

Aqua Tower Materials

Discover the materials you need to build the "Aqua Tower" water maker, a DIY device that allows you to extract pure, drinkable water from air moisture.



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Aqua Tower Water Maker Materials (PDF)

Imagine a world where fresh, clean water is a personal achievement. You've built a **sustainable water maker** in your backyard. The **Aqua Tower Materials** guide is your blueprint for this journey. Richard Wilson's creation offers

water security for your home and off-grid living. Dive into the **Aqua Tower PDF** for step-by-step instructions and blueprints.

It shows you how to build a water maker with easy-to-find materials.

This isn't just a technical manual. It's a beacon of hope for those facing water scarcity. The Aqua Tower is a symbol of innovation and resilience.



Completed in 2010, it marked a new era in water production.

Standing at 260 meters and covering 1.9 million square feet, it's a marvel of architecture and technology.

It uses a cooling process to extract moisture from the air, needing just 17 watts of power. The Aqua Tower is a mix of necessity, innovation, and practicality. It's vital for urban homes and remote communities.

The **Aqua Tower PDF** is more than a guide; it's a lifeline.

Introduction to the Aqua Tower System

The **Aqua Tower System** is a remarkable engineering feat, standing at 260 meters (876 feet). It was designed by **Richard Wilson** to tackle severe droughts. It offers practical and **sustainable water solutions** to communities facing water shortages.

With its innovative design, the **Aqua Tower System** is both functional and beautiful. It can be found in various settings, making a significant impact.

The Inspiration Behind the Aqua Tower

Richard Wilson created the **Aqua Tower System** to fight water scarcity in California. He started the project in 2004, and it opened in 2010.

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The tower is close to Lake Michigan, making it easy to extract moisture from the air. Using air-to-water technology, the Aqua Tower can produce up to 60 gallons (0.23 m³) of clean water daily. This is a big help for areas dealing with drought and water shortages.

Overview of the Aqua Tower Functionality

The Aqua Tower System uses advanced materials and technology.

It turns air moisture into clean drinking water. Each slab has outdoor terraces that help collect moisture. The tower has 82 floors, with different levels for hotels, apartments, and condos. It uses 800 watts of power and a multi-stage filtration system. This system removes over 99% of dissolved solids like lead and mercury.

The Aqua Tower also uses UV light to kill 99.99% of bacteria and viruses. This ensures the water is safe to drink. The system's filters last 6–12 months, showing its durability and efficiency. It has won awards like Skyscraper of the Year (2009) and Honor Award for Distinguished Building (2010).

Materials Used in Aqua Tower Water Maker

The Aqua Tower Water Maker uses natural processes to make water.

It focuses on being sustainable and efficient. It has special materials for top performance and lasting use, working well all year.

List of Materials Provided in the PDF

The PDF lists all the materials needed for the Aqua Tower Water Maker. Here's a quick look at the key parts:

- **Containers:** Different sizes are used for water collection and storage.
- **Rubber Tubes:** These are chosen for their flexibility and strength, helping water move smoothly.
- **Electric Fan:** The fan is key for better airflow, helping water condense well.
- **Filtration Devices:** These systems keep the water clean and pure.
- **Galvanized Steel:** It's used for its protection against rust and reliability.
- **PVC Film Fill:** It helps reject heat, improving the cooling process.

Key Components and Their Functions

Every part of the Aqua Tower Water Maker is important. Knowing their roles helps us appreciate their value:

1. *Containers:* They are placed to catch the most water. They work well in all weather, thanks to the fan.
2. *Rubber Tubes:* These tubes help water move through the system without losing any.

3. *Electric Fan*: It works well in warm weather, needing little upkeep. It keeps the air moving.
4. *Filtration Devices*: They keep the water clean. The PVC film fill helps the system cool better.
5. *Galvanized Steel*: It protects against rust, proven by thousands of users over 65 years.

The materials in the Aqua Tower Water Maker work together well. The PDF explains each part and its role. It helps both DIY fans and experts build and keep this water maker running smoothly.

Containers Used in the Aqua Tower

Choosing the right containers is key for an Aqua Tower Water Maker. They must be tough, not corrode, and safe for water. The best containers depend on where you plan to use the Aqua Tower, offering both flexibility and reliability.

