ABS

THE PROFESSIONAL CHOICE
ABS pipe and fittings benefits:

- Ease of installation
- Light weight DWV material for ease of handling
- Cold temperature impact strength at -40°F (-40°C)
- High operating temperatures up to 140°F (71°C)
- Excellent chemical resistance

ABS pipe and fittings are an excellent value for DWV systems. Excellent physical properties and ease of assembly make ABS pipe and fittings ideal for residential homes, commercial and industrial buildings, manufactured housing, recreational vehicles, and underground installations. Contractors have installed more than 10 billion feet of ABS pipe in residential and commercial construction.

Light weight DWV material.

ABS pipe and fittings offer easy handling. A ten-foot section of 3” ABS cell core pipe only weighs about 7 pounds.

Ease of installation.

Joining only requires one-step solvent cement for fast, low cost joining. No primers or hot lead are used.

A safe worksite.

Two of the greatest fire dangers in plumbing installation come from torches and lead pots. ABS eliminates these fire hazards.

Lower cost than metal pipe.

ABS pipe is less expensive per foot than metal pipe. With the ease of handling and joining, up to six hours of labor can be saved in a typical two-bath home installation.

A Tough Performer.

ABS pipe retains outstanding impact strength at sub-freezing temperatures down to -40°F, -40°C. ABS pipe has the strength to withstand crushing loads of soil, slab foundations and high surface loads without collapse. It is also resistant to the impact of incidental abuse common to construction and plumbing operations.

Fire safety.

ABS piping can be used in fire-resistive construction in accordance with state, federal, and local building and fire codes.

Product Standards:

American Society for Testing and Materials (ASTM)
ASTM D 2661 (schedule 40 solid pipe and fittings)
ASTM F 628 (schedule 40 cellular core pipe)
ASTM D 3611 (drainage patterns for fittings)

NSF International
NSF/ANSI Standard 14

Canadian National Standards Association (CSA)
CSA CAN/CSA B181.1 A Schedule 40

Model Plumbing Codes:

International Association of Plumbing and Mechanical Officials (IAPMO)
Uniform Plumbing Code

International Code Council (ICC) BOCA-SBCCI-ICBO International Plumbing Code
Council of American Building Officials (CABO)
One- and Two-Family Dwelling Code

National Association of Plumbing, Heating and Cooling Contractors (NAPHCC)
National Standard Plumbing Code
Southern Building Code Congress International (SBCCI)
**The standard for durability.**
Unlike metals, ABS will not rust, corrode, or oxidize. ABS pipe offers excellent chemical resistance to the most commonly used chemicals. Access the Plastic Pipe and Fittings Association website at [www.ppfa.org](http://www.ppfa.org) for a more extensive list of chemicals.

**Readily available.**
Schedule 40 ABS pipe has the same wall thickness as standard steel pipe. ABS pipe and fittings are readily available through plumbing supply distributors and other sources. ABS pipe is available in 1¼", 1½" diameter, 2", 3", 4" and 6" with solid wall or cellular core wall constructions, which can be used interchangeably. A full range of fittings (elbows, tees, wyes, couplings, traps and others) are available.

**Markings.**
Schedule 40 ABS pipe carries a variety of informational markings. Cellular-core is typically marked “ASTM F 628 Coex ABS Cellular Core DWV.” Solid pipe is typically marked “ASTM D 2661 ABS DWV.” Markings for both types of ABS pipe typically include the manufacturer’s name and trademark code for resin manufacturer, lot number, and date of manufacturer, as well as nominal pipe size. Other markings may be required or permitted by local codes. All fittings are solid wall. Fitting markings vary slightly because of space limitations. Fitting markings typically include ASTM D 2661, manufacturer’s name or trademark, part number, code approval, material type, cavity, and size.

