

**SEMPERIT** 

# CONCRETE PUMPING HOSES



**semperflex**   
A MEMBER OF THE SEMPERIT-GROUP

# SEMPERIT – SUCCESSFUL ALL OVER THE WORLD

The Austrian based **Semperit Group** is one of the world's leading companies active in developing, manufacturing and marketing high quality rubber and plastic products. Founded in 1824, the company is one of Europe's oldest rubber manufacturers.

Gained from our company's long tradition, our expertise in the production and use of rubber and plastic products, together with our commitment to maintain high quality standards in every area, as well as our dedication to customer service, stand for a continued strengthening of our position as a global leader.



Our **Sempermed**, **Semperflex**, **Sempertrans** and **Semperform** divisions offer our customers a comprehensive and innovative assortment of high quality products and solutions, from medical and industrial gloves, to hydraulic, industrial hoses and rubber sheetings, industrial mouldings, as well as conveyor belts.

Semperflex industrial hose division develops, manufactures and markets industrial hoses throughout the world. These high quality products are produced in our Semperflex plants

in Austria, the Czech Republic and Italy, based on knowledge gained by many years of experience. Significant on-going investments in R&D provide us with continually improving quality and products highly adapted for today's markets.

Businesses and industries of all sizes have a wide range of hose requirements. Whether it's in the chemical industry, the building industry, the food industry or in recycling, Semperflex, your partner for hose solutions, offers the right product for you for almost every imaginable application.

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The hoses shown in this literature are schematic diagrams only.  
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# CONCRETE PUMPING PROCESSES

Concrete pumping is now standard practice in the building industry. A concrete pump places concrete considerably faster, with less labour than any other method. A modern concrete pump, in the hands of a professional concrete pumping operation, is very reliable. When used properly, a pump is safer and more effective than other methods. For

high quality pumping state-of-the-art equipment is needed. SEMPERIT offers high quality concrete pumping hoses and assemblies for such applications. These hoses and assemblies were developed to satisfy the specific demands of the application, with focus on safety. With SEMPERIT assembled hoses you will achieve the highest standards in your activities.

## MAIN CRITERIA FOR HIGH QUALITY CONCRETE PUMPING HOSES:

- DURABILITY
  - abrasion resistant lining
  - abrasion resistant cover
- WEIGHT
  - light weight
- ASSEMBLY SAFETY
  - securely factory fitted couplings
  - high burst pressure
- FLEXIBILITY
  - high flexibility



## KEY CHARACTERISTICS OF SEMPERIT CONCRETE PUMPING HOSES AND HOSE ASSEMBLIES

1. **Superior lining abrasion resistance** – very long service life
2. **Lightweight hose** – minimal operator fatigue and low transport costs
3. **Good flexibility** – easy to handle
4. **Full conformity with EN 12001:2003**
5. **Excellent cross section stability** – stable assembling process
6. **Hose** – suitable for Victaulic couplings as well as other coupling systems
7. **Safety factor** – 2:1, burst pressure of 150 and 200 bar – very high safety for operators
8. **Factory fitted assemblies** – high safety through factory fitted assemblies
9. **Fittings** – usage of high-grade steel quality for longer service life
10. **Assemblies delivered with protective plastic caps on fittings** – damage of the assembly during transport avoided
11. **Easy to clean by reverse pumping** – avoiding blockages and increasing service life
12. **Cut pieces available on request**

# APPLICATIONS



## CONCRETE PLACEMENT

Concrete supply at construction sites – delivery by concrete pumping machines. Most common lengths used: 3 to 4 meters. Most common diameters used for this application: 4", 5".



## CONCRETE PILING

Semperit concrete pumping hoses are used also for special piling applications at construction sites. Most common lengths used: 10 to 20 (30) meters. Most common diameters used for this application: 4", 5".



## TUNELLING

Automatic machine spraying – primary tunnel walls stabilisation. For this application mostly smaller diameters of the hoses are used. Dimension: 2" to 4" (5")

# TRANSPORTED MATERIALS



Semperit concrete pumping hoses are suitable for delivery of highly abrasive media, such as concrete, mortar and cement.

