

# QualPLAST blue medium density polyethylene water service pipes

## Scope

QualPLAST blue PE 80 medium density polyethylene (MDPE) pipes are suitable for potable water and cold water services up to 12.5 bar. The sizes supplied are 20mm, 25mm, 32mm, 40mm, 50mm and 63mm in lengths of 25M, 50M, 100M and 150M coils. QualPLAST MDPE pipes are certified to BS EN12201 and DWI approved for drinking water applications. To ensure the integrity and functionality of the pipes in service it is critical to adhere to the instructions for use guidelines detailed below.

## Handling and transport of piping

QualPLAST MDPE pipes should be protected during transport and handled with extreme care, in particular during loading and unloading of the coils. All pipes must be supported adequately so that they cannot bend or become deformed during the various handling and transport operations the pipe undergoes prior to actual installation. Pipes should not be dragged across open grounds prior to installation. Sudden shock impacts are to be avoided under all circumstances. This is especially important at temperatures around or below 0°C under which circumstances the impact resistance is reduced. Pipes must be transported and stored in such a way that they do not become contaminated by earth, mud, sand, stones, water, oils, chemicals, solvents, other liquids or animal excrement. It is important that all open pipe ends are covered by protective caps to prevent the ingress of foreign substances and matter inside the pipes. All storage surfaces in contact with the pipes during its lifecycle should be kept free from sharp edged objects. Storing pipes on pallets offers basic protection from damage.

## Preservation of pipes

QualPLAST MDPE pipes should not be exposed to any form of external pressure sources (sharp edged objects, heavy vehicle traffic) during laying, installation and whilst in service. Pipe exposure to any form of excessive external pressures can result in physical damage (deformation and compression) to the pipe which can adversely affect the pipes integrity and functionality.

## Marking and identification of pipe

Permanent black inkjet printing which is repeated on every meter of QualPLAST MDPE pipe will identify the standard to which the pipe is manufactured (BS EN 12201), the tradename (QualPLAST), the nominal outer diameter x the wall thickness (for example 50mm x 4.6mm), SDR ratio (9 for 20mm pipe and 11 for all other sizes) and most importantly the pressure rating of the pipe (16 bar for 20mm and 12.5 bar for 25mm, 32mm, 40mm, 50mm and 63mm).

## Burying of pipe

QualPLAST blue MDPE is for below ground use only.

## Joining methods

QualPLAST blue MDPE pipes can be joined by electrofusion, butt fusion or mechanical jointing as required.

## Minimum bending radii

The minimum bending radius (MBR) for MDPE pipes is 15 times the pipe outer diameter under optimum conditions (i.e. warm ambient temperature). In very cold weather, the MBR is to be increased to 25 times the pipe outer diameter.

## Pressure testing

The test pressure (for water mains and service pipes) for MDPE pipes should be 1.5 times the pressure rating of the pipe i.e. if the pipe a customer has laid is rated at 12 bar, the test pressure should be 18 bar.

## Working pressures

The maximum working pressures that may be continuously applied to MDPE pipes at temperatures not exceeding 20C, i.e. cold water services only are outlined in the table below. If the maximum working pressure ratings of the pipes are exceeded (system overload) during service, there is a risk of the pipe physically bursting in service with resultant water leakages.

Pipe Diameter	SDR	Material & Colour	Nominal Pressure (bar)
20mm	9	MDPE PE80 blue	16
25mm	11	MDPE PE80 blue	12.5
32mm	11	MDPE PE80 blue	12.5
40mm	11	MDPE PE80 blue	12.5
50mm	11	MDPE PE80 blue	12.5
63mm	11	MDPE PE80 blue	12.5

## Storage and influence of weather

QualPLAST blue MDPE pipes which are likely to be stored outside for periods longer than 12 months should be covered by opaque protective sheeting to prevent ultra violet degradation from sunlight. The influence of weather on all stored pipes is to be kept to an absolute minimum, i.e. such pipes should be kept in a covered warehouse. If pipes are stored in the open (for example, on construction sites) they must be covered with suitable coloured or plain black sheeting to protect them from the effects of weather (e.g. UV radiation). Checks should be in place in warehouses and on sites to ensure the stock is being rotated on an "oldest out first" basis.

## Frost damage

MDPE pipes must be protected against frost and semi freezing conditions. During very cold conditions, water partially freezes in the pipe bore, increases in volume and can physically cause the pipe to split in service. During cold weather spells, appropriate measures, i.e. burying the pipe should be taken to ensure that the pipes are suitably protected against frost, thus preventing water leakages.