

Outline:

Quenching is the process by which steelworks that have just been galvanised are immersed into a tank containing a solution of sodium dichromate and water. The solution is designed to protect the galvanised steel from the formation of wet storage stain or ‘white rust’ and also cools the items to allow for safe handling.

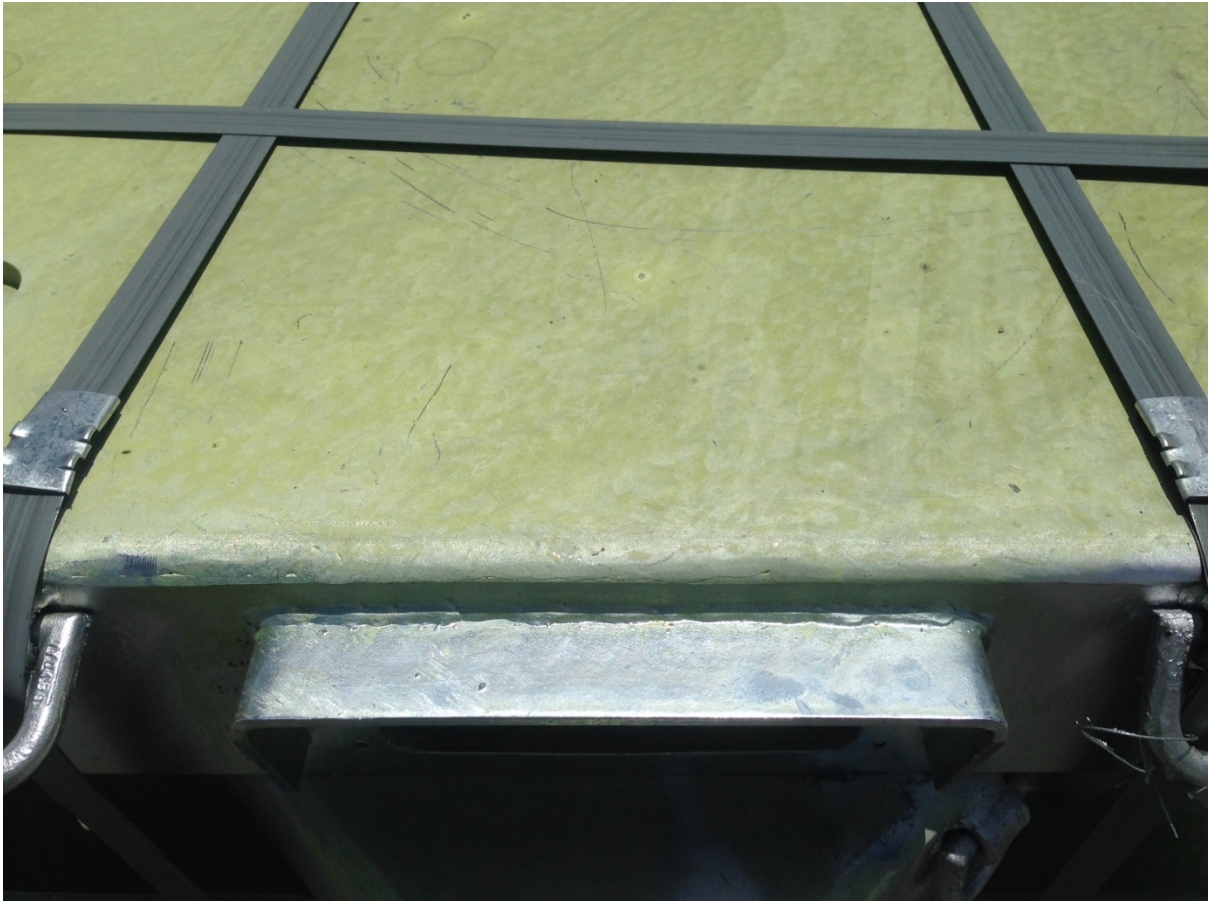


Specifics:

Occasionally the steel can emerge from the quench bath with a green/yellow colour which can be caused by a few different factors. Over time the sodium dichromate needs to be replenished to certain levels for the chemical reaction to occur to in order to prevent the wet storage stain from forming. When the levels are replenished the colour of the quench becomes darker and more concentrated and can cause the colour change on the steel. Thicker steels will also retain more heat and require a longer amount of time in the quench bath in order to cool the items down but due to these factors the colour can be imparted onto the steel.



The colour change on the steel has no impact on the performance of the galvanising or the life span of the coating. Over time the colour will revert back to a dull grey finish from normal weathering and oxidation. Alternatively the steelworks can be washed cleaned but this is not recommended until the patina has formed on the coating through oxidation.



This picture demonstrates the colour difference between the thicker and thinner steel although being galvanised and quenched for the same amount of time.