bends, seamless, 11° – 90°; d 450 – 630 mm available on request.

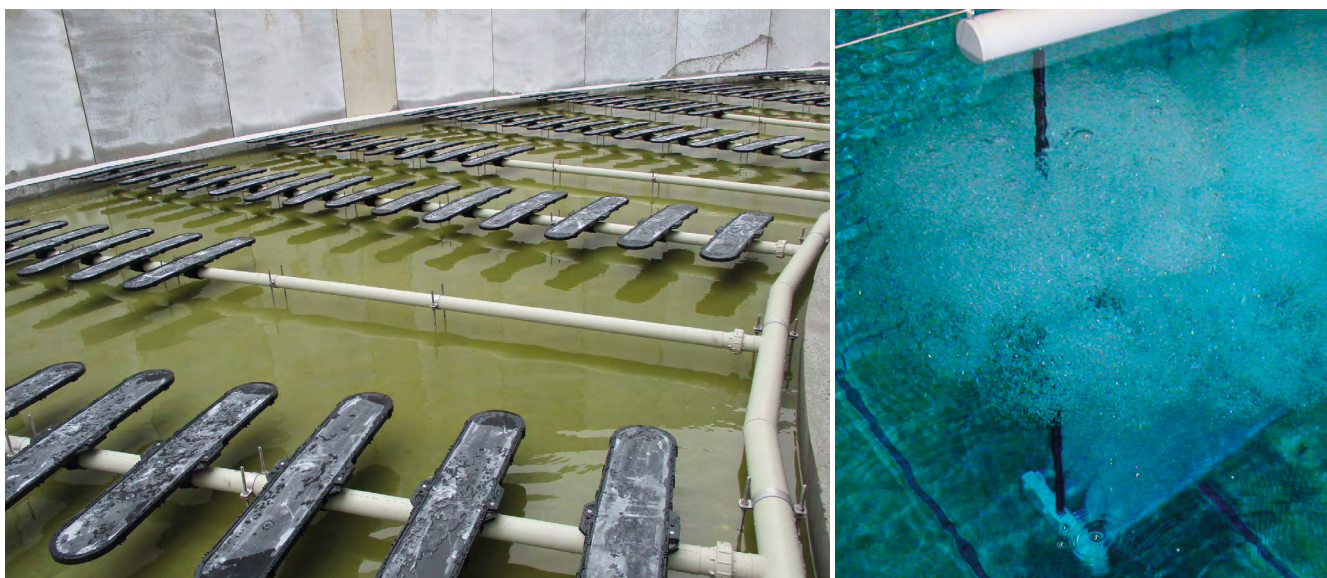


Benefits at a glance

- An abrasion-resistant, impact-resistant inner layer reduces the need for maintenance and renewal
- Reduced heat absorption in pipes with UV-stabilised white outer layer ensures better dimensional accuracy
- High corrosion resistance and high chemical resistance prolong the service life of the pipes considerably
- A much longer service life in operation is ensured by excellent wear resistance compared to conventional materials such as GRP and steel
- Reduced assembly and maintenance costs due to same-system product range

Aeration systems for sewage treatment – SIMONA® PE 100 and PP-H AlphaPlus®

Microorganisms require oxygen for biological sewage treatment. The infeed of fine-bubble atmospheric oxygen increases the efficiency of aerobic degradation processes; this is the key task to be performed by aeration systems in sewage treatment plants. High water temperatures and chemically aggressive substances can soon cause conventional aeration systems to reach their technical and economic limits.



Pipes based on the material SIMONA® PP-H AlphaPlus® are a compelling choice when it comes to selecting components that are resistant to most chemicals occurring in sewage.

At the same time they provide a high level of protection against corrosion and are characterised by very good processing capability and efficient handling. The result: added value and flexible use in the field of sewage treatment. The package of benefits also includes a high level of efficiency, low energy demand, many potential fields of application and a long service life.

