

**+GF+**

# Designed to deliver

**AQUASYSTEM**

PP-R and PP-RCT pipe systems



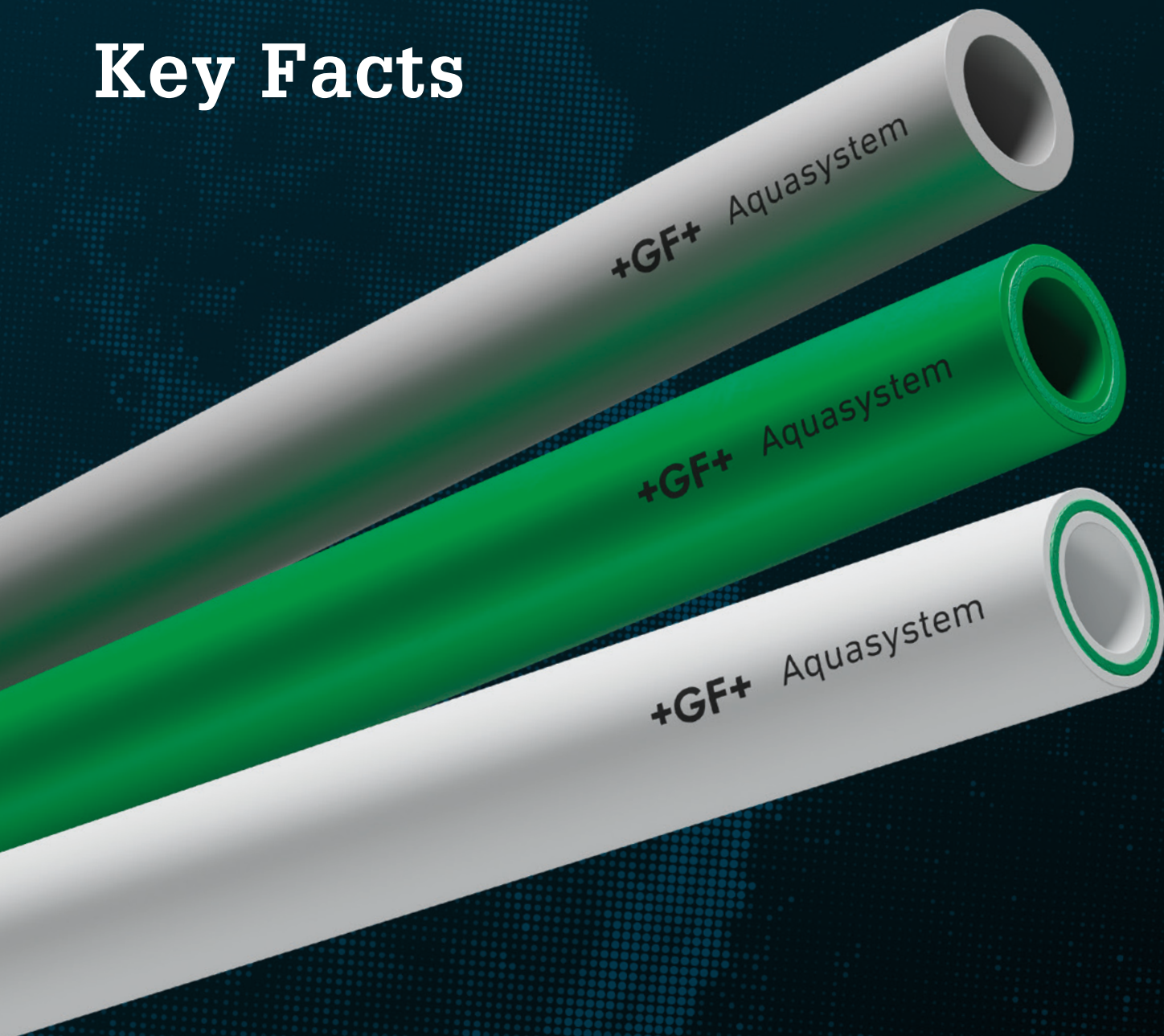
Excellence  
in **Flow<sup>+</sup>**

# A reliable, high-quality PP-R system

Engineered for all demands: AQUASYSTEM is the lightweight pipe system for residential and commercial buildings as well as healthcare facilities and marine suitable for hot and cold water applications. Made of PP-R and PP-RCT, the pipe system features high temperature and pressure resistance, is hygienically safe, and eligible for use in drinking water supply systems. Thanks to its chemical resistance behavior, the system is also the long-lasting choice for transferring or discharging chemical media.

