scrapped until the tool and die reaches thermal equilibrium. This “start up” material is able to be ground up and placed back into the process.

Work is currently underway thru the ASTM balloting process to expand the use of recycled ABS pipe and fitting material into new products and standards.

**LIGHT WEIGHT**

ABS plastic piping is the lightest weight piping material in common use. A 10 foot length of 3” ABS cellular core pipe weighs just 7 pounds. Metal piping of the same size weighs between 21 and 70 pounds. The lighter weight of ABS piping can translate into a safer work environment, reduced hours to install, and a reduction of need for heavy lifting equipment. Light weight also means lower transportation costs.

The energy required to produce 7 pounds of ABS and extrude 10 feet of pipe is substantially less when compared to smelting 21 to 70 pounds of metal and casting or forging a 10 foot metal pipe. Recycling ABS material requires substantially less energy than metals.

**HIGH RESISTANCE TO IGNITION**

The lowest temperature at which a substance will catch on fire and continue to burn is called its self ignition temperature. ABS material has a higher resistance to self ignition than some types of wood. For example, ABS material has a self ignition temperature of 870°F whereas pine lumber has a self ignition temperature of only 500°F.

**EASE OF INSTALLATION**

The joining of ABS pipe does not require a heat source such as a torch (for melting of solder). Installation is accomplished by means of an easy “one-step” solvent cementing system (no purple primer required). This helps further to conserve resources and manpower. An ABS DWV installation in a typical two bathroom home can be completed two to six hours faster than with other materials.

Should they be required in an installation, a large variety of threaded fittings are also available.

**COST BENEFITS**

Piping systems made with ABS material can save the user a significant amount on construction costs. Construction cost savings can then be applied to obtaining other important Greenbuilding credits or used to upgrade insulation or appliances which will further improve the building’s overall performance rating for the same cost.

The use of ABS material helps build a sustainable future for all of us.

For more information on how ABS pipe can make a positive contribution to your project, contact:

THE PLASTIC PIPE & FITTINGS ASSOCIATION
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ABS pipe and fittings were originally developed in the early 1950s for the oil fields and the chemical industry. In 1959, John F. Long, a prominent Arizona builder, utilized ABS pipe in an experimental residence. Twenty-five years later, an independent research firm dug up and analyzed a section of the drain pipe. The result: no visible evidence of rot, rust, or corrosion. In 1960, the FHA approved the use of ABS pipe for “Drain Waste and Vent” (DWV) applications. Since its introduction, ABS has become a leading material for DWV installations because of its outstanding combination of low cost and superior properties. Every major standards organization and code authority in the United States and Canada recognizes ABS pipe and fittings.

ABS piping has demonstrated its ability to conserve energy and water during the more than four decades of its manufacture, installation, and utilization in plumbing systems.

ABS is a polymer composed of Acrylonitrile, Butadiene, and Styrene. Acrylonitrile provides chemical and heat resistance, butadiene offers toughness, and styrene contributes stiffness or strength and ease of processing.

HISTORY

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EARTH FRIENDLY

The total energy required to manufacture, to transport, and to install a piping system made of ABS material is estimated to be substantially less than most non-plastic piping systems. ABS pipe saves resources through its cost-effective production, ease of installation, and long life. Piping made of ABS material is durable enough to last for decades to come, making it a material of choice for a truly sustainable system.

Solvent cements for joining ABS pipe that meet California South Coast Air Quality Management District’s (SCAQMD) low volatile organic compound (VOC) requirements are readily available from several manufacturers and can be used towards obtaining the low-VOC paint and adhesive credits in some Greenbuilding systems.

STRONG, DURABLE AND SAFE

Today, ABS pipe is the preferred choice for many types of DWV systems. Piping systems made of ABS are used for homes, manufactured housing, commercial and industrial buildings, as well as recreational vehicles.

ABS piping is durable which helps to reduce a building’s operating and life-cycle costs. It contributes to a positive building valuation and reduces construction and demolition waste that would otherwise end up in a landfill.

While some ABS piping is produced with a solid wall, most of it is made with a cellular or “foamed” core. The developers of ABS cellular core pipe learned from nature on how to conserve material and still produce a strong tube-like structure. They accomplished this by producing closely packed hollow cells in the core of the pipe; much like the closely packed long thin tubes found in wood fiber. These hollow cells connect to the inner and outer walls of the pipe producing a lightweight yet unbelievably strong structure.

RECYCLABLE

ABS material is a thermoplastic. All thermoplastics have the ability to be recycled and re-used. Thermoplastics can simply be melted again to be used in a new application after its long projected service life or burned for energy.

ABS pipe and fitting manufacturers can currently use their own “in-house” rework ABS material (recycled) within their manufacturing process. For example, during production start up some pipe and fittings must be...