

Cracking up

Ethanol's corrosive properties mean that a protective environment is required, from the initial stages of manufacture through to final distribution

Stress corrosion cracking (SCC) can pose a serious risk in the distribution, storage and handling of fuel ethanol. This is the conjoint action of stress and a corrosive environment, which leads to the formation of a crack. It can happen unexpectedly and rapidly after a period of satisfactory service, leading to catastrophic failure of structures or leaks in pipework.

The stresses that cause SCC are either produced as a result of the use of the component in service or residual stresses introduced during manufacture. Cracking often occurs at stresses less than normal design levels, but local and

dynamic stress/strain can also be significant.

The corrosive environment is generally the permanent service environment. SCC can be controlled by either: selecting a material that is not susceptible to the service environment – ideally done at the initial design stages; controlling the service stresses through heat treatments and careful design to minimise stress concentrations; or through controlling the corrosive environment – achieved by the addition of a suitable corrosion inhibitor to the fuel ethanol.

Fuel additive company SBZ Corporation offers a special corrosion inhibitor expressly for this purpose. Testing has demonstrated excellent corrosion protection once the inhibitor has been added at the recommended dose rate.



Protection is provided for storage and downstream distribution facilities whatever the product blend (E100-E5). To optimise protection, SBZ Corporation recommends the inhibitor is added as soon as possible in the manufacturing process.

SBZ Corporation has also developed a special fuel

additive named SBZ 1895. This is a proprietary blend of methanol, denatonium benzoate and a specially selected corrosion inhibitor. It has been formulated to denature bioethanol and protect materials from corrosion. ●

For further information please contact: www.sbzcorporation.com or sales@sbzcorporation.com