



*“The future of pipe is Green”*

**Welcome!**

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- 1. Aquatherm – A New Generation of Pipe**
- 2. Pipe Generations**
- 3. Demonstration**
- 4. Fields of Application**
- 5. Advantages and Characteristics**
- 6. Questions?**



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# Aquatherm – History

**A New Generation of Pipe in the USA**

# Aquatherm - History



Certified according to DIN/ISO 9001, Aquatherm is the world's leading producer of polypropylene piping systems for potable, hydronic, and industrial application.

Aquatherm was founded by Gerhard Rosenberg in 1973 for the development, production and installation of floor heating systems. At that time Aquatherm was one of the three first suppliers on the European market.

In 1980 Aquatherm developed the plastic pipe system fusiotherm® from polypropylene (PP-R (80)) for sanitary and heating installations. This innovation has been the foundation for the company's steady growth.

Presently Aquatherm has over 450 employees in four locations.

1. Main site in Attendorn, Germany
2. Branch D in Radeberg, Germany
3. Aquatherm Metal in Attendorn, Germany
4. Aquatherm Italy located in Massa, Italy



Today Aquatherm's innovative fusiotherm and climatherm lines are used in over 70 countries, supplying heat and pure drinking water to hospitals, hotels, resorts, factories, shopping centers, multiple-dwelling units, office buildings, universities, sports centers, luxury cruise liners, and countless other structures.

# A New Generation of Pipe in the USA



A cost-effective, environmentally friendly, high performance and more efficient alternative to copper and steel pipe.

- Polypropylene placed in plumbing code 2005
- ICC certified aquatherm piping in 2006 (1613 valuation report)
- NSF certifications 14, 51, 61 have been acquired
- Leak-proof connections are assembled through a fusion welding process
- The joining method requires no additives such as solvents, glues or solder
- Aquatherm pipes are completely non-toxic, even when burned
- Smooth interior walls resist corrosion and collection of sediment
- Contributes points to LEED certification
- Environmentally friendly and 100% recyclable, with no harmful waste products



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# Pipe Generations

## Five types of pipe are available:

- ❑ **Aquatherm-Greenpipe:** two versions of drinking water pipe that vary based on temperature and pressure characteristics (green)
  - ❑ **Fusiotherm**
  - ❑ **Faserpipe**
- ❑ **UV-protected pipe** (black)
- ❑ **Climatherm-chillerpipes** (blue/green stripes)
- ❑ **Firestop** (red/green stripes) *Approval Pending*
  - Pipes range from 3/8 to 10 OD
  - NPT terminated threads or flanged
  - Flanged = US 300 pound standard

## ❑ **Fusiotherm: Cold potable water application**

- A full plastic pipe made out of Fusiolen PP-R 80 (polypropylene).
- Quick and clean connections by heat fusion without any adhesives and loadable after short cooling period.
- Physically and chemically resilient, does not support the formation of mineral deposits, and is opaque so as not to promote microbiological growth.

## ❑ **Faserpipe: Hot or cold potable water application**

- To increase maximum operating temperatures and overall performance, Aquatherm developed a mixture of special fiberglass and Fusiolen PP-R 80.
- This material is extruded as the middle layer of the pipe, and allows the pipe to remain rigid at high temperatures without sacrificing any of the other benefits of the pipe.

## ❑ UV-Protected Black Pipe

- Fusiotherm pipe coated with a black UV protective coating for use in exposed conditions.

## ❑ Climatherm: Chilled and hot fluid installations

- A polypropylene pressure piping system which boasts all the unique advantages of Fusiotherm such as the strengthening characteristics of the Faser lining, but is engineered with thinner walls for higher flow rates, making it the product of choice for engineers and mechanical contractors.