Colors	Green	Grey	White
Segment	Building Technology and Marine	Building Technology	Building Technology
Dimensions	d20-d160	d20-d160	d20-d160
Pipe Material	PP-R / PP-R FG / PP-RCT FG	PP-R / PP-R FG	PP-R / PP-R FG
Fittings	Socket Fusion Electrofusion Fittings Saddles	Socket Fusion	Socket Fusion

# Key Facts



## + Versatile and reliable

Suitable for a wide range of applications, AQUASYTEM pipes and fittings are made from high-quality raw materials, making them reliable and durable.

## + Suitable for drinking water

The materials used in the system are fully recyclable, non-toxic and comply with current international standards, making them safe for use with drinking water.

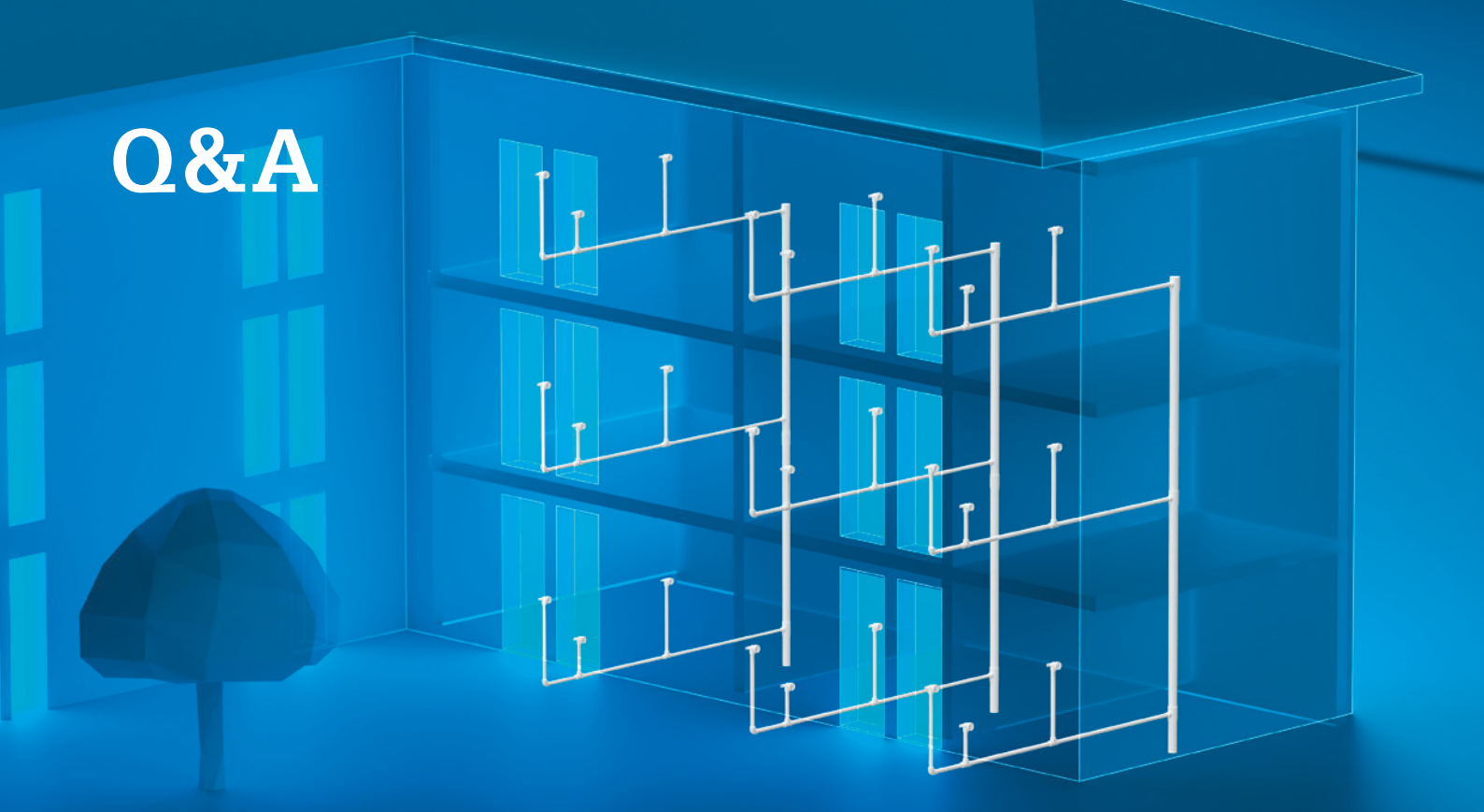
## + Quick and easy to install

The system is lightweight, easy to handle and the pipes and fittings are straightforward – installation could not be simpler.

