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Corrosion is the degradation of material from a chemical reaction on its surface, when exposed to an environment which will support the reactions.

Fig 1 - Sweet Corrosion, or Carbon Dioxide Corrosion, Dissolves in water to create a Carbonic acid.
Iron Carbonate forms as a film on the surface. It can be a protective film above 80°C with a lower corrosive effect than at lower temps. Sweet Corrosion is seen as pitting and wall thinning.

Corrosion
and insulation

Fig 2 - Hydrogen Sulphide Corrosion or sour corrosion forms as black corrosion and is able to protect the steel surface. Any break in this coating will cause severe pitting.
Also CUI $\rightarrow$ Corrosion under insulation. Creates a crevice to trap moisture and absorb and concentrate the insulation and speeds up the corrosion process.