Fields of application



SIMONA® PP-H AlphaPlus® Pipes and Fittings can be used for the following aerator systems in sewage treatment plants:

- Tubular aerators
- Plate aerators
- Disk aerators



Product range

Diameter d (mm)

		SIMONA® PE 100	SIMONA® PP-H AlphaPlus®
Pipes			
	Pressure pipes	10 – 1,200	10 – 1,000
	Ventilation pipes		200 – 800
Fittings			
	Elbows 90°, 45°, injection-moulded	32 – 315	32 – 315
	Bends 90°, injection-moulded	20 – 500	20 – 500
	Bends 90°, 60°, 45°, 30°, welded	90 – 1,200	90 – 800
	Bends 90° to 11°, seamless	32 – 1,000	90 – 315
	Stub flanges, injection-moulded	20 – 1,200	20 – 1,000
	Stub flanges, machined	20 – 1,200	20 – 1,000
	Tees, injection-moulded	20 – 630	20 – 630
	Tees, welded	90 – 1,200	20 – 1,000
	Tees with reduced branch, injection-moulded	63/32 – 315/250	25/20 – 800/710
	Tees with reduced branch, welded, reinforced	180/50 – 800/315	180/50 – 800/315
	Branches 45°, injection-moulded	63 – 110	
	Branches 45°, 60°, welded	110 – 630	
	Reducers, concentric, injection-moulded	25/20 – 1,000/900	
	Reducers, concentric, machined	25/20 – 1,000/900	
	Reducers, eccentric, injection-moulded	160/90 – 1,000/900	
	Reducers, eccentric, machined	160/90 – 1,000/900	
	End caps, injection-moulded	32 – 800	20 – 800
	End caps, welded	32 – 800	20 – 800
	End caps, machined	32 – 800	20 – 800
	Unions, adaptors	20 – 63	20 – 63



Benefits at a glance

PE

- Highly cost-effective due to long service life
- Very good hydraulic properties due to smooth interior pipe surfaces and hence reduction of pressure losses over the entire service life (cost saving)
- Light weight, even in complex designs, enhances reliability with regard to installation
- Permanent corrosion resistance prolongs maintenance intervals
- Excellent strength and flexibility facilitate assembly on site
- Excellent light resistance and weather resistance enable outdoor use
- Good chemical resistance prolongs the service life of the pipeline
- Outstanding aging resistance

PP-H AlphaPlus®

- High toughness for enhanced resistance and durability
- Excellent resistance to chemically polluted sewage enables safe transport
- Reliable corrosion resistance reduces maintenance work and operational interruptions
- Increased modulus of elasticity of the alpha-nucleated PP-H enables precision pipeline routing
- Fine microstructure and stable crystalline structure prevent deposits and allow maintenance-free operation
- Excellent weldability due to a fine, thermodynamically stable microstructure ensures absolutely watertight pipe joints

Piping systems for industrial water processing and treatment – SIMONA® PE, PP, PVDF and ECTFE

Water treatment plants for use in the food industry, in the field of semiconductors fabrication, in the pharmaceutical sector or for the treatment of industrial water and effluent – the specific pipe material is subject to varying demands depending on the field of application. Apart from the metering of concentrated chemicals, e.g. high-percentage sulphuric acid, drinking water approvals and food conformities are also crucial when making a selection.



The operation of water treatment plants often requires the use of specific chemicals. Our intelligent end-to-end piping systems are resistant to highly corrosive liquids such as acids or alkalis and come with the full range of drinking water approvals.

Furthermore, they are maintenance-free throughout the entire period of use (at least 25 years). That eliminates unnecessary risks and reduces the need for repairs and associated costs.

Fields of application

- Reverse osmosis plants with SIMONA® PP-H AlphaPlus® Pipes and Fittings for the treatment of process effluent in the semiconductors industry
- Deionisation systems for use in the pharmaceutical sector with SIMONA® PVDF Pipes and Fittings
- Municipal water treatment plants for uranium removal and dealkalisation with SIMONA® PP-H AlphaPlus® Pipes and Fittings






i You will find further details about the chemical resistance of our materials in our SIMCHEM online database.

www.simchem.de

Product range

Diameter d (mm)

		PE 100	PP-H AlphaPlus®	PVDF	ECTFE
Pipes					
	Pressure pipes	10 - 1,200	10 - 1,000	16 - 315	20 - 160
	Ventilation pipes		200 - 800		
Fittings					
	Elbows 90°, 45°, injection-moulded	32 - 315	32 - 315	20 - 225	
	Bends 90°, injection-moulded	20 - 500	20 - 500	20 - 225	
	Bends 90°, 60°, 45°, 30°, welded	90 - 1,200	90 - 800		
	Bends 90° to 11°, seamless	32 - 1,000	90 - 315		
	Stub flanges, injection-moulded	20 - 1,200	20 - 1,000	20 - 225	
	Stub flanges, machined	20 - 1,200	20 - 1,000	20 - 225	
	Tees, injection-moulded	20 - 500	20 - 1,000	20 - 225	
	Tees, welded	90 - 1,200	20 - 1,000		
	Tees with reduced branch, injection-moulded	63/32 - 315/250	25/20 - 800/710		
	Tees with reduced branch, welded, reinforced	180/50 - 800/315	180/50 - 800/315		
	Branches 45°, injection-moulded	63 - 110			
	Branches 45°, 60°, welded	110 - 630			
	Reducers, concentric, injection-moulded	25/20 - 1,000/900		25/20 - 225/200	
	Reducers, concentric, machined	25/20 - 1,000/900		25/20 - 225/200	
	Reducers, eccentric, injection-moulded	160/90 - 1,000/900			
	Reducers, eccentric, machined	160/90 - 1,000/900			
	End caps, injection-moulded	32 - 800	20 - 800		
	End caps, welded	32 - 800	20 - 800		
	End caps, machined	32 - 800	20 - 800		
	Unions, adaptors	20 - 63	20 - 63	20 - 63	
Fittings for socket welding					
	Elbows, tees, stub flanges, sockets, reducers, end caps, unions, adaptors			20 - 110	