## + Long service life guaranteed

High-quality raw materials and state-of-the-art technology ensure the system has a long service life – even under harsh conditions.

# Q&A



## **For which applications is GF AQUASYSTEM the ideal choice?**

AQUASYSTEM supports hot and cold water installations in residential, commercial, and public buildings as well as industrial and marine applications. The system is made for risers, distribution lines, and floor connections. With one high-quality material suitable for multiple building applications, installers benefit from streamlined system design, faster installation, and reduced long-term maintenance effort.

## **How does the EPD add value for planners and building owners?**

The independently verified Environmental Product Declaration (EPD) for AQUASYSTEM PP-R and PP-RCT pipes and fittings - compliant with EN 15804+A2, ISO 14025, and ISO 21930 - gives planners and building owners full transparency across the entire product life cycle. Covering raw material sourcing, manufacturing, transport, installation, and end-of-life scenarios, the EPD provides reliable, objective data that supports environmental assessments and simplifies the path to green building certifications.

## **What services does GF offer to support planners and installers in delivering efficient, professional project execution?**

GF supports planners and installers throughout every project phase with comprehensive technical expertise and on-site guidance. Planners benefit from detailed technical documentation, BIM data, and calculation support to ensure precise system design. Installers receive hands-on product and welding training, application guidance, and local sales support, backed by reliable product availability and project consultation. Together, these services help ensure efficient workflows, high-quality installations, and successful project execution.



## First class service

Benefit from a global service and sales network. Our experts provide technical consulting, comprehensive project support, and hands-on training – available wherever its needed.



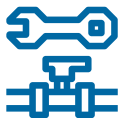
## Wide range of diameters

With dimensions from d20 to d160, the range covers the entire building installation and ensures maximum design flexibility from a single, reliable provider.



## Cost efficient

Reduce material and labor costs throughout your project. Lightweight PP-R pipes simplify transport and handling, helping to save time and resources from start to finish.



## Easy jointing technology

Rely on proven socket fusion technology to create a homogeneous, permanently leak-tight joint – fast, secure, and with minimal installation steps required.



## Fast installation time

Short heating and cooling cycles make installations quick and hassle-free for accelerated project timelines and earlier system commissioning.



## Comfort and quality of life

Engineered for hygienic drinking water applications: smooth inner surfaces minimize deposits, while excellent insulation properties reduce heat loss and noise – improving comfort in any building.



## Resistance to corrosion

Ensure long-term system reliability with PP-R. Its inherent resistance to corrosion and its stability against water and many chemicals maintain a consistently smooth inner surface and reliable flow performance.



## Long service life

Designed for decades of performance. PP-R withstands pressure, temperature fluctuations, and scaling, keeping maintenance effort – and operating costs – low.

# The product range

**AQUASYSTEM consists of three PP-R piping systems for different performance requirements based on temperature, pressure, and application.**

- PP-R monolayer for cold water and basic hot water installations in residential and non residential buildings
- PP-R glass fiber reinforced for hot water and heating applications with reduced thermal expansion
- PP-RCT glass fiber reinforced for high temperatures, high pressures, and demanding industrial and high rise applications

All systems cover dimensions from d20 to d160, comply with EN 15874 and DIN 8077, and are suitable for drinking water. A uniform jointing technology ensures safe and efficient installation across all product lines.

## Types of PP-R Systems

- Standard (PN10-PN20)
- Glass Fiber Reinforced (PN20-PN25)
- UV-Resistant (PN20-PN25)

## PP-RCT Innovation

PP-RCT, handles higher pressures, temperatures, and chlorine resistance.

