

### Other exceptions

As with most things, there are exceptions to the general acceptance of these rules, one notable one being owners of steam boilers/models in NEW SOUTH WALES, Australia. This is strictly enforced in towns having names beginning in W and ending in G.

In this particular part of the world, the use of Brass for steam pipes is tolerated, but heavily penalised...the reason being that owners in these towns, also tend to own tins of BRASSO, or equivalent and, in such cases, a special reciprocal rule is applied where 'Exempt' becomes '1/Exempt'

Which is pretty close to 'You bet we will test it'

The problem is brought about cos these products contain AMMONIA.

When Brass pipes, which have been polished with these products, are exposed to high temperature steam then it invokes a condition known as 'ThermoLammoniaCosis' (TLC) for short. This condition reduces the  $\frac{1}{2}$  life of Zinc (Zn) by a factor of  $(10^{26})^3$  @ 30psi which increases by a further  $(10^{12})$  for every additional 5 psi.

As a result, De-zincification in such pipes is extremely rapid and can reduce the zinc content to zero in a few seconds...this means the pipes become brittle and porous and hence become a severe public hazard.

Now the local NSW authorities will tolerate such pipe work, however, they insist that it be pressure tested at the same time as the boiler, and to a test pressure of not less than THE BOILER Test Pressure X whatever the TLC factor is for the normal working pressure...for 30psi working pressure, this would be  $45 \times (10^{26})^3$ , assuming 1.5 times working pressure for the boiler, and this would be applied for a minimum of 1 week.....ANY leaks...= fail.

Fortunately, such installations are easily spotted, since all such pipe work takes on a very distinct 'Jaundiced' look (Bright shiny yellow hue) and any associated steam valves are generally devoid of RED paint and tell tale BLACK polarising dots.

Also, most bystanders/onlookers are forced to wear VERY DARK glasses to avoid blindness brought on by the over-shine.

Copper and Glass pipes do not suffer from this affliction and therefore remain EXEMPT, however, Glass types are difficult to solder, so tend only to be used in water gauges or lubricators etc.