

but the material is not classed as dezincification-resistant and should not be used in salt water.

To be fair, this ball valve has thick walls and may well last quite a few years if immersed in seawater. But experience suggests that if any electrolytic action is present – and with the proliferation of shore power supply, plus extensive onboard electrical systems, this is common – then the rate of dezincification is rapidly accelerated. That is exactly what nearly sunk *Random Harvest*, and it has also affected the brass ball valve pictured (inset right). The wall of the valve is badly dezincified and has just sheared off. Many boat owners believe the ball valves and associated components in their boats to be made of DZR or bronze, but, in fact, some are ordinary brass alloys – typically containing 40% zinc. The Copper Development Association has set up a UK scheme to mark genuine DZR valves with the designation 'CR' but this is not mandatory.



PHOTO: KIERAN FLATT

All seacocks need checking regularly. If yours aren't bronze or DZR, consider replacing them. INSET (left) silver-coloured brass ball valve which has sheared off

Inadequate labelling

Many suppliers' websites and packaging are clear in their description of materials but some are not. If you are replacing any of these vital below-the-waterline components, make absolutely sure you are getting the right ones. With such pressure on costs, the temptation to use cheaper components, which look identical, is strong. With underwater through-hull fittings, any risk should be avoided.

Bronze or DZR should be the only choices for all metallic seacocks and associated components.

My colleague John Ross, of Malta Yacht Surveys, and I wrote to several major boatbuilders, asking how they could justify installing ordinary CW617N brass fittings in new boats. We received no response from the yacht builders, but a major motorboat builder, Sealine, offered the justification that they will last the five years prescribed in the RCD's ISO 9093-1 standard. But if you introduce other factors, such as electrolytic action, which accelerates the rate of dezincification, the weakening of brass fittings may be very rapid indeed.

The dezincification of brass alloys in salt water has been properly understood for some 90 years. So, in this enlightened age of advanced, mass-production boatbuilding, why on earth are we using an inferior material for such vital fittings below the waterline? If boatbuilders persist

in fitting cheap brass ball valves and associated components, they should at least make the facts clear to their customers, who would then understand the importance of a regular inspection regime to avoid potential disaster. The ISO standard is described as 'under review', so now may be the best chance for it to be improved. In the meantime, all yacht owners need proof of the materials used in their seacocks. Once installed, there is little or no chance of identifying the material. ▲

Technical information

www.copperinfo.co.uk/alloys/brass/downloads/117/117-section-7-brasses-for-corrosion-resistance.pdf

MAIB report

www.maib.gov.uk/publications/investigation_reports/2000/random_harvest.cfm

'What on earth are we doing using an inferior material for such vital fittings below the waterline?'



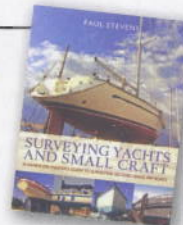
DZR brass ball valve with 'CR' (corrosion-resistant) marking



Paul Stevens

Paul, 58, is one of the UK's leading yacht surveyors and a lecturer at the world-renowned International Boatbuilding Training College at Lowestoft, Suffolk. A lifelong sailor, he has owned 24 yachts in the last three decades. His current boat is a Westerly 33 ketch.

LEFT: Paul Stevens (on left, in blue overalls) is a highly respected surveyor



Paul's hands-on guide to conducting your own survey