- Glass-Fiber Reinforced: PN22 (SDR9), PN25 (SDR7.4)

## Applications

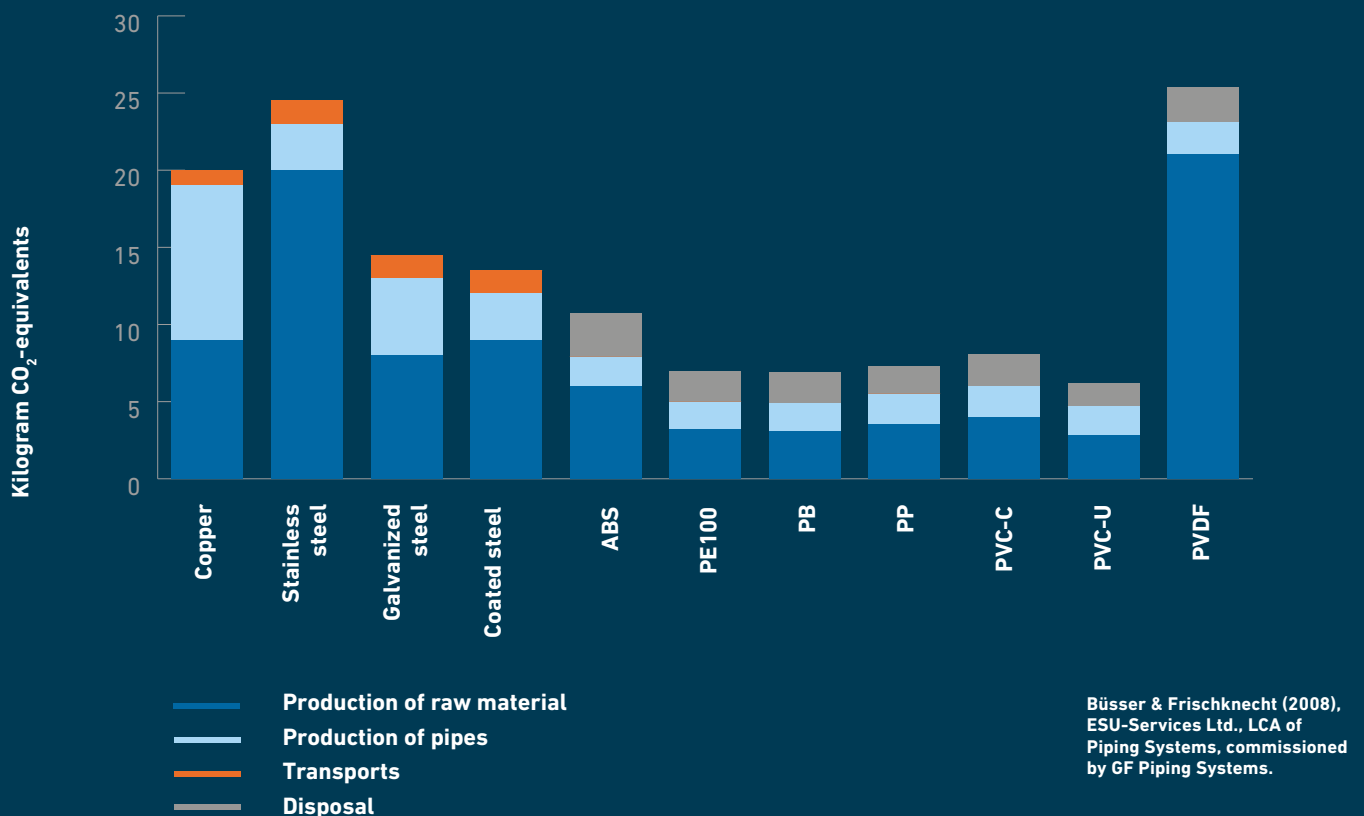
Central heating, hot/cold water, drinking water.

- Industrial piping (chemicals)
- Air conditioning, solar collectors



# Service life analysis of plastics

The diagram represents the total amount of greenhouse gases released into the atmosphere over a product's entire lifetime – from raw material extraction and refining to manufacturing, use, and final disposal.



The graphics illustrate the environmental performance and lifetime assessment of thermoplastic piping systems used in building technology, industry, and water and gas distribution. For this study, the environmental impact of one-meter pipe sections was compared with competing materials across common diameters (DN25, DN80, DN150, DN400).

The analysis was conducted by an independent Swiss organization using Ecoinvent, the world's leading lifecycle inventory database. The results show that thermoplastic piping systems outperform metal systems, a finding supported by other studies in the field.

A key factor behind their strong performance is their low weight, which reduces environmental impact during transport and installation. Fully plastic piping solutions are lighter than conventional materials, significantly lowering their carbon footprint.

