

Ladders into Tanks 101

An external access system can follow the AS 1657-1992, as it is not a traditional confined space situation, BUT anything fitted into a confined space (such as the internal areas of a storage tank) must be confined space compliant, and not hinder or restrict a rescue procedure.

Internal stairways or sloping ladders, combined with cages and intermediate platforms were used before confined space issues became apparent. It was an easy way for maintenance personnel to climb down into a tank, but these access systems also hindered any means of rescue, if a person became injured and unable to climb back out unassisted.

A confined space rescue requires a direct drop to the floor area. A vertical ladder fitted onto the wall, adjacent to the drop area can provide assistance to both the rescuer and the victim. Ergonomics also play a key role, as safety is all about being comfortable when carrying out a task.

With steel tanks, the obvious choice of entry for personnel in an empty situation, will be through a decent sized wall hatch. Many tanks now have more than one wall hatch, particularly as part of re-coating projects (for dust extraction, additional personnel entry and the like). New concrete tanks should also be fitted with a SS spigot and cover plate, cast into the wall, to allow the same dry entry process, as with a steel tank.

When a steel tank is re-coated, 'T' shaped cleats should be welded directly to the wall area, so that an FRP vertical ladder can be easily fitted as part of the project.

Storage tanks should have one main entry hatch, with a vertical ladder mounted below and a rescue frame or davit mounted above, for effective rescue scenarios to be carried out. This places ALL the safety assets into one combined area, rather than allocating them to other hatches on a piecemeal basis. While other roof/platform hatches are good for light and ventilation in larger tanks, most do not require an internal ladder in most cases.

An effective vertical ladder system means that diving personnel can enter and exit under their own means and not be reliant upon a rescue team to lift them in and out – the rescue team should be plan B, not plan A!!