Pipe Hangers and Supports Pvt. Ltd

NEWSLETTER- 13

HYDRO TESTS & ADJUSTMENT OF SPRING HANGERS:

Hydro tests are conducted to prevent leaks and check authenticity of the piping system.

A) **Pipe leaks** are to be prevented for many reasons:

1) Due to the leak the pressure has to be increased to get the desired pressure at the outlet.
2) The more obvious one: Leaks can be hazardous – they may cause fire in the plant, toxic fluids may be dangerous if inhaled.
3) If leaks are left unnoticed, it may soak the insulation & increase the weight of the pipe, thus causing over weight on pipe supports which is not desirable as that could eventually lead to breakdown.

Therefore the piping system has to be checked for leaks and certified by a statutory authority.

B) **How do we check for pipe leaks?**

1) Piping may be checked by dye penetration test.
2) Often Weld joints are X rayed (maybe in 10% of the cases) & the defects may be rectified.

However the fool proof method for checking leaks is the hydro test:

3) The piping systems is pumped with **water** & pressurized at 1.5 times or 2 times the design pressure. This is one of the main events in commissioning called "**HYDRO TEST OF PIPING".** There are cases where the pipe leak is so powerful that it has cut fingers of the site inspector. The leak is to be witnessed very carefully & safely and leaks have to be addressed properly.

C) Spring hangers in the case of hydro loads:

1) Most of the piping is supported by spring hangers or constant hangers (especially critical piping). However only operating load is considered during selection of spring hangers. This is much lower as compared to Hydro load (since piping carries water & has additional weight during hydro test). The spring or constant hanger is not designed to handle hydro load which will be around 1.5 or 2 times the operating load. Moreover it is not required to select spring or constant hanger as the Hydro test is only an EVENT & will not be acting on piping permanently. If you end up choosing spring hangers as per hydro test weight sizes of spring hangers will increase significantly having huge cost and space implications and will not serve the real purpose.

2) Therefore the spring/constant support is to be safe guarded from being loaded during the hydro test. This is achieved by **"LOCKING THE SPRING COMPRESSION PLATE USING LOCK NUTS SO THAT THE SPRING IS NOT TAKING THIS HYDRO LOAD"**. Only the body of spring hanger (without the spring as it is locked) takes this load. However after successful completion of the hydro test, the spring hangers/ constant hangers are to be unlocked, which is very much important.

3) **However this is not followed in many sites** due to negligence or oversight, thus preventing the vertical movement of pipe (which is supposed to be absorbed by the spring hanger). This can seriously sabotage the piping system. So this-**UNLOCKING** of spring/constant hangers is extremely critical.

Bye for now till we meet again!

For past newsletters please look up our website www.pipehangers.in

About Pipe Hangers:

A Global Solution to Spring Hangers and Supports

We are the leading manufacturer of spring hangers, supports & accessories. Over the past 32 years we have supplied to major power plants, refineries, nuclear installations & process industries in India & several International projects.