




The following table lists the most common materials used for the water supply system. For each, it provides a description of the material as well as some benefits and drawbacks.

Material	Description	Benefits	Drawbacks
 <p><i>Copper</i></p>	<ul style="list-style-type: none"> • Rigid metal tubing and fittings • Solder is used to join pipes and fittings • Conventional method for supply 	<ul style="list-style-type: none"> • Proven durability • Experienced installers readily available • Uses less material than PEX 	<ul style="list-style-type: none"> • Material is expensive compared to other materials • Labor-intensive to install compared to PEX because must cut thru more framing • Soldering joints requires skilled labor
 <p><i>CPVC (chlorinated polyvinyl chloride)</i></p>	<ul style="list-style-type: none"> • Rigid plastic tubing and fittings • Solvent cement is used to join pipes and fittings • Conventional method for supply 	<ul style="list-style-type: none"> • Less expensive material than copper • Installation techniques, which are familiar to subcontractors, are similar to copper • Less water hammer than copper 	<ul style="list-style-type: none"> • Labor-intensive to install compared to PEX because must cut thru some framing • Requires more support than copper
 <p><i>PEX (cross-linked polyethylene)</i></p>	<ul style="list-style-type: none"> • Flexible plastic tubing • Various fittings including: brass insert and copper crimping, press fittings, expander and metal sleeve fittings, expander and PEX ring fittings, and compression fittings • Central manifold method for supply 	<ul style="list-style-type: none"> • Material costs about the same as copper • Flexible enough to snake around most framing obstacles • Fittings are simpler to install than copper fittings, and fewer are needed • Reduces water hammer • Greater resistance to aggressive water damage 	<ul style="list-style-type: none"> • Fittings are not standardized • Crimping tools that aren't calibrated correctly can cause joints to leak • Requires more support—hangers every 30 inches to 32 inches (compared with every 8 feet for copper) • More installation restrictions near gas vents, lights, etc.

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