# Pipe variations

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**Monolayer PP-R  
(SDR6 PN20, SDR7.4 PN16, SDR11 PN10)\***

**Property / Feature**

**PP-R Monolayer**

**Material Type**

**PP-R (Polypropylene Random Copolymer)**

**Application Range**

**Cold and moderate hot water**

**Thermal Expansion Coefficient [mm/m-K]**

**0.15**

**Installation Type**

**Domestic cold water systems**

**Advantages**

**Low cost, easy to weld, widely available**

**Limitations**

**High expansion, lower temperature resistance**



**Multilayer PP-R Fiberglass Reinforced Pipes  
(SDR6 PN25, SDR7.4, SDR11 PN10)\***

**PP-R Fiberglass Reinforced Multilayer**

**PP-R with middle glass fiber layer**

**Hot water, heating**

**0.035**

**Hot water distribution, heating risers,  
medium sized buildings**

**Lower expansion, good mechanical stability**

**Optimised for hot water and heating, limited  
benefit in cold water only systems**

**\* According to EN ISO 15874-2**

# Reliability starts here

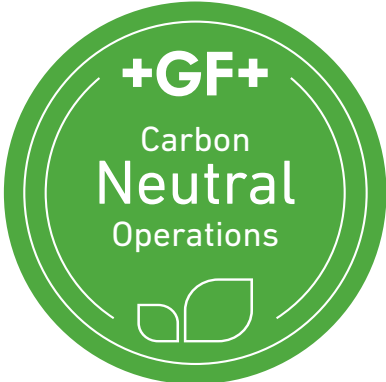
At GF, quality is more than a promise – it is a commitment embedded in every step we take. From carefully selected raw materials to precise manufacturing and reliable delivery, we ensure that every product meets the highest expectations. With decades of expertise and an unwavering focus on consistency, GF stands as a partner you can trust – today and for the long run.



This commitment to excellence goes hand in hand with our dedication to sustainability. As a company operating in an industry that plays a vital role in addressing climate change and ensuring access to hygienic drinking water, we continuously advance our manufacturing processes through responsible environmental management and the use of renewable energy across our global operations.



A key example is the production site in Çerkezköy, Turkey, where GF AQUASYSTEM is manufactured based on Swiss GF standards. This facility achieved carbon neutral operations in 2025, reducing emissions by 95% compared to the 2019 baseline and cutting waste by 36% through circular economy practices. As part of GF's Carbon Neutral Operations concept, these achievements not only minimize our environmental footprint – they also elevate our research, development, and manufacturing capabilities into true centers of excellence. This strengthens GF's position as a global leader in sustainable flow solutions and ensures that every AQUASYSTEM product embodies both quality and responsibility.



# Made for all conditions



## Reference case: Luxera Towers, Istanbul



© Luxera Towers

Luxera Towers is a distinctive project, standing out with its modern architectural approach, high-quality material selection, and privileged living concept. Built on an area of 17,000 m<sup>2</sup> it consists of two towers, each with 26 floors, and includes 369 residential units and dozens of commercial units. As a high-rise development, Luxera Towers offers all the privileges of life in a single project, supported by GF's AQUASYSTEM PP-R pipe systems that ensure not only comfort, but also hygiene and safe living conditions.

For the developers of the Luxera Towers, plumbing systems belong to the most important components in the building. Especially clean water lines are defined as a critical infrastructural element in terms of quality of life and building safety. "Our purpose is to build not just a home for people,

but also a safe environment with strong social amenities and enhanced quality of life", says Abdrurrahman Kaygusuz, *Field Supervisor for Mechanical Operations*, Luxera Towers. "The drinking water pipes installed ensure that the domestic water is delivered to us safely – they are crucial for maintaining health and quality of life in both individual and shared living spaces." With GF's AQUASYSTEM for the drinking water supply in the Luxera Towers, the developers opted for a safe, smooth and durable solution.

We chose GF's AQUASYSTEM for the delivery of clean, bacteria-free and chemicals-free water", says Abdrurrahman Kaygusuz. "Water is the source of life. Therefore, an uninterrupted and safe supply of potable water, which is required for preparation of food, cleaning and personal hygiene, is extremely important. With GF, we have a robust cooperation with one of the stakeholders that plays a critical role in the overall success of the project, achieving our goals quicker in terms of installation and safe plumbing solutions.

# Excellence in Flow

Visit our webpage to get in touch with your local specialist:  
[www.georgfischer.com/locations](http://www.georgfischer.com/locations)



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