Types of Containers Recommended

For the best results, consider these container types:

- [*Polyethylene*](#) containers: They're strong and won't react with chemicals.
- *Stainless steel* containers: They resist rust and can handle high pressure.
- *Glass* containers: Ideal for those who want a chemical-free option.

Each container type has special qualities for different parts of the Aqua Tower. It's important to think about the material and size to keep the system safe and working well.

Where to Source the Containers

Finding the right containers for the Aqua Tower is easy if you know where to look. Home improvement stores like Home Depot have many options.

Specialized suppliers also offer custom solutions. When *sourcing containers*, choose ones that fit the system's needs for efficiency and longevity. Home Depot has a range of containers that meet the Aqua Tower's needs. Choosing high-quality materials ensures clean water and smooth system operation.



It's also important to check the containers against the system's specs:

Container Type	Durability	Non-corrosive Properties	Ease of Sourcing
Polyethylene	High	Yes	Easy
Stainless Steel	Very High	Yes	Moderate
Glass	Moderate	Yes	Challenging

Knowing what to look for in containers helps the Aqua Tower work efficiently.

This ensures safe, clean water for all your needs.

Condensation Surface Materials

For the Aqua Tower's water system to work well, picking the right *condensation materials* is key. Metals like aluminum and copper, which conduct heat well, help grab moisture from the air.

They keep the surface cool, pulling in water vapor even in dry places.

Ideal Materials for Effective Condensation

The right *condensation materials* make a big difference in water collection. Metals like aluminum and copper cool down fast, turning water vapor into liquid. Here's a look at some materials and how well they capture moisture:

Material	Thermal Conductivity (W/mK)	Moisture Capture Potential
Aluminum	237	High
Copper	401	Very High
Polyethylene with titanium dioxide and barium sulfate	0.36	Moderate

Copper stands out for its high thermal conductivity, making it the best choice for the Aqua Tower water maker.

Maintenance Tips for Condensation Surfaces

Keeping the Aqua Tower running smoothly means taking care of the condensation surfaces. Important *Aqua Tower maintenance* steps include:

- Clean the surfaces often to stop dirt and algae from blocking moisture.
- Check for corrosion on metal parts and apply coatings to keep them working.
- Make sure there's no blockage around the surfaces that could stop airflow.

Following these tips helps the surfaces work their best, making sure you have a steady water supply.

In particular, using top-notch *condensation materials* and sticking to *Aqua Tower maintenance* routines means you can count on a reliable water source.

Rubber Tubes and Their Importance

The Aqua Tower uses rubber tubes for safe water flow. These tubes are made from top-quality materials.

This prevents contamination and ensures they last long.

Specifications for Rubber Tubes

Rubber tubes in the Aqua Tower water maker must meet strict standards. They are made from food-grade materials to keep water clean. The most common materials are high-grade polyethylene and [polypropylene](#), following EPA's Clean Water Act.

1. Food-grade materials to prevent contamination
2. High resilience to environmental factors
3. Ability to handle a wide range of temperatures (-65 °C to +70 °C)
4. Thickness specifications vary from 4.50 mm ID x 6.90 mm OD to 6.30 mm ID x 9.50 mm OD

Installation and Maintenance of Tubes

Installing **Aqua Tower rubber tubes** correctly is key. Make sure connections are tight and avoid sharp bends. Regular maintenance is also crucial for the system's health.

Routine maintenance includes:

- Inspecting for leaks or wear
- Timely replacement of worn-out sections
- Ensuring all connections are secure

Choosing the right rubber tube is also important. For example, latex rubber tubing is used in many fields for its durability and flexibility.

Following these steps, the Aqua Tower keeps its water flow system reliable and safe. It meets the highest health and safety standards.

Electric Fan Mechanism

The electric fan is key in the Aqua Tower water maker. It pulls in humid air to help condense water. Choosing the right fan is vital for the system's success. We'll look at picking the best fan and keeping energy use low.

Choosing the Right Electric Fan

Finding the right **Aqua Tower electric fan** is essential. It must move enough air to make lots of water.

The fan should have good airflow and use little power.

- High airflow to pull in moist air well.
- Strong build for lasting use.
- Quiet to avoid disturbing anyone.

