

Plastics: Material Specifications



Doc: PlasticSpecs/01
Nov 2006

PVC-U Unplasticised Polyvinyl Chloride

PVC-U is one of the most widely used thermoplastic materials for pipe installations. Being odourless and tasteless it is suitable for conveying potable water and many food and dairy products. PVC-U has excellent chemical resistance.

The good flow characteristics are the result of the smooth bore and it has good resistance to abrasion. It is light in weight and easy to join together with cold solvent cement making PVC-U a good alternative to the more traditional materials for both above and below ground use.

PVC-U is resistant to most solutions of acids, alkalis, salts and solvents that can be mixed with water.

PVC-U products are recognized by their dark grey colour.

PVC-U valves: As standard, PVC-U valves are supplied with EPDM seals, with viton seals available as an option.

Pressure/ temperature: Valves ~ D20 to D63 16 Bar at +20C. Working pressure drops as the temperature rises above +20C.
D75 to D110 10 Bar at +20C. Working pressure drops as the temperature rises above +20C.
Minimum temperature is 0C. Maximum temperature is +60C

<u>Temperature De-Rating Factor:</u>	Working temp °C	20	30	40	50	60
	Reduce working pressure by factor	1.0	0.8	0.58	0.39	0.22

ABS Acrylonitrile Butadiene Styrene

ABS is highly rated as a thermoplastic pipework system and is used in many applications such as food and beverage processing as well as water and sewage treatment, has good abrasion resistance to slurries and has many applications across many industries.

ABS has good chemical resistance with high impact strength.

ABS is non-toxic and conforms to the toxicological requirements of the British Plastics Federation, British Industrial Biological Research Association (Code of practice for food usage 45/5) and it fulfils the requirements for plastic materials in contact with foodstuffs.

ABS systems are lightweight, rigid and easy to install using a cold solvent cement.

ABS products are recognised by their light grey colour.

ABS has good resistance to most diluted inorganic acids, salts, animal fats and oils, and organic acids.

It is not resistant to organic solvents, alcohol, petrol, acetic acid or vegetable oils.

Pressure/ temperature: Valves ~ D20 to D63 15 Bar at +20C. Working pressure drops as the temperature rises above +20C.
D75 to D110 10 Bar at +20C. Working pressure drops as the temperature rises above +20C.
Minimum temperature is -40C. Maximum temperature is +80C

<u>Temperature De-Rating Factor:</u>	Working temp °C	20	30	40	50	60	70
	Reduce working pressure by factor	1.0	0.85	0.72	0.58	0.45	0.28

Plastics: Material Specifications



Doc: PlasticSpecs/01

Nov 2006

PP Polypropylene

PP piping systems are widely used in industrial processing as they are light in weight yet offer excellent impact resistance, abrasion resistance and has good thermal and insulating properties.

PP is resistant to most aqueous solutions of acids, alkalis, salts and organic solvents.

PP is not resistant to concentrated oxidizing acids.

PP products are recognized by their white-grey or beige-grey colour.

PP valves: As standard, PP valves are supplied with EPDM seals, with viton seals available as an option.

PP systems are assembled using heat fusion welding using either socket fittings, or butt-fusion of pipes/ fittings end to end.

Pressure/ temperature: Valves ~ D20 to D63 10 Bar at +20C. Working pressure drops as the temperature rises above +20C.

D75 to D110 6 Bar at +20C. Working pressure drops as the temperature rises above +20C.

Minimum temperature is -10C. Maximum temperature is +90C