

Pipe is the most fundamental component of an irrigation system. Reinke offers five types of pipe, available in various diameters. It is important to choose wisely to maximize the life of the system. There are several factors that should be taken into account when determining which pipe variety is best suited to a particular field. The water's pH level, chloride and sulfate concentrations, and pressure needed for optimum operation, should be considered.

Reinke offers a free water test with every new system to determine pH level, chloride and sulfate concentrations. In general, water becomes more corrosive as chloride and sulfate concentrations increase and at low or high pH levels. Wells pull from different ground levels as the growing season progresses, which can cause water chemistry to change. It may be wise to choose pipe with higher corrosion resistance.

The types of pipe, listed from least to greatest corrosion resistance, are as follows: galvanized steel, chromium nickel plus (CN+), marine-grade aluminum, stainless steel and poly-lined galvanized steel.

Galvanized steel can experience reduced life when chloride and sulfate concentrations rise above 200 ppm and at pH levels below 6 or above 8 (see chart). CN+ performs slightly better, tolerating a higher sulfate concentration and a lower pH level. CN+ generally is painted to increase its corrosion resistance, but it also can be galvanized.

PIPE MATERIAL GUIDELINES

■ Average Life
 ■ Reduced Life
 ■ Minimum Life

CHLORIDE (CL) and SULFATE (So4) CONCENTRATION

ppm	Poly-Lined		Stainless Steel		Aluminum		CN+		Galvanized	
	Chloride	Sulfate	Chloride	Sulfate	Chloride	Sulfate	Chloride	Sulfate	Chloride	Sulfate
1200	Green	Green	Orange	Yellow	Orange	Orange	Orange	Orange	Orange	Orange
1150	Green	Green	Orange	Yellow	Orange	Orange	Orange	Orange	Orange	Orange
1100	Green	Green	Orange	Yellow	Orange	Orange	Orange	Orange	Orange	Orange
1050	Green	Green	Orange	Yellow	Orange	Orange	Orange	Orange	Orange	Orange
1000	Green	Green	Orange	Yellow	Orange	Orange	Orange	Orange	Orange	Orange
950	Green	Green	Orange	Yellow	Orange	Orange	Orange	Orange	Orange	Orange
900	Green	Green	Orange	Yellow	Orange	Orange	Orange	Orange	Orange	Orange
850	Green	Green	Orange	Yellow	Orange	Orange	Orange	Orange	Orange	Orange
800	Green	Green	Orange	Yellow	Orange	Orange	Orange	Orange	Orange	Orange
750	Green	Green	Orange	Yellow	Orange	Orange	Orange	Orange	Orange	Orange
700	Green	Green	Orange	Yellow	Orange	Orange	Orange	Orange	Orange	Orange
650	Green	Green	Orange	Yellow	Orange	Orange	Orange	Orange	Orange	Orange
600	Green	Green	Orange	Yellow	Orange	Orange	Orange	Orange	Orange	Orange
550	Green	Green	Orange	Yellow	Orange	Orange	Orange	Orange	Orange	Orange
500	Green	Green	Orange	Yellow	Orange	Orange	Orange	Orange	Orange	Orange
450	Green	Green	Orange	Yellow	Orange	Orange	Orange	Orange	Orange	Orange
400	Green	Green	Orange	Yellow	Orange	Orange	Orange	Orange	Orange	Orange
350	Green	Green	Orange	Yellow	Orange	Orange	Orange	Orange	Orange	Orange
300	Green	Green	Orange	Yellow	Orange	Orange	Orange	Orange	Orange	Orange
250	Green	Green	Orange	Yellow	Orange	Orange	Orange	Orange	Orange	Orange
200	Green	Green	Orange	Yellow	Orange	Orange	Orange	Orange	Orange	Orange

pH LEVEL

LEVEL	Poly-Lined pH	Stainless Steel pH	Aluminum pH	CN+ pH	Galvanized pH
12.0	Green	Yellow	Orange	Yellow	Yellow
11.5	Green	Yellow	Orange	Yellow	Yellow
11.0	Green	Yellow	Orange	Yellow	Yellow
10.5	Green	Yellow	Orange	Yellow	Yellow
10.0	Green	Yellow	Orange	Yellow	Yellow
9.5	Green	Yellow	Orange	Yellow	Yellow
9.0	Green	Yellow	Orange	Yellow	Yellow
8.5	Green	Yellow	Orange	Yellow	Yellow
8.0	Green	Yellow	Orange	Yellow	Yellow
7.5	Green	Yellow	Orange	Green	Green
7.0	Green	Yellow	Orange	Green	Green
6.5	Green	Yellow	Orange	Green	Green
6.0	Green	Yellow	Orange	Green	Green
5.5	Green	Yellow	Orange	Green	Yellow
5.0	Green	Yellow	Orange	Yellow	Yellow
4.5	Green	Yellow	Orange	Yellow	Yellow
4.0	Green	Yellow	Orange	Yellow	Orange
3.5	Green	Yellow	Orange	Yellow	Orange
3.0	Green	Yellow	Orange	Yellow	Orange
2.5	Green	Yellow	Orange	Yellow	Orange
2.0	Green	Yellow	Orange	Yellow	Orange

AVAILABLE PIPE DIAMETERS (IN INCHES)

	10	8½	8	6½	6	4½
Galvanized Steel	X	X		X	X	X
CN+				X	X	
Aluminum			X		X	
Stainless Steel				X		
Poly-Lined Galvanized Steel		X		X		

DID YOU KNOW?

