

# PVC-U

PVC-U (Poly Vinyl Chloride - Unplasticised ) is one of the oldest and most used plastic materials in industry and in consumer products.

This amorphous thermoplastic does not react to humidity and is dimensionally very stable at room temperature.

PVC-U is lightweight and is extremely easy to install using solvent cement welding

This material is the most widely used in plastic piping, thanks to its good chemical behaviour along with its relative low cost; material and installation costs.

PVC-U is thermally stable in the temperature range 0°C to 60°C, however at low temperatures the impact strength of PVC-U decreases. It is therefore not recommended for use at very low temperatures unless there is no likelihood of the piping materials being disturbed or subjected to impact damage.

PVC-U is free from toxic metals thus ensuring that it is suitable for drinking water and foodstuffs applications.

PVC-U pipe and fittings are ideal for use in pressurised irrigation systems, drinking water, chemical installations and for water treatment.  
Suitable for a wide range of applications:

- Good chemical and corrosion resistance
- Portable water applications
- Food and beverage industry

PVC-U is a solvent welded, fully matched pipework system incorporating pipe, fittings and valves that are available in both metric & imperial (BS) sizes.

## Pressure and temperature diagram

PVC-U has very good properties in a temperature range of 0°C to 60°C. At lower temperatures the impact resistance clearly decreases.

DRUK-TEMPERATUURDIAGRAM PVC-U

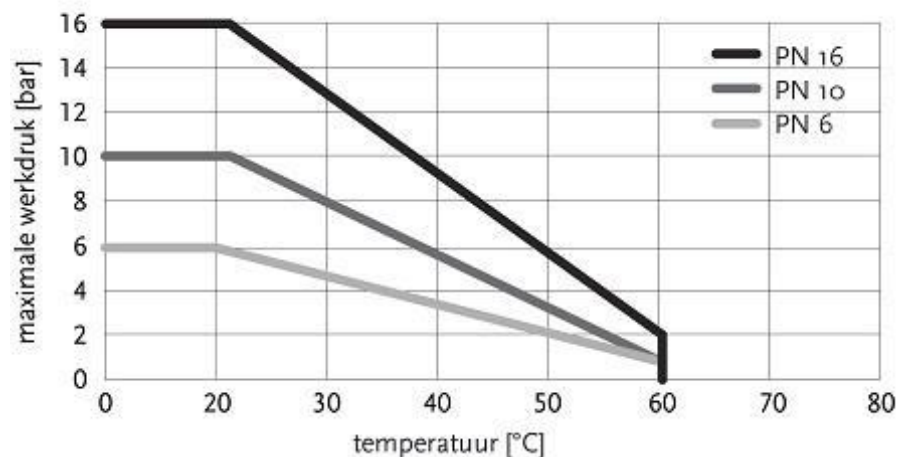


Figure 1

Figure 1 shows the maximum operating pressure for PN16, PN10 and PN6 fittings. This information is based on a lifespan of 50 years with a safety factor of 2.5.

## Chemical Resistance

The chemical resistance of PVC-U depends on the conditions of use and must be assessed for each situation.

For more information, please contact us.

## Thermal insulation

Some insulation products can contain substances capable of having a detrimental effect on thermoplastic pipework eg. certain types of foam rubber insulations can cause certain thermoplastics to fail at elevated temperatures.

**Recommended insulation** - a list of some of the common types

of insulation materials known to be suitable with ABS and PVC-U pipework are as follows:

Fibre wool, such as 'Rockwool'

Armaflex Class 1 HT

Koolphen K Phenolic foam

Polystyrene

The information given is a collaboration from our suppliers and therefore we cannot take responsibility for any inaccuracies that may occur

Note - the above list is not exhaustive assistance is required.

Some adhesives can also be detrimental. Do not bond insulation to thermoplastic pipework. This comment also applies to any tapes, adhesives, or other substances used to secure the heating tape to the pipework

## Trace heating

Thermoplastic pipework can be damaged by plasticisers used in the outer coverings on some heating tapes. Tapes sheathed in plasticised PVC must be avoided.

## Pneumatic testing

Pneumatic testing not recommended because of the risk to personnel or property if, for example, a joint has been temporarily assembled without solvent cement and has then been mistakenly left in that condition. Such joints could separate suddenly and violently during the test. Also, leak detection sprays designed to detect air leaks on steel pipework can damage thermoplastics.

## Freezing conditions

Precautions should be taken to prevent contents freezing, as this can cause pipework to split. For ABS Mono-ethylene glycol can be added to the system to lower the freezing point.

## Buried pipes

Do not lay pipework in contaminated ground eg. 'brown-field' sites. Do not lay pipework in ground where spillages of chemicals may occur.

## Thread sealants

Some thread sealants can damage plastic pipework. PTFE or similar tape should be used when making threaded connections.

## Resistance to U.V. (sunlight)

Care should be taken to avoid extreme exposure to U.V. light, eg. long periods of sunlight, particularly during storage. This will cause discoloration and deterioration of the material. Whilst this is a surface effect only it is recommended that precautions be taken to prevent this happening. It is sometimes recommended in climates with long periods of sunshine that where a system is installed outdoors it can be protected from the effects of U.V. by insulating or painting.