# SEMPERIT HOSE TYPES

## PUMPMaster SM200

Temperature range: -35 °C/+80 °C.  
Safety factor: 2:1  
Hose fully conforms to EN 12001:2003

Tube: NR/SBR/BR, black, smooth, antistatic, abrasion resistant.  
Reinforcement: Steel wire, wrapped.  
Cover: SBR, black, antistatic, cloth impression.

Article number	Inner diameter		Wall thickness	Outer diameter	Work. pressure	Number of	Bending radius	Weight	Coil length
	mm	Inch	mm	mm	bar (max)	reinforcements	mm (min)	approx. kg/m	m (max.)
48398 5010	50.8	2	10.0	70.8	100	4	350	2.90	40
48398 6511	65.0	2 1/2	11.0	87.0	100	4	400	3.90	40
56398 7512	75.0	3	12.0	99.0	100	2	450	5.50	40
56398 8512	85.0	3 1/2	12.0	109.0	100	4	500	6.60	40
56398 0013	101.6	4	13.0	127.6	100	4	600	8.30	40
56398 1113	114.0	4 1/2	13.0	140.0	100	4	700	9.20	40
56398 1214	125.0	5	14.0	153.0	100	4	800	12.20	40
56398 1516	150.0	6	16.0	182.0	100	6	1000	15.80	40

Cut pieces, as well as different length assemblies available on request. For minimum ordering quantities and prices please contact your nearest Semperit subsidiary, distributor or technical service.

Prevalent dimensions are available on stock.

Identification: embossed, red mylar tape

"SEMPERIT S PUMPMaster SM200 Concrete Pumping/Betonpumpen V.V.P. 100 bar, Safety Factor 2:1"



## PUMPMaster SM150

Temperature range: -35 °C/+80 °C.  
Safety factor: 2:1  
Hose fully conforms to EN 12001:2003

Tube: NR/SBR/BR, black, smooth, antistatic, abrasion resistant.  
Reinforcement: Steel wire, wrapped.  
Cover: SBR, black, antistatic, cloth impression.

Article number	Inner diameter		Wall thickness	Outer diameter	Work. pressure	Number of	Bending radius	Weight	Coil length
	mm	Inch	mm	mm	bar (max)	reinforcements	mm (min)	approx. kg/m	m (max.)
56498 0012	101.6	4	12.0	125.6	75	4	600	6.50	40
56498 1214	125.0	5	14.0	153.0	75	4	800	10.50	40
56498 1314	127.0	5	14.0	155.0	75	4	800	10.80	40

Cut pieces, as well as different length assemblies available on request. For minimum ordering quantities and prices please contact your nearest Semperit subsidiary, distributor or technical service.

Prevalent dimensions are available on stock.

Identification: embossed, white mylar tape

"SEMPERIT S PUMPMaster SM150 Concrete Pumping/Betonpumpen V.V.P. 75 bar, Safety Factor 2:1"



### IMPORTANT NOTES:

This catalogue has been carefully prepared to provide our customers with comprehensive advice. The information contained herein is the result of many years of tests and trials or based on the endurance specifications defined by ISO 7620-1986(E) for the specified media. The individual operating conditions affect the use of every product. Products can therefore only offer the safety that is expected on the basis of the information provided by us in the written product information. In the event of improper treatment such as crushing, tearing, stretching and loading with impermissible media this safety cannot be expected.

We reserve the right to make amendments at any time.

Danger! Before using with new or untested media or for applications that are not included in the product information, written information must be obtained from a specialist dealer or a Semperit applications engineer. All hoses must be regularly checked for operating safety. In the event of damage, in particular to the hose cover, hoses must be replaced for safety reasons.

Publication date/State of catalogue information: 08/2006, 1st edition. We continuously work at advancing our products for our customers. Please keep yourself informed regularly about the most recent product specifications either at [www.semperflex.com](http://www.semperflex.com) or get in touch with our specialist dealers or Semperit applications engineers.

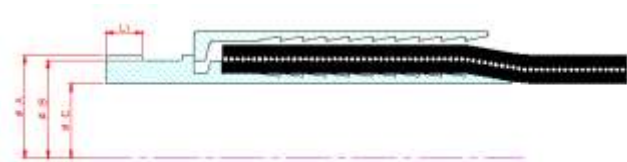
We reserve the right to make amendments at any time

## FITTINGS

Semperit concrete pumping hoses are assembled with high quality VICTAULIC system couplings by trained operators using state-of-the-art assembling equipment.



