Pressure testing of pipe-work

Background
There have been several incidents where blank-ends have failed on rolled groove pipe when placed under a pressure test.

Recently a Plumber received severe facial injuries when he cut the capped end off a 50mm copper line under test.

Previously a worker was killed and his mate seriously injured when a metal cap exploded from a 300mm diameter pipe when it failed whilst under test.

Failures have occurred when testing with water or air.

Hazards
- Failure of pipe and/or fittings under excessive pressure.
- Failure to identify if the installation is under a pressure test.

Risk
Serious injury or death resulting from catastrophic failure when under pressure, or when pressure is released in an uncontrolled manner. For example, a blast of compressed air at 40 psi at 100mm has the potential to rupture an eardrum or cause brain damage.

See over
Control Measures

• When testing with compressed air, never exceed a maximum pressure above 50kPa. Any testing above this maximum must be under direction of a qualified engineer.
• Provision for a pressure gauge, stop valve and bleed valve is compulsory.
• Appropriate training and instruction in procedures for workers involved in the test.
• Designated test/exclusion zone.
• Adequate pipe end support.
• Lock-out/tag system to prevent persons other than those involved in the test from accidentally releasing pressure.
• Consideration of the effects of hydro-static head pressure on the system in test.

For pipe-work left under pressure after the test;

• Adequate signage/information for persons other than those involved in the test.
• Protection of pipe-work and fittings with the potential to be damaged.
• See also WSV publication; Safety Alert pressure testing of pipes, [www.worksafe.vic.gov.au](http://www.worksafe.vic.gov.au) and the PPTEU Hazard Alert ‘Hydrostatic testing of fire sprinkler suppression systems’

S Rocco V2 2016