## ❑ Firestop

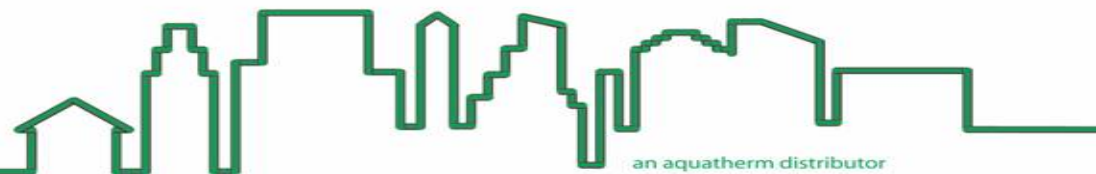
- Aquatherm Firestop offers the user an extensive range of pipes and fittings for the installation of fire sprinkler systems.
- Strong, fiberglass reinforced pipe structure is 100% corrosion resistant – prevents clogging of the sprinkler head.



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# Demonstration: FUSION WELDING





## The Heat Fusion Process

- The joining method is heat fusion, which eliminates the need for harmful solvents, glues or solder to create the joint.
- The superior welding properties of Fusiolen PP-R 80 result in a permanent, leak-proof connection that is chemically indistinguishable from the rest of the pipe.



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# Fields of Application

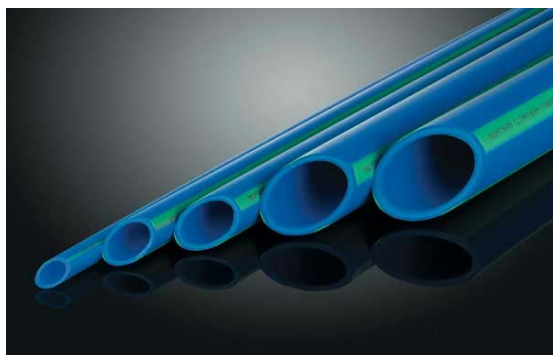


# Fields of Application: **Aquatherm-Greenpipe**



- Potable water application
  - Swimming-pool technology
  - Ship building
  - Geothermal
  - Chemical transport
- 
- Heating and chilled water
  - Rainwater and irrigation
  - Compressed air and open space heating / cooling is also possible

## Fields of Application: **Climatherm**



- Heating system construction
- Chilled water technology
- Chemical transport
- Rainwater and irrigation
  
- Compressed air
- Floor-heating systems
- Ship building application
- Geothermal

## Fields of Application: **Firestop**



684 a

- Fire protection sprinkler systems
- LPCB and VDS certified and quality inspected
- Low flammability according to DIN4102-1
- Building material class B1  
(*difficult to ignite, often self-extinguishing*)
- Maximum working temp/pressure
  - 125°F max. temperature
  - 175 psi max. pressure
- No accumulation of corrosion

# Fields of Application

## Data sheet 1.13



Enquiry for the chemical resistance of the **fusiotherm®**-pipe system

**aquatherm GmbH**

Technical department

Biggen 5 · D-57439 Attendorn

Phone: +49 (0) 27 22 950-0

Fax: +49 (0) 27 22 950-252

**Installer:**

Company \_\_\_\_\_

Contact \_\_\_\_\_

Street \_\_\_\_\_

PC / Town \_\_\_\_\_

Phone \_\_\_\_\_

Fax \_\_\_\_\_

E-mail \_\_\_\_\_

**Building project**

Street \_\_\_\_\_

Town \_\_\_\_\_

\_\_\_\_\_  
Place, Date / Signature

E-mail: [info@aquatherm.de](mailto:info@aquatherm.de)

Internet: [www.aquatherm.de](http://www.aquatherm.de)

**Field of application:**

**Fluid transported**

°C Operating temperature \_\_\_\_\_

mbar Working pressure \_\_\_\_\_

h/d Service life \_\_\_\_\_

% Concentration \_\_\_\_\_

**Ambient medium**

°C Ambient temperature \_\_\_\_\_

mbar Ambient pressure \_\_\_\_\_

Data sheets	enclosed	not enclosed
	Fluid transported	<input type="checkbox"/>
Ambient medium	<input type="checkbox"/>	<input type="checkbox"/>