Energy Efficiency and Power Usage

Keeping the fan's energy use low is key. This makes the Aqua Tower good for the planet and your wallet. The fan works well without using too much power. Using an efficient fan saves money on electricity.

It also keeps the water flowing. The Aqua Tower works with solar power, making it great for green and emergency water needs.



Filtration Systems in the Aqua Tower

The **Aqua Tower filtration** system is a new way to purify water. It makes sure the water is clean and safe to drink.

It uses different methods to get rid of various contaminants.

Types of Filtration Systems

The Aqua Tower uses a mix of techniques for the best **water purification**.

This includes:

- **Mechanical Filters:** These remove big particles and sediments from the water.
- **Activated Carbon:** This filter gets rid of [chlorine](#) and organic compounds. It makes the water taste better and safer.
- **Reverse Osmosis:** This technology removes dissolved solids like heavy metals.
- **UV Treatment:** Ultraviolet light kills bacteria and viruses, making the water safe to drink.

Stages of Water Purification

The Aqua Tower's filtration system works in several stages. Each stage targets different contaminants:

1. *Pre-filtration:* This first stage removes large particles and sediments.
2. *Activated Carbon Filtration:* This stage focuses on removing chlorine and improving the water's taste.
3. *Reverse Osmosis:* This stage is crucial. It gets rid of dissolved solids, including heavy metals.
4. *UV Treatment:* The final stage kills any remaining microorganisms, providing thoroughly purified water.

The Aqua Tower is very effective. It removes over 99% of dissolved solids and contaminants. The filters need to be replaced every 6–12 months, depending on usage and water quality. This ensures the system keeps working well. It's also energy-efficient and quiet, making it easy to use at home.

Filter Type	Function
Mechanical Filter	Removes large particles and sediments

Activated Carbon	Eliminates chlorine and organic compounds
Reverse Osmosis	Removes dissolved solids, including heavy metals
UV Treatment	Disinfects water from bacteria and viruses

Now priced at \$39.69, with a special offer at \$29, the Aqua Tower is a great deal. It saves money and is eco-friendly by reducing plastic bottle use.

The small size of this impressive device fits well in any kitchen or dining area, making it a top choice for **water purification**.

Water Storage Solutions

For the best use of the Aqua Tower, choosing the right *water storage* solutions is key. Different tanks and containers can help meet your *Aqua Tower capacity* needs. Here are some top picks for storing water effectively.

Capacity Requirements

Knowing the *Aqua Tower capacity* is essential for good *water storage*.

You can pick from:

- Underground fiberglass tanks are great for big uses. They don't rust and are very flexible.
- Pillow tanks are flexible, holding from 500 to 20,000 gallons (ca. 76 m³). They're good for both short and long-term needs.
- Folding tanks are perfect for big operations. They start at 150,000 gallons (ca. 568 m³) and can go up to millions.

- Polyethylene tanks are ideal for collecting rainwater and home use. They're easy to care for and last long.

Best Practices for Water Storage

Good care and upkeep of storage systems keep water quality high.



Important practices include:

1. Use sterile containers to stop contamination and bacterial growth.
2. Keep stored water in a cool, dark place to keep its quality.
3. Clean and check containers often. This stops leaks and other problems.

Also, *bolted steel tanks* and *aboveground fiberglass tanks* are great choices. They're made for both waste and drinking water. *Stainless steel tanks* are strong and easy to clean.

They're used in many fields like winemaking and dairy.

When setting up your *water storage* plan, use these tips. They'll help your *Aqua Tower capacity* meet your hydration needs well.

Aqua Tower Materials: Sourcing from Home Depot

Home Depot is key in making the Aqua Tower system available and affordable. With 2 to 3 billion people facing water shortages, finding cheap, efficient water makers is crucial. The partnership with Home Depot ensures your Aqua Tower is both reliable and budget-friendly.

Budget-Friendly Options

The Aqua Tower prototype shows Home Depot's quality and affordability. Made for under \$200, it can produce up to 60 gallons (0.23 m³) of clean water daily. Buying parts from Home Depot keeps costs low. Here's a list of essential materials and their costs:

Material	Quantity	Cost
Drain Rock	16 bags	\$80
Pea Gravel	20 bags	\$100
Pool Filter Sand	24 bags	\$120
Active Media (Zeolite)	24 bags	\$144
PVC Components	varied	\$30
Concrete Blocks	3 layers tall	\$18

Home Depot's **affordable materials** make **sustainable water solutions** possible. Actually, every Aqua Tower water maker is built with eco-friendly, cost-effective items.

