

Base metals and combinations



Plain carbon steel, some low-alloy steels and iron and steel castings can all be galvanized. Soldered or brazed components should not be galvanized.

A fabrication consisting of a variety of materials with different surface conditions should be avoided, as this could affect the uniformity and appearance of the coating. Where differing materials are used, grit blasting the entire assembly can minimise any differences which may arise due to differing effects of pre-treatment. Preferably, the fabrication should be of similar steel type throughout.

Steel fabrications that have been subject to heavy cold work (e.g. bent through a tight radius) may be susceptible to strain age embrittlement and should be stress relieved prior to galvanizing.

When the steel to be galvanized is a high-strength steel with crack initiator and a high level of residual stress, consideration should be given to reducing potential for steel cracking to occur. Such a combination is very rare but when it does exist, advice should be sought from Galvanizers Association or reference made to Publication No 40/05, 'Galvanizing structural steelwork – An approach to the management of liquid metal assisted cracking', published by the British Constructional Steelwork Association (BCSA). Further guidance is under development at European level and will be presented as soon as it is complete. In the interim, contact Galvanizers Association staff for any technical support that might be required.