



Gas note: composite gas pipe

January 2007

Before reading

Information in this fact sheet was accurate at the time of publication. It is advisable to discuss any inquiry with the ACT Planning and Land Authority's Customer Service Centre on 6207 1923 as requirements may have changed.

Please read this information before using, installing or supplying any brand of composite polyethylene – aluminium – polyethylene gas pipe.

Compliance

Composite gas pipe systems are suitable for gas installation provided they comply with Australian Standard AS 4176 and carry this standard number. (See also ATS 5200.478 - 2006 regarding technical specifications).

Compatibility

Different brands are not dimensionally compatible. You cannot safely use one brand of fitting or tools with another brand. See clause 3.1.3 of AS5601-2004.

Fittings

Non-metallic fittings that have achieved compliance under AS4176 must not be used above ground (clause 3.2.2 (e)(i) of AS5601). Metal fittings must comply with AS3688-2005: 'Water supply – metallic fittings and end connectors' and be marked as suitable for fuel gas installations.

Training

All gasfitters must be trained and accredited by the manufacturer or a technically competent agent before they use a particular brand of composite gas pipe. They must be trained how to use and join the pipe, as well as being able to size the composite piping diameter and calculate pipe volumes.

Training records

Suppliers must keep records of all persons trained (including name, gas licence, date of training, name of trainer) and issue each person with a card or certificate confirming they have been trained. Gasfitter should retain (and be prepared to produce) their accreditation card/certificate.

Pipe sizing

Tables must be provided by the manufacturer during the training session. Tables are not included in AS5601- 2004 and may not be included in future editions.

Size marking

Pipe sizes are generally listed according to outside diameters and wall thicknesses. For example, a pipe listed at 20 x 2 x 2 means it has a 20mm outside diameter with 2 composite walls, each a total of 2 mm thickness – a bore of 16mm.

Flow

Fittings used in some systems intrude inside the pipe more than others, causing a greater pressure loss. This may mean you need to use a larger sized pipe or choose to use a different composite pipe system.

Colour/Markings

Composite gas pipe is generally yellow with black lettering; black pipe with yellow lettering is also acceptable. The pipe markings must include: AS4176/maker's name/gas/pipe size.

Compliance certificate

The brand of pipe must be listed on the gas compliance certificate issued for each installation.

Protection

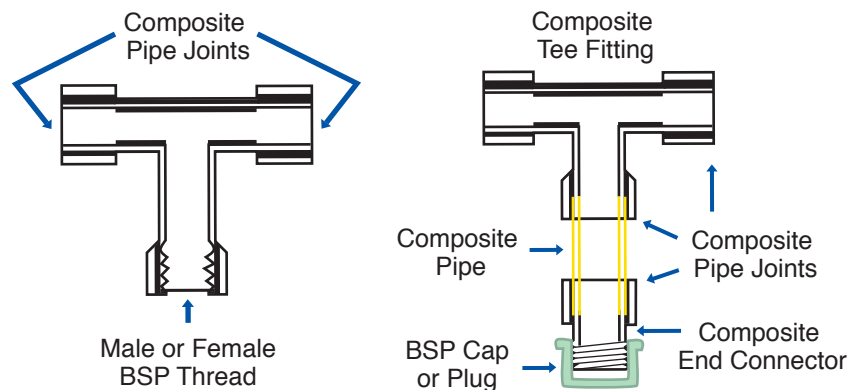
To protect its integrity, yellow composite pipe must be protected from direct sunlight in the installed position. The manufacturer should provide slip-on insulation/shields as an accessory.

Labels

You must display the manufacturer's label near the meter or LPG cylinder, showing the brand of composite pipe used and the location of the tee (see below). The label must not be attached to the meter or LPG cylinder as these may be exchanged. Manufacturers have agreed to provide adhesive labels.

Tee

You should leave a composite (or other) tee to provide a capped or plugged BSP threaded extension point, in a safe and accessible location on the main run, within four metres of the gas meter or LPG cylinder. This will allow for safe future extensions by other gasfitters using alternate brands of composite pipe or conventional materials. Remember, it could be you looking for the tee.



Prohibited

Composite pipe cannot be used for marine, riverboat, caravan or motor home applications.

Pressure

AS 5601 limits the maximum pressure for composite pipe systems to 70 kPa for both natural gas and LPG.

Temperature

Composite pipe with both the inner and outer layer of cross-linked polyethylene (PEX) can operate up to maximum temperature of 80°C. Composite pipe with any layer made of non-cross-linked polyethylene (PE or HDPE) is limited to 60°C. For example, PEX/AL/PEX is suitable up to a maximum 80°C, while HDPE/AL/PEX or PEX/AL/HDPE is suitable up to a maximum 60°C.

For further information contact the ACT Planning and Land Authority on 6207 1923.

Acknowledgement: These technical notes are based on information provided by the South Australian, Western Australian and Queensland Governments.