

Technical bulletin

Mixed Metal Installations – Stainless Steel fittings on Carbon steel tube

The substitution of Stainless Steel XPress or Tectite 316 fittings on a Galvanised Carbon steel installation is acceptable in heating and chilled water applications, if required.

When doing this, care must be taken to protect the SC640 Galvanised tube surface from the increased risk of external corrosion at the Stainless / Galvanised steel interface.

Galvanised carbon steel is anodic to stainless steel in air and, if the pipeline is allowed to become wet, there is a risk of localised corrosion of the carbon steel tube surface adjacent to the Stainless Steel fitting. This potential problem is less likely in heating pipe work which usually remains hot and dry.

In chilled water installations, an accumulation of environmental condensate on the pipe work could, under some circumstances, leach out aggressive chemicals from the insulation, resulting in corrosion, particularly at the stainless steel / carbon steel interface. Consequently, we recommend that where stainless steel fittings are installed on Carbon steel pipe, the joint area should be provided with additional protection to prevent localised corrosion. This can be as simple as wrapping the interface area with an impervious material such as Denso or PVC tape.

Provided these precautions are taken, there is no reason why the combination of stainless steel fittings and carbon steel tube should be entirely satisfactory.”