Benefits at a glance

PVDF

- Excellent chemical resistance prolongs the service life of the pipeline
- Physiological safety (in accordance with BfR and FDA)
- Wide service temperature range
- Low flammability (in accordance with DIN 4102 B1 and FM 4910) makes plant operation even safer
- Good hydraulic properties due to smooth interior pipe surfaces prevent additional pressure loss over the entire service life
- Acquisition costs recouped over the entire service life due to outstanding aging resistance

ECTFE

- Extreme chemical resistance prolongs the service life of the pipeline
- Physiological safety (in accordance with BfR and FDA)
- Very wide service temperature range
- Low flammability (in accordance with DIN 4102 B1) for safe plant operation

For benefits of materials PE and PP-H AlphaPlus®, see page 17

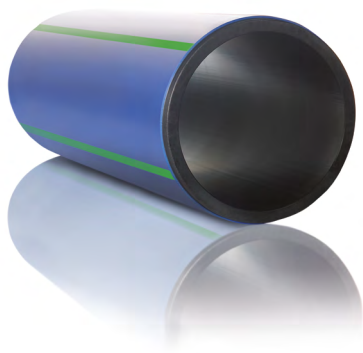
Safe laying of drinking water pipes – SIMONA® PE 100 SPC RC-Line Protective-Jacket Pipes

100% corrosion resistance coupled with outstanding material-specific properties such as very high abrasion resistance, notch resistance and crack resistance as well as excellent hydraulic specifications make SIMONA Pressure Pipe Systems ideal for future-proof solutions in the utility sector.




No matter whether they are used in drinking water supply, piping for waterworks and elevated tanks or for trenchless laying, the materials selected by SIMONA can be optimally matched to the particular field of application and are designed for maximum efficiency and load capacity in all installation situations.

SIMONA® PE 100 SPC RC-Line Drinking Water Pipes have SVGW and DVGW approvals. Our reliable piping systems have a service life of 100 years. They are easy to maintain and allow trouble-free sustinment of network operation. In ecological terms, too, they constitute a gain because the strain-resistant, absolutely watertight welded joints avoid water losses.



Product range

SIMONA® PE 100 SPC RC-Line Protective-Jacket Pipes, SDR 17/11

		Diameter d (mm)
	Protective-Jacket Pipes	32 - 1,000 (>630 mm as of Q3 2019)

Benefits at a glance

- No handling effort with heavy machinery on account of the lightweight design
- No pipe breakage thanks to a high level of flexibility, allowing trouble-free laying
- Excellent inner and outer corrosion resistance reduces expensive operational interruptions and cuts maintenance costs
- Strong, permanently watertight joints due to welding reduce the risk of leakage
- Trenchless laying is possible in all structurally approved soil classes due to high abrasion resistance, notch resistance and crack resistance
- PAS 1075 Type 3 certified

Internal lining of drinking water tanks – SIMONA® PE 100 Blue 340 Sheets


SIMONA® PE 100 Blue 340 Sheets are a cost-effective solution for lining raw water, purified water or drinking water tanks. They also minimise cleaning and disinfection costs.

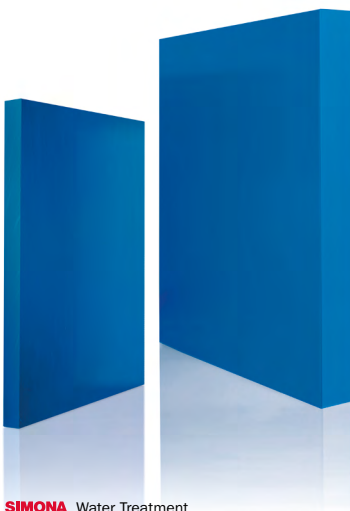


This lining technology allows complete rehabilitation of virtually any shape of tank. Any butt joints or weld seams necessary are always smoothed close to the surface. That overcomes the most difficult installation situations and achieves a permanently homogeneous surface texture for the finished lining. In operation, this makes cleaning and disinfection very fast and efficient, and hence far less expensive compared to conventional methods of rehabilitation.