Assembly cross-section.



Assembly dimensions		Dimensions			
Hose	Fitting	ØA mm	ØB mm	ØC mm	L <sub>i</sub> mm
2"	2 1/2"	73.0	69.0	50.0	16.0
2 1/2"	3"	88.9	84.9	65.0	16.0
3"	3"	88.9	84.9	75.0	16.0
4"	4"	114.3	108.0	101.6	17.0
4"	4 1/2"	127.0	115.0	101.6	17.0
5"	5"	142.0	133.0	125.0	17.0
5"	5 1/2"	148.0	139.0	125.0	17.0

## ASSEMBLING PROCESS



## SERVICE, MAINTENANCE AND STORAGE

Hoses are subject to a limited service life and the user must be alert to warnings of a pending hose failure, especially when the conditions under which the hose is used require a high working pressure and/or the hose is used to convey dangerous substances.

Safety warning: If the manufacturer's recommendations regarding service, maintenance and storage of the hose in question are not followed, this may lead to the hose's failure to function correctly, which in turn may lead to damage of property or serious bodily injury.

## General inspection

Inspections and hydrostatic tests are to be carried out at regular intervals in order to monitor hose suitability for continued use. A visual inspection of the hose for loose covers, kinks, dents or soft spots must be carried out for the purposes of determining whether reinforcements have either broken or shifted out of position.

Couplings or other fittings must be carefully inspected for signs that they are becoming detached from the hose and must be replaced immediately if necessary.

## Storage

Stored rubber hoses can be influenced by temperature, air humidity, ozone, daylight, oil solvents, corrosive liquids and vapor, insects, rodents and radioactive materials etc.

Proper storage of the hoses depends primarily on their size (diameter and length), the quantity to be stored and the packaging materials used. Hoses must not be stacked or piled up in such a way so that the stack weight causes the hoses on the bottom to become deformed. As rubber hoses differ widely in dimension, weight and length, no general recommendations can be given in this sense. A thin-walled hose can withstand less strain than a thick-walled hose or a hose reinforced with a steel wire double helix. Hoses that are delivered coiled must be stored horizontally.



Whenever possible, hoses should be stored in their original packaging, especially if these containers are wooden crates or plastic protection foils. This kind of packaging also protects the hose from sunlight.

The following contains general instructions for properly storing hoses in accordance with the standards laid down in **DIN 7716: 1982** "Rubber products; requirements for storage, cleaning and maintenance", Paragraph 3. Improper storage can significantly shorten the service life of the hose.

#### Storage room

The storage room should be cool, dry, free from dust and moderately well ventilated. Storage out in the open that does not protect against the weather is not suitable.

#### Temperature

Rubber products should not be stored below -10 °C or above +15 °C, whereby this limit can be exceeded up to +25 °C. Higher temperatures are only allowable for very short periods of time.

#### Heating

In heated storage rooms rubber products must be protected from heat sources. The distance between the heat source and the stored materials must be at least one meter.

#### Humidity

Storage in humid storage rooms should be avoided. It is important to make sure that condensation does not form. Best is a relative air humidity not exceeding 65 %.

#### Lighting

Rubber products should be protected from light, especially from direct sunlight and strong artificial light with a high quantity of UV rays. The windows of the storage rooms are, for this reason, to be covered with a red or orange (but never blue) protective coat of paint. Using normal light bulbs for lighting is preferable.

#### Ozone

As ozone is particularly harmful, storage rooms must not contain any ozone generating equipment, such as electric motors or other kinds of equipment which could generate a spark or other kind of electrical charge. Combustible gasses and vapours which could generate ozone by way of photochemical processes should be removed.

Finally, all rubber products should be stored according to the "first in, first out" principle, as an unusually long storage period can deteriorate the physical properties of rubber products even under the best of conditions.



Our ISO 9001: 2000 certified quality management system ensures the same high level product quality in all stages of the manufacturing process. In accordance with ever-more demanding user requirements, the tubes and covers of our Semperit hoses are made from carefully selected and tested rubber mixtures. We make state-of-the-art hoses combined with textile and metal reinforcements to meet the requirements for the application.



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