- ▲ All Reinke pipe comes with a 20-year prorated warranty.
- ▲ Reinke uses stainless steel couplers on its CN+ pipe to prevent rust.
- ▲ Reinke's hot-dip galvanizing process creates a .004 inch protective layer on pipe. The coating will sacrifice itself before the base metal is affected.
- ▲ Galvanized CN+ pipe looks matte and blotchy because the material absorbs more zinc during the galvanizing process. Although galvanizing CN+ is effective, this pipe usually is painted.
- ▲ Reinke uses high-strength steel in its galvanized steel, CN+, stainless steel and poly-lined pipe options. This steel variety is up to 50% lighter and 20% stronger than steel used in competitors' pivots.

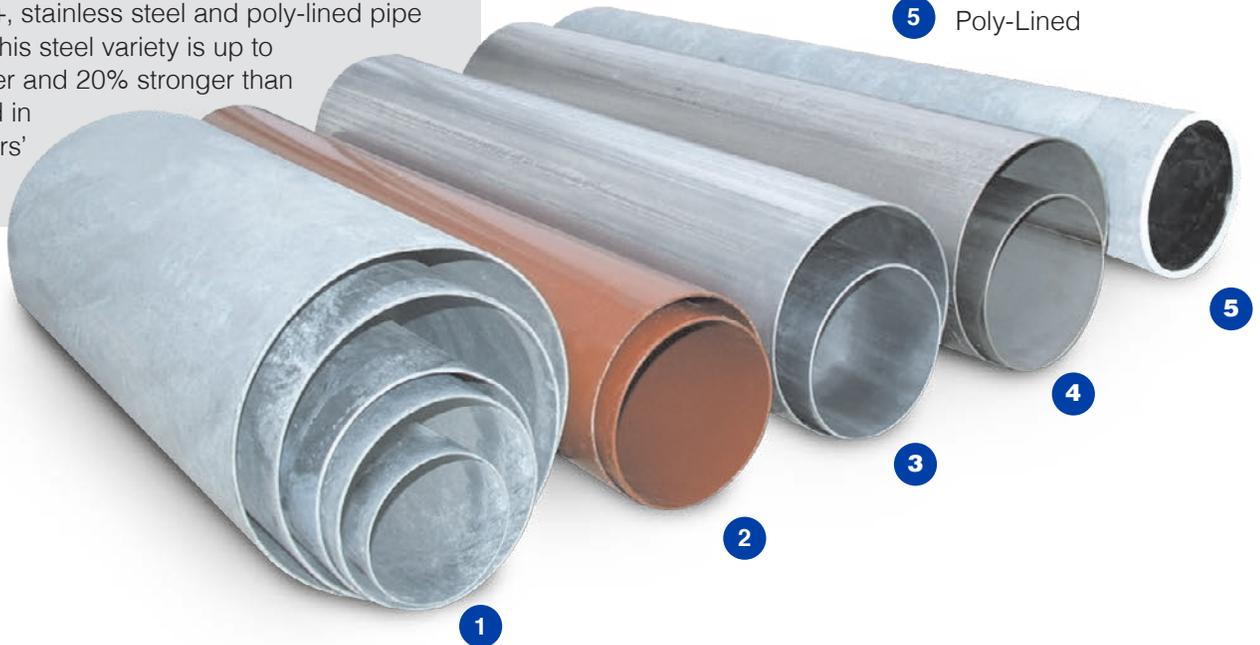
Aluminum is a good choice for low pH water types. It retains average life with pH levels from 5 to 7.5. Aluminum also resists corrosion at higher sulfate and chloride concentrations than galvanized steel or CN+.

Both stainless steel and poly-lined pipe offer dramatically increased corrosion resistance when compared to the other three types. Poly-lined pipe offers the most corrosion resistance. However, considerations should be given for climates that experience extreme temperature changes.

Pipe diameter is an important consideration, especially with long or high-pressure systems. A larger pipe diameter reduces pressure loss in the system and reduces energy required to pump water. Therefore, using a larger pipe diameter can result in significant energy savings through the life of the system. View the chart on the top left to see size options for each pipe variety.

For certain applications, pipe weight is also a consideration. Aluminum is the lightest material of the five pipe options. In some applications, such as sod growing, a lighter system is preferred to avoid rutting. All other pipe options employ high-strength steel, which is lighter and stronger than many steel alloys.

- 1 Galvanized Steel
- 2 CN+
- 3 Aluminum
- 4 Stainless Steel
- 5 Poly-Lined



Find your dealer at
[www.reinke.com/
 find-a-dealer.html](http://www.reinke.com/find-a-dealer.html)

@reinkeirrigation

@Reinke_Irr

@reinkeirrigation

Reinke Manufacturing Co., Inc.

Reinke Irrigation