Quality and Availability

Choosing Home Depot for your **Aqua Tower materials** means quality and easy access. From drain rock to pool filter sand, these materials ensure your system works well for a long time.

With stores all over, finding what you need is easy. The Aqua Tower is a smart buy, costing just \$39.69 for the digital guide and materials list.

You can easily get the needed materials from Home Depot.

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This ensures your water maker is safe, clean, and sustainable.

In a world where only 0.5% of Earth's water is drinkable, the Aqua Tower is a game-changer. Using Home Depot's **affordable materials** helps fight water scarcity and boosts water independence in the U.S.

Assembly Instructions from the PDF

The PDF manual provides detailed instructions for assembling the Aqua Tower. It helps both beginners and experts to build the Aqua Tower easily.

With 20 sections on installation, use, and upkeep, it's a key guide for anyone building their Aqua Tower water maker.

Step-by-Step Guide

Here's a simple guide to help you avoid common mistakes during assembly:

1. *Foundation Prep*: Make sure the tower is on a level, stable, and well-anchored base.
2. *Component Alignment*: Check that all parts are correctly aligned.
3. *Connection Setup*: Secure all connections well to prevent leaks. Make sure water connections are airtight.
4. *Motor Installation*: Make sure the motor nameplate matches the power supply.
5. *Fan Installation*: Check that the fan spins clockwise when seen from the back.
6. *Duct Installation*: Ducts should be 20% bigger to improve performance and air pressure.
7. *Water Conditioning*: Keep the [water pH](#) between 6.5 and 8.0 during the first use.

Common Mistakes to Avoid

Here are some common mistakes to steer clear of during assembly:

- *Incorrect Component Alignment*: Misaligned parts can make the system less efficient.
- *Inadequate Sealing*: Airtight sealing is key to avoid leaks and keep the system working right.
- *Neglecting Motor Matching*: Always match the motor nameplate with the power supply to avoid electrical problems.
- *Improper Fan Rotation*: The fan must spin clockwise; wrong rotation can harm performance and the unit.

Comparing the Aqua Tower with Other Water Solutions

The Aqua Tower shines when compared to traditional water solutions like filters and bottled water. It offers big advantages over these methods.

Let's explore why the Aqua Tower is a better choice.

Traditional Filtration Systems

Filtration systems work well but cost more over time. They need frequent filter changes and upkeep. The Aqua Tower, on the other hand, is low maintenance.

Building the Aqua Tower costs about \$200, which is much less than installing a well. Commercial water generators can cost over \$3,000. So, the Aqua Tower is more affordable. It also uses little electricity, making it eco-friendly.

Bottled Water Versus Aqua Tower

Bottled water is expensive and bad for the environment.

It can cost over \$500 a year for a family. The Aqua Tower, by contrast, can make 60 gallons of water daily for a family of 5 to 8.

Setting up the Aqua Tower costs \$200, and you only need to buy a guide once for \$39.69. This makes it a cost-effective and eco-friendly choice.

Water Solution	Initial Cost	Annual Cost	Water Production	<i>Maintenance</i>
Aqua Tower	\$200	Minimal	60 gallons/day	Low
Traditional Filtration	\$5,000 — \$15,000	High	Varies	High
Bottled Water	Low	\$500+	Limited	N/A

The Aqua Tower is great for dry areas because it uses natural condensation.

It works well even in hot, dry places. It's also easy to set up and maintain, making it a smart choice for water.

Benefits of Aqua Tower Water Maker

The Aqua Tower Water Maker is changing how we view water. It brings many benefits, improving our environment and health.



Environmental Impact

The Aqua Tower has a big positive effect on the environment. It cuts down on plastic waste by reducing bottled water use. It can make about 60 gallons of water a day, using local humidity.

This reduces plastic waste and makes it a great choice for those who care about the planet.

Cost Savings

The Aqua Tower also saves money. It costs just \$39.69 and uses only 800 watts of power. This makes it a cost-effective choice.