**Specifying ABS DWV pipe and fittings.**
Every major standards organization and model code authority in the United States and Canada recognizes ABS pipe and fittings. Architects, mechanical engineers, and builders specifying ABS pipe and fittings should have the following: “All soil lines, waste lines, vents, and buildings drains shall be installed with Schedule 40 ABS pipe and fittings conforming to ASTM F 628 or ASTM D 2661 standards” in their specifications.

Conforming products bear the seal of a nationally-recognized listing or certifying agency.

ABS pipe and fittings are also listed by major third party certifiers such as CSA, NSF International, and IAPMO.

When selecting ABS pipe, be sure to choose “Schedule 40 ABS DWV” that conforms to nationally recognized standards.

Mixing of ABS and PVC pipe and fittings within the same system is not recommended. However, you can join the two when connecting building drains to building sewers by using transition cement. Consult local codes and pipe manufacturers for specific instructions.

**Contractors have installed more than 10 billion feet of ABS pipe in residential and commercial construction. Read what they have to say...**

“Sharp Plumbing has installed ABS pipe in the Las Vegas area for over 13 years. The product is easy to assemble with one step cement. We have successfully plumbed both residential and commercial units where the ABS pipe is used both inside and outside the building. Even with the extreme temperature changes we have in the desert environment, ABS pipe and fittings have performed well. Our pipe is stored outside, loaded on trucks and hauled to the job site, all in temperatures that can range from 20°F (-7°C) to 120°F (49°C). It is the most economical and durable DWV product to install.”

Henry Sharp, Sharp Plumbing, Las Vegas, Nevada
Working with versatile ABS DWV systems:

• The chemical resistance of ABS pipe also makes it suitable for many industrial applications. Sewage treatment plants use ABS pipe because it stands up to highly corrosive and abrasive liquids.

• ABS pipe and fittings utilize an efficient solvent cement that requires no primer, which makes ABS environmentally friendly. Elimination of the primer reduces emissions.

• ABS pipe is manufactured to close tolerances to ensure a satisfactory “interference” fit between pipe and socket during assembly. The cement temporarily softens the joining surfaces. This brief softening period enables you to seat the pipe into the socket’s interference fit.

• Only an ABS solvent cement that meets ASTM Standard D 2235 should be used.

• Transition joints between ABS and PVC non-pressure-piping components may be joined with a transition joint solvent cement specified in ASTM D 3138.

• You can join ABS pipe to other sewer materials by using proper transition adapters or alternative methods, as approved by local plumbing codes.

• Never thread or tap Schedule 40 ABS pipe or fittings; instead, use molded threaded adapters.

• The linear expansion rate for ABS is approximately ½” for each 10°F (5.5° C) temperature change for each 100-feet of piping. Regardless of pipe size, the linear rate remains the same. ABS pipe should be supported similarly to other piping systems. ABS pipe and fittings can be used in fire-rated construction, such as high-rise dwellings in accordance with state, federal, and local building and fire codes.

For a complete listing of fire stop consultants and manufacturers of systems and materials access the Plastic Pipe and Fittings Association website at www.ppfahome.org.

“I have installed many thousands of feet of ABS Cellular Core pipe both inside and outside of buildings and find that it withstands the handling and installation process very well and have yet to see any adverse effect from temperatures as low as –20° F, -29°C. Even sewer lines that have frozen or clogged and have been thawed, maintain their integrity. We have used power augers, hot jet machines and even steam to clear blockages without a problem.” Cliff Bond, M & B Plumbing & Heating, Anchorage, Alaska

A 2007 survey of plumbers in 3 major metropolitan markets overwhelmingly confirmed the value of installing Acrylonitrile-Butadiene-Styrene (ABS) pipe in DWV installations. Among the findings:

• A majority stated they use ABS because it is easier to install.

• A majority stated if building their own home they would choose to install ABS.

• 75% stated they would continue to use ABS DWV even if one-step cementing were allowed for alternative materials.

The survey was conducted by Irwin P. Sharpe & Associates for the Plastic Pipe and Fittings Association.