Mankind has been using copper for so long (about 10,000 years) and for so many purposes (ornaments, weapons, building materials, electronic components, etc.) that many people assume we’ll soon run out of the stuff.

No need to worry. According to the U.S. Geological Survey, only a small percentage of the world’s known copper reserves have been recovered to date. Not only are there abundant reserves of this infinitely useful, attractive, relatively-durable material, it’s also virtually 100% recyclable—which means that almost all of the copper ever mined could, theoretically, still be in use. Practically speaking, many materials can be recycled that aren’t. Copper benefits from a well-developed recycling infrastructure and an economic value that drives recycling, recovery and reuse, especially of copper building products.

Copper has many attributes, but its environmental benefits make this unique mineral especially desirable to architects, builders and organizations such as the United States Green Building Council (USGBC). In commercial and residential construction today, “green” is the new religion, and recyclability, restorable quality, sustainability and energy efficiency are key. All of these happen to be among copper’s most endur- ing features.

One of the principal tools employed by the green building movement is the USGBC rating system known as LEED, for Leadership in Energy and Environmental Design. The 14-year-old nonprofit organization has instituted LEED guidelines for residential and commercial construction, building operations and maintenance, and core and shell development projects, and public and private green construction. One critical LEED standard requires that newly built or renovated buildings contain pre-consumer and post-consumer recycled content. Copper provides a huge benefit in that

Cold Fusion: Joining Copper Plumbing Without Heat

Soldering and brazing have always been the industry standards for joining copper tube and fittings, but recent innovations in solderless or “flameless” connection methods promise to change the way copper plumbing systems are designed, fabricated and used in the future.

Various types of solderless systems that do not require gas or flame have been available since 1925. However, the new systems, which utilize push-connect or press-fit connec- tions, are not to immolate the current industry standard, inconceivable of one standard, compact, inexpensive, maintenance-free and cost-effective. Solderless push-connect and press-connect systems have been used for most plumbing applications including cold and hot water distribution, gas distribution, potable and nonpotable air, meet gas and fuel gas systems. Joint made using these systems have been shown to provide excellent corrosion-resistant and pressure-tested connections even in standard diameters for both residential and commercial buildings.

In press-fit systems, fittings of various types and materials are available only as press-fit connections. Pushconnect systems are used for most plumbing applications including cold and hot water distribution, gas distribution, potable and nonpotable air, meet gas and fuel gas systems. Joint made using these systems have been shown to provide excellent corrosion-resistant and pressure-tested connections even in standard diameters for both residential and commercial buildings.

Press-fit systems and press-fit connectors are designed specifically for copper tubing systems. Push-fit connectors are designed for use in copper pipe systems. Push-fit systems are not required special tools to make the connections, and in some cases can be made using standard household tools such as pliers or wrenches. Push-fit systems are designed to provide excellent corrosion resistance and pressure testing even in standard diameters for both residential and commercial buildings.

Push-fit systems are expected to continue to attract converts among plumbing and piping profes- sionals looking for another tool in their bag to optimize their installation of copper piping sys- tems. With the variety of quality joining options available in the marketplace today, the push-fit and press-fit and press-connect push-fit joining systems, there is no more adaptable, long lasting and reliable piping system than copper.

For more information on the use of solderless fittings for joining copper tube, visit the CSA website at www.copper.org.