

## Key Points about Schedule M Copper Pipe Risks

The primary risk associated with Schedule M copper pipes is their increased susceptibility to corrosion and pinhole leaks due to their thinner wall thickness, making them more prone to damage from water quality issues like high chlorine levels or acidic water, potentially leading to leaks and water damage within a home if not properly maintained; compared to thicker Schedule L copper pipes, Schedule M is generally considered less suitable for residential plumbing applications.

- **Higher corrosion rate**

The thinner wall of Schedule M pipes makes them more vulnerable to corrosion, especially in environments with aggressive water chemistry.

- **Pinholes**

A common form of corrosion in Schedule M copper pipes is "pinhole leaks," small holes that can develop over time and lead to significant water leaks.

- **Reduced lifespan**

Due to the increased corrosion risk, Schedule M copper pipes generally have a shorter lifespan compared to Schedule L pipes.

- **Not ideal for most residential applications**

While sometimes used in specific situations, most plumbers would recommend using Schedule L copper pipes for most home plumbing needs due to their improved durability.

Factors that can exacerbate corrosion in Schedule M copper pipes:

- **High chlorine levels in water:** Chlorine can accelerate corrosion in copper pipes, especially when combined with high water temperature.
- **Acidic water:** Low pH levels in water can also contribute to copper pipe corrosion.
- **Standing water:** Stagnant water in copper pipes can promote corrosion.

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### What to do if you have Schedule M copper pipes:

- **Monitor for leaks:**

Regularly check your plumbing system for signs of leaks, especially around joints and connections.

- **Consider water quality testing:**

Test your water to assess its pH level and chlorine content to determine if any adjustments are necessary.

- **Consult a plumber:**

If you have concerns about your Schedule M copper pipes, consult a professional plumber to discuss potential risks and mitigation strategies.

## Copper Piping – 4 Different Types and Uses and How to Choose

Copper pipes are commonly used for residential water supply lines and plumbing, offering corrosion resistance, reliable connections, and a lifespan of up to 70 years. There are four common copper pipe types you might see in your home or when shopping for DIY materials— Type K, Type L, Type M, and DMW piping— and this guide will help you learn to tell the difference and figure out which type is best to use.

Type	Fitting Methods	Flexible form available	Common Use
Type K	•Soldered •Compression •Push-fit •Press-connect •Flare (flexible pipe)	Yes	Main water lines, underground lines
Type L	•Soldered •Compression •Push-fit •Press-connect •Flare (flexible pipe)	Yes	Branch water supply lines
Type M	•Soldered •Compression •Push-fit •Press-connect	No	Branch water supply lines
DWV	Soldered, Slip-joint	No	DWV plumbing lines

### What Is a Press-Connect Fitting?

A press-connect fitting is a flameless method of joining copper pipes, used mostly by professional plumbers. It uses special fittings with internal elastomeric gaskets (such as EPDM) to create a seal that withstands pressure. In the hands of pros, press-connect fittings are easy to make, but they require expensive hydraulic tools, so they are rarely used by amateurs. DIY homeowners who want a flameless connecting method are more likely to use push-fit connectors, such as Shark-Bite fittings.

### Type K Copper Pipe

**Best for:** Main water lines, underground installations.

Type K copper pipe has the thickest wall of all the common types. It is used for water distribution, fire protection, oil, HVAC, and many other applications in the construction industry. Type K pipe is available in rigid and flexible forms. It is recommended for main water lines and underground installations because its thickness helps it withstand the pressure from backfilled earth in trenches.

Type K copper pipe is usually identified by a green stamp. It is an expensive form of copper pipe and thus is not commonly used for interior water supply pipes.

### Type L Copper Pipe

**Best for:** Interior branch water supply lines.

Type L copper pipe is used for interior plumbing, as well as for fire protection, and some HVAC applications. It is available in rigid and flexible forms. Type L is considered the most common type of copper piping, as it can be used in many more applications than Type K. Flexible Type L copper is the common choice for repairing or replacing old branch water lines. Type L also can be used

outside the home where it will be directly exposed. Type L copper is thinner than Type K but thicker than Type M.

Type L copper is usually identified by a blue stamp. This is the type that professional plumbers use for most indoor residential water supply lines.

### Tip

Amateurs doing their own plumbing work increasingly find that push-fit connectors, such as the popular SharkBite brand, offer an easy way to make durable pipe connections. Though more expensive than soldered fittings, using push-fit connectors is easier and safer, requiring no torch flame.

### Type M Copper Pipe

**Best for:** Branch plumbing lines.

Type M copper pipe is thinner than both Type K and L copper pipe. It is a common choice for repairs, replacements, and extensions to interior water supply lines. But Type M copper is not always allowed by plumbing codes in all areas, so check first with the local building authority. Where allowed, it is often favored for residential work because of its relatively low price—a thinner pipe wall means less copper and thus a lower price. It is a favorite of DIYers, who find it easy to cut and fit. But it is not available in a flexible form, as is Type L.

Type M copper pipe is identified by red markings.

### Copper DWV Piping

**Best for:** Occasionally used for DWV (drain-waste-vent) pipes.

Copper pipe for plumbing drains and vents was used in many old homes and commercial applications, but it has been all but replaced with PVC or ABS plastic pipe in modern construction. (For specific applications or uses, check your local code.) It is suitable only for above-ground applications and has a low-pressure rating; it cannot carry the water pressure of most municipal water supply systems.

DWV pipe usually has yellow markings to distinguish it from other types.

### Choosing Copper Pipe

Overall, selecting the right type of copper pipe comes down to matching the pipe's wall thickness to your needs. These are a few guidelines to keep in mind:<sup>1</sup>

- **DWV-grade:** Usually only seen in exposed locations or vintage homes where PVC and ABS pipes can't be used. DWV grade has the lowest wall-thickness to pipe diameter ratio, and should only be used for drain and vent lines with very low water pressure.
- **Type M:** A rigid pipe used for branch supply lines. It's less expensive than thicker grades of copper and is the most popular choice when codes allow for its use.
- **Type L:** Has extra thickness, giving it the strength needed for natural gas lines and exposed above-ground outdoor locations, such as swimming pool or spa pipes. It's also used to repair and replace indoor water supply systems when local codes have limitations on Type M.

- **Type K:** Can technically be used for all of the same projects as types M and L, and has the largest wall-thickness to pipe diameter ratio. But because of its cost, it's usually only used for underground applications where extreme strength is needed.

### Tip

- Copper pipes can last between 50 to 70 years before they need to be replaced.
- When purchasing pipe, keep in mind that the outside diameter (OD) of rigid K, L, and M pipes will always be 1/8 inch larger than what the pipe's label says. For example, a 1/2-inch copper pipe has an outside diameter of 5/8 inch.
- PEX, or cross-linked polyethylene tubing, is also now frequently used for new plumbing installations, repairs, and replacements. Professional plumbers will often patch in PEX when replacing a branch plumbing line, and as a DIYer, you can also consider PEX tubing and fittings as an affordable alternative.
- The primary risk associated with Schedule M copper pipes is their increased susceptibility to corrosion and pinhole leaks due to their thinner wall thickness, making them more prone to damage from water quality issues like high chlorine levels or acidic water, potentially leading to leaks and water damage within a home if not properly maintained; compared to thicker Schedule L copper pipes, Schedule M is generally considered less suitable for residential plumbing applications.

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