

Sustainability and Galvanising

What place does sustainability have in the rural environment, and what part does rural construction have to play? This question was asked recently at one of the CPD seminars we run for specifiers, addressing issues to do with corrosion of steelwork. In reply I asked if the architect had noticed that most farms have their own mini-scrapyard. Not much more needed to be said.

Steel is used as the building material of choice in most rural structures, but according to steel industry data, almost 50 % is used to replace steel that has corroded. It might be arguable that stone, brick or other less energy intensive materials rival steel, but for ease of construction, strength to weight ratio and for versatility, steel is hard to beat.

The major drawback with steel is of course that it rusts, and that rust actually destroys the steel. So, back to the farm scrapyard...

What do we see there? Old bailers, gates, spreaders, ancient combines.. you name it, rusty steel abounds everywhere. Steel sheds that have rusted away, roofs fallen in, structures, appliances, machinery; most destroyed by the reaction of oxygen with iron, known as rust.

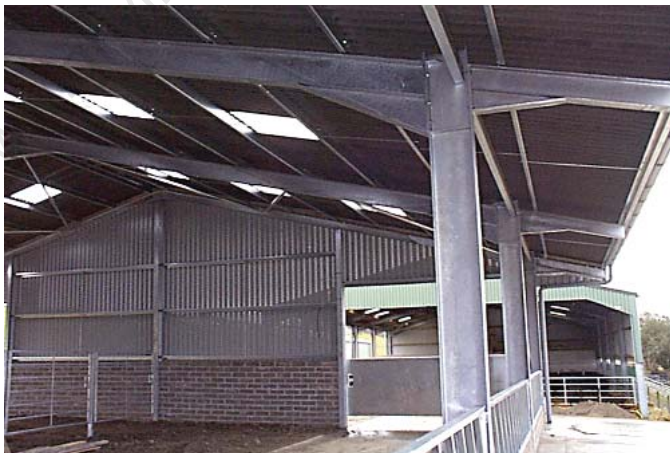
Worst of all, most of this corrosion is human assisted, by being preventable. The correct specification of corrosion protection is often given little if any thought. The thinking required is often not something that the end user or owner thinks about, but the specifier (builder, architect, engineer) has no excuse.

Left without instruction, steel fabricators might apply a basic primer (red oxide or similar) to structural steel, or perhaps a top coat of gloss enamel on appliances, gates, or other secondary steelwork. This looks great on day one, but as soon as the paint is scratched or chipped, rust starts, and the rate of deterioration escalates. And who gets the blame? The specifier.

The price of steel has increased dramatically this year. Global purchasing, largely influenced by China's rapidly developing economy has created a shortage. This has come not long after many steel plants have closed, so while supply has reduced demand has increased, and prices rise. With such increase in cost, the corrosion protection of structures built in steel is even more important.

Hot Dip Galvanizing is increasingly being seen as the most cost effective means to protect steel. It has a number of advantages:

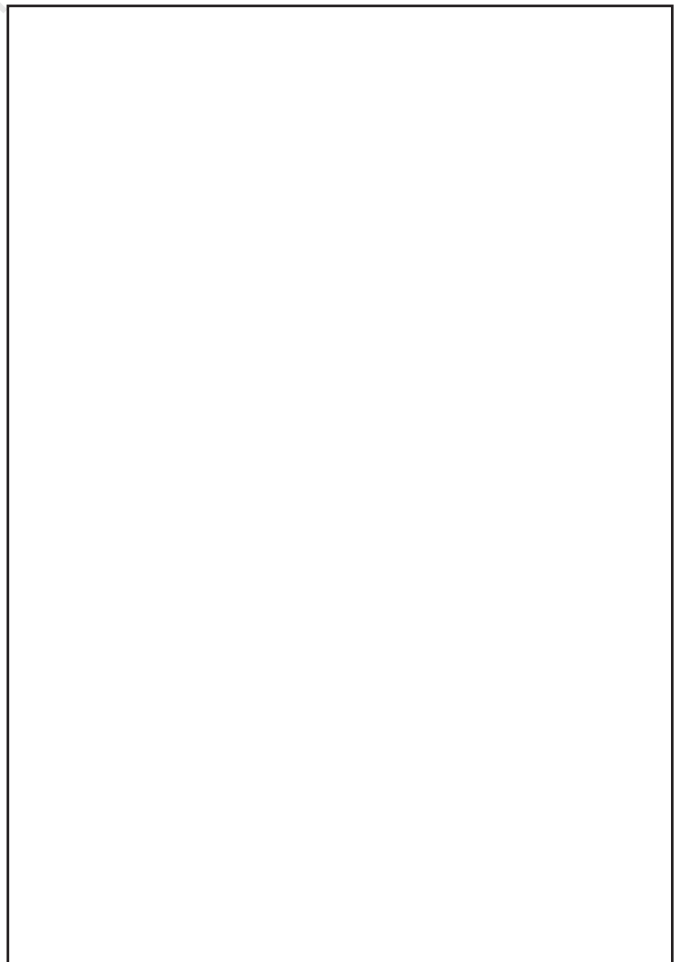
- **Toughness and abrasion resistance.** Galvanizing is a permanently bonded coating. What's more exposed steel (scratches or drilled holes for example) is protected by the surrounding zinc.



- **Reliability.** Complete coverage, inside and out is a unique feature of galvanized steel. Gates for example will not rust from the inside of the pipe.
- **Hygiene.** The abrasion and corrosion resistance of galvanized steel provides an easy to clean and hygienic surface.
- **Reduced Labour.** Buildings in galvanized steel take less labour to erect. Cladding can be applied immediately, touchup of the coating is not required.
- **Availability.** Galvanizing is available throughout the UK.
- **Location.** Whatever the location and environment, corrosion protection is necessary and galvanizing is cost effective. It is not just for aggressive coastal locations.
- **Appearance.** The bright new appearance of galvanized steel is attractive. The low maintenance of the steel protected is an added attraction.

Specification of galvanized steel is easy: ISO 1461 specifies the standard to which the work should be done. This specification covers most fabricated steel situations.

For a specifier, designer, manufacturer, not specifying reliable corrosion protection could be tantamount to professional negligence. Specifying galvanized steel makes it easy. High cost benefit and the best performance of protection systems commonly available - in many rural cases over 100 years protection.



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