

Purpose

The purpose of this document is to clarify the approved position with regard to application of intumescent coatings over a galvanised steel substrate.

Recommendations below are based on current available knowledge and best practice. Operating outside of these recommendations constitutes a risk which warrants further investigation and must be approved by Nullifire Technical Department.

Recommendations

It has long been industry practice to apply the same rules to galvanised steelwork as to carbon steel. However, in a fire situation, the presence of the galvanising layer can affect the fire resistance performance of the overlying fire protection system.

Nullifire have undertaken some testing in accordance with ETAG018 Part 2. Tests include galvanising as a primer type together with appropriate treatment, in order to confirm suitability of our products for application to galvanised substrates and provide confidence when specifying. Therefore, the Nullifire SC900 series may be applied to galvanised steel, after the following surface preparation:

New Galvanised Steel

- The substrate should be thoroughly cleaned and degreased
- Abrade / Key surface using a minimum of 80's grade sandpaper (taking care to ensure that the galvanising is not removed in the process)
- Where the galvanising does not meet the requirements for the corrosion specification or the corrosion class is greater than C2, it may be necessary, to apply an approved primer to achieve the required anti corrosive protection based on the environment classification.
- Apply Nullifire SC900 Series to the required DFT based on the Hp/A.

Aged Galvanised Steel

- Thorough fresh water washing to remove soluble salts ideally high pressure washing, or normal pressure accompanied by stiff wire brushing, ensuring the substrate is free from all forms of contamination,
- Abrade / Key surface using a minimum of 80's grade sandpaper (taking care to ensure that the galvanising is not removed in the process)
- Where the galvanising does not meet the requirements for the corrosion specification or the corrosion class is greater than C2, it may be necessary, to apply an approved primer to achieve the required anti corrosive protection based on the

environment classification.

- Apply Nullifire SC900 Series to the required DFT based on the Hp/A.

Recommendations Cont.

In steel framed buildings it is quite common for light gauge galvanised steel studs/bolts, framing or similar steelwork to be connected to primary steelwork that requires fire protection. This raises the question of how to fire protect the light gauge galvanised steel to prevent heat transfer into the primary steel. SC900 is different.

It has been approved for use over galvanised steel substrates according to ETAG018 part 2. In these tests the galvanised substrate was clean but did not have any surface preparation or primer.

Therefore, where light gauge steel studs or frames connect to primary steelwork it is acceptable to use SC900 directly over the galvanised steel providing the surface is free from all forms of contamination.

The purpose of this fire protection is only to prevent conduction of heat to the primary steel, therefore the same nominal dry film thickness of intumescent should be applied as that on the connected primary steel.

It should be remembered that single pack alkyd primers are generally not suitable for application to galvanised steel, as they can be affected by saponification which can lead to extreme detachment of the primer from the galvanising.

Additionally, specific primers for galvanising based on thermoplastic resins such as vinyl's and acrylics are not suitable for and must never be used under intumescent coatings.

Nullifire reserve the right to alter the above without prior notice, in line with Company policy of continuous development and improvement

Technical Service

Nullifire has a team of experienced Technical Sales Representatives who provide assistance in the selection and specification of products. For more detailed information, service and advice, please call Technical Services on 01942 251400.