Product range

SIMONA® PE 100 Blue 340 Sheets, extruded

	Formats (mm)	Thicknesses (mm)
	2,000 x 1,000	3 - 20
	3,000 x 1,500	3 - 20
	4,000 x 2,000	3 - 20



Benefits at a glance

- Permanent structure due to solid material design
- High chemical resistance prolongs service life
- Excellent processing reduces assembly time
- Certified in accordance with DVGW Code of Practice, Worksheet W 270, not to provide a breeding ground for microorganisms
- Risk of contamination is ruled out, ensuring absolutely hygienic conditions
- Meets the drinking-water contact recommendations issued by the German Institute for Risk Assessment 'BfR'



Customised distribution systems – the SIMONA plastics workshop

SIMONA's in-house plastics workshop is all about customisation. With the help of custom designs our specialists deliver solutions that are precisely tailored to meet your requirements – be it for projects centred around reverse osmosis plants or for complex filter systems in ultrafiltration plants. We deliver pre-welded components directly to the construction site. That speeds up assembly and reduces your installation costs.



Distribution system made of PP-H AlphaPlus® for aeration in an MBBR sewage treatment plant (Moving Bed Biofilm Reactor)



Piping system made of SIMONA® PP-H AlphaPlus® for a well water treatment plant (aerator, iron and manganese removal filters) for drinking water supply

Accessories and services from SIMONA

As your partner, SIMONA offers you suitable accessories and machines for the professional processing and welding of your piping systems. Naturally, our members of staff will be only too pleased to offer their advice, enabling you to benefit from their experience and the necessary technical expertise. We take a particularly thorough approach when it comes to the application of our products; and we are pleased to pass on our knowledge.



Consulting service

Our customers benefit from customised solutions that support them in their pursuit of market excellence. SIMONA has many years of experience in the machining of sheets, pipes and fittings. You can always rely on our extensive know-how and our high level of technical expertise. Our staff at the Technical Service Centre will be only too pleased to advise you:

i Phone +49(0) 67 52 14-268
Fax +49(0) 67 52 14-741
pipingsystems@simona.de

SIMONA Academy

At our Technology Centre and our training facility in Kirn you have an opportunity to attend product training sessions, learn new processing techniques and train under supervision.

i Phone +49(0) 67 52 14-251
Fax +49(0) 67 52 14-60251
mail@simona.academy

Information service

You can obtain further information in the form of catalogues, brochures, case studies, project reports, technical data sheets and product samples. Contact our Marketing Department at:

i Phone +49(0) 67 52 14-383
Fax +49(0) 67 52 14-738
marketing@simona.de

Delivery service

Our standard products are stored at central warehouses and distribution centres throughout the world, thus guaranteeing speedy and flexible delivery. For further information about dimensions and availability, please contact our Sales Department:

i Phone +49(0) 67 52 14-327
Fax +49(0) 67 52 14-710
sales@simona.de

We offer an extensive range of global consulting services, provided by staff at our Technical Sales Support unit and within our field sales organisation – from project planning and material selection to applications advice on pre-engineering in the field.

Project planning

Both technically and commercially we advise project planners and clients on the selection of suitable materials and products as well as on the most cost-effective methods of pipelaying. We would be delighted to assist you in addressing all technical issues related to your specific project, e.g. pipelaying methods, strength analyses or joining technology.

Structural analyses

We perform structural analyses in the following areas:

- Underground pipes
- Drainage pipes in landfills and in traffic route construction
- Shafts
- Rectangular and circular tanks
- Ventilation piping systems

On-site consulting

We are happy to provide active support at all stages of your project. Our qualified engineers will assist you on site throughout your construction project and also advise you on technical matters subsequent to completion.

Training

We also offer applications training for your staff, either on your premises or at our Technology Centre in Kirn.

Customised pipes and fittings

Alongside our standard range, we offer a premium-class package of custom products:

- Pipes in various lengths for various joining methods
- Special sizes of pipe that are adapted to the standard nominal diameters of other materials
- Pipes with non-standard properties such as electrical conductivity or low flammability
- Customised special fittings as system components for your applications



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