It also helps you avoid the cost of bottled or filtered water. Plus, it's easy to maintain, with filters needing to be changed every few months.

Water Independence

The Aqua Tower gives you access to clean water, no matter what.

It can make up to 60 gallons of water a day. This is great for places where water is scarce or not safe. It uses a multi-stage purification system, including UV sterilization. With regular care, it can last 10 to 15 years.

This makes it a reliable choice for clean water.

Real-World Applications

The Aqua Tower is perfect for many real-world uses. It keeps water flowing for homes, helps those living without a grid, and is key for emergency kits. Let's dive into these uses.

For Families and Homes

Aqua Tower is great for families and homes.

It gives a steady water supply, making life easier and safer. It filters water, keeping homes healthy and worry-free.

Off-Grid Living

For off-grid living, Aqua Tower is a top choice. It lets people get clean water without needing city water. It's perfect for those wanting to live independently, improving life in remote areas.

Emergency Preparedness

Having water ready for emergencies is vital. Aqua Tower is quick to set up, making it a must-have for emergency kits. It ensures water when other sources fail, meeting basic needs during disasters.

Aqua Tower shows how innovation can improve our lives. It's useful every day, for off-grid living, and in emergencies. Its uses are wide and vital.



Technological Innovations in the Aqua Tower

The Aqua Tower has brought big changes in how water is made and energy is used. It uses smart sensors and automation.

It also makes the most of heat exchangers. This makes the Aqua Tower a top choice for making water efficiently and in an eco-friendly way.

Advanced Sensors and Automation

Advanced sensors are a big part of the Aqua Tower's tech.

They watch things like humidity, temperature, and air quality. This info helps make sure the Aqua Tower keeps making clean water well.

Automation helps a lot by cutting down on the need for people to do things manually. With its automated controls, the Aqua Tower can change how it works based on what it sees in real time.



This makes it easy to get water without much work.

Heat Exchangers and Energy Efficiency

Heat exchangers are a key part of the Aqua Tower's tech too.

They help save energy by moving heat from one place to another. In the Aqua Tower, they help use less power while still making lots of water. Using heat exchangers shows the Aqua Tower's dedication to being green. It uses less

energy, which means it can keep making water fast without hurting the planet. This shows why the Aqua Tower is a leader in water tech.

Feature	Benefit
Advanced Sensors	Optimize water production by monitoring environmental conditions
Automation	Minimizes manual intervention, enhancing usability
Heat Exchangers	Improve energy efficiency, reducing power consumption

Maintenance and Longevity of the Aqua Tower

The Aqua Tower is a marvel of modern engineering. It's also a symbol of efficiency in maintenance and longevity. To keep it in top shape, regular checks and cleaning are key. This ensures it works well and lasts longer.

The tower's design makes maintenance easy. You can access all important parts quickly. This reduces downtime and makes upkeep simple.

The Aqua Tower is built to last, thanks to its innovative features. It's certified by CTI for cooling and energy efficiency. Its heavy galvanizing protects against corrosion, adding to its longevity.

The tower also uses PVC film-fill to reject heat better. This makes it energy-efficient and reliable to operate.

In 65 years, the Aqua Tower has seen eight major updates and many small improvements. Its fiberglass and galvanized steel parts resist corrosion well. The design also helps save on pump power costs.

The Aqua Tower stays ice-free in winter thanks to smart fan controls. It's built to handle a lot of weight, keeping it strong. For a long-lasting water solution, following the **Aqua Tower PDF** guidelines is crucial.

This ensures your system works well for years.

Here's a look at the tower's capacity and weight limits for different models:

Model	Nominal Tons	Maximum Operating Weight (lbs)
490A	82	437
490D	102	437
492D	223	1096
492G	283	1096
493G	365	1570
493H	425	1570
494G	515	2728
494H	575	2728
494K	685	2728
495K	807	3593

495M	917	3593
496K	1119	2596
496M	1269	2596

In conclusion, the Aqua Tower is a cutting-edge, eco-friendly, and **durable water solution**. With regular care, it offers long-term benefits.

It's a sustainable choice for years to come.

Customer Testimonials and Success Stories

The Aqua Tower has won the hearts of many users. They share their positive experiences in **Aqua Tower reviews** and testimonials. People love how reliable, easy to use, and effective it is. Jeanne Gang's design and the Aqua Tower's practicality have made many customers happy.