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# Advantages and Characteristics



# Advantages and Characteristics



- **Competitively priced**
- **Environmentally sustainable**
- **Smell and taste neutrality**
- **Physiological suitability**
- **100% recyclable**
- **100% corrosion resistant**
- **Approved by Greenpeace**
- **Contributes to LEED points**
- **Excellent welding properties**
- **Less pipe friction**
- **Quiet – eliminates noise**
- **High abrasion resistance**
- **High impact rate**
- **Resistance against chemicals**
- **Equipped with metal deactivation**
- **Light Weight, easy to handle**
- **Easy to install**
- **High heat stabilized**
- **Low flammability**

## *Peace of Mind:*

*10 year guarantee and insured with \$6mill per project !!*



From production and installation to consumer use and recycling, Aquatherm's piping systems are clean, sustainable, and environmentally friendly. Choosing a piping solution that works hard to protect our delicate world lets you take an active hand in securing a better tomorrow.

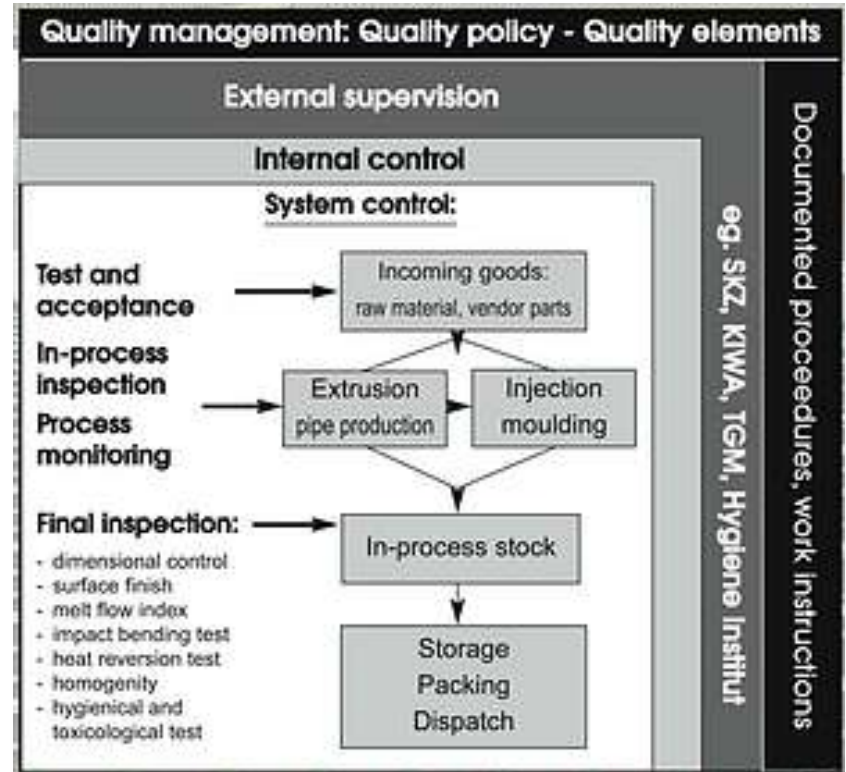
- Heat-fused connections require no solvents, cements or glues
- Free of PVC, plasticizer and chlorine
- Smooth interior walls resist corrosion and collection of sediment
- Opaque, so as not to promote microbiological growth in the pipe
- Safe for potable water and food-grade applications
- Recyclable - can be ground, melted and reutilized for various applications
- There are no harmful waste products created by the processing or disposal of polypropylene
- Contributes points toward LEED certification
- Product approved by **Greenpeace** in Europe

# Quality Assurance



*Various national and international certifications including:*

- NSF 14, 51, 61
- ICC ESR-1613





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**QUESTIONS?**

***Thank you for  
attending!***