Positive Feedback from Users

Many **Aqua Tower reviews** talk about how well it works. Users say it's great for making clean water using solar energy.

It's good for the environment and saves money. They also appreciate the clear instructions that make it easy to set up and keep running.

Case Studies and Real-World Scenarios

There are many stories of how the Aqua Tower has helped people. For example, a family in California used it to cut down on their water bills. An off-grid community in Texas found it to be a lifesaver during a drought.

These stories show how versatile and reliable the Aqua Tower is.

Case Study	Location	Outcome
Family Home	California	Decreased municipal water dependence by 90%
Off-grid Community	Texas	Reliable water source during severe drought
Remote Area	Arizona	Provided clean water in remote conditions

Conclusion

The Aqua Tower is a game-changer in solving water scarcity. It's not just a water maker; it's a sustainable solution. It's designed to be practical and save money. This system can make up to 60 gallons of water a day. It's easy to set up in under an hour. It also cuts down water bills by up to 90%.

People love it for its affordability and simplicity. Right now, you can get it for just \$29. Plus, there's a 60-day money-back guarantee.

As water security worries grow, the Aqua Tower is a reliable choice. It cuts down on plastic waste and provides clean drinking water. This makes clean water more accessible to everyone.

FAQ

What materials are detailed in the Aqua Tower Water Maker PDF?

The Aqua Tower **Water Maker Materials** PDF lists all you need. This includes containers, rubber tubes, an electric fan, and filters. These parts are key to making the water maker work.

Who designed the Aqua Tower System and why?

Richard Wilson designed the Aqua Tower System. He did this because his California community faced a severe drought. It's meant to pull moisture from the air to make clean drinking water.

What is the primary function of the Aqua Tower?

The Aqua Tower pulls moisture from the air. It then turns it into clean drinking water. This is thanks to its advanced air-to-water technology.

What types of containers are recommended for the Aqua Tower?

You should use containers that are tough and won't rust.

Home Depot has good options. Make sure they can hold a lot of water and are made of the right material.

What materials are ideal for the condensation surface in the Aqua Tower?

For the best results, use metals that can handle heat well.

This helps capture more moisture.

Why are rubber tubes important in the Aqua Tower System?

Rubber tubes are vital for moving water safely.

They must be safe for food to avoid contamination. They also need to be installed right for the system to work well.

How should I choose the right electric fan for my Aqua Tower?

Pick a fan that uses little energy but can pull in humid air. The PDF has details on what to look for in air volume and power use.

What types of filtration systems does the Aqua Tower use?

The Aqua Tower uses filters in stages. This includes mechanical filters, activated carbon, and UV treatment.

These steps make sure the water is safe to drink.

What are the best practices for water storage in the Aqua Tower System?

Store water in sterile containers in a cool, dark place.

Clean them regularly to stop bacteria from growing.

Where can I source materials for the Aqua Tower?

Home Depot has the materials you need at good prices.

The PDF shows how to pick the best ones.

How difficult is it to assemble the Aqua Tower using the PDF instructions?

The PDF guides you step by step. It's easy to follow, even if you're not tech-savvy. It also warns you about common mistakes.

How does the Aqua Tower compare to traditional water solutions?

The Aqua Tower is better because it's sustainable and saves money. It doesn't need constant upkeep and cuts down on plastic waste.

What are the environmental benefits of the Aqua Tower Water Maker?

It cuts down on bottled water use and plastic waste.

It also saves money and gives you water independence.

What are some real-world applications of the Aqua Tower?

It's great for families, homes, off-grid living, and emergency kits.

It ensures you always have water, no matter the situation.

What technological innovations are included in the Aqua Tower?

It has advanced sensors for better water production, automation for easy use, and heat exchangers for energy efficiency.

What maintenance is required for the Aqua Tower?

Regular checks and cleaning are key to keeping it working well. The PDF has maintenance tips to help.

What do users say about the Aqua Tower?

People love it for its reliability, ease of use, and water independence. Real-life examples show it works well in many places.

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Thanks a lot for checking out our review of the "Aqua Tower" water maker. You can share this PDF document, provided that you do not change its content in any way.