

Resource Sheet 3 – Planning Frames

One of the best ways of producing accurate surveys underwater is to use planning frames. These can be positioned along base lines fixed to control points. They allow relatively unskilled draughtsmen to produce an accurate drawing fairly quickly. Although an offset survey is quicker in skilled hands it is intrinsically less accurate and requires more practice to achieve good results.

There are many different designs which have been used for underwater planning frames. Anyone who has attended a NAS training course will have seen the plastic tube and string versions in use on the NAS part I course.

A more robust and easily made planning frame can be produced by cutting steel reinforcing mesh into 1m or 1x2m pieces. The reinforcing mesh with 200mm squares is cheap and widely available from builders' merchants. Steel mesh planning frames are robust enough to leave on the seabed overnight and will withstand considerable abuse – unlike elastic or string which is subject to breaking and stretching.

Steel reinforcing mesh is available in a number of different wire diameters (commonly 5-10mm). The 5mm works well and produces a 1x1m frame which only weighs about 1.5kg, or 6kg for a frame made from 10mm diameter mesh. The mesh is usually sold in large sheets so you need to cut this up – 1x1m and 2x1m frames are convenient. Cut them with bolt croppers or an angle grinder; it can be done with a hacksaw but takes considerably longer this way. Once the frames are cut, remove sharp edges with a file or angle grinder. Give them a coat of brightly coloured paint to improve visibility on the seabed.

Most mesh is made from mild steel, but in practice this is fine and they do not seem to suffer too much from corrosion – they are usually only on the seabed for a few days at a time. Mesh is made in stainless steel but most builders merchants do not stock it – if ordered specially, large quantities usually have to be purchased, making it too expensive. However if you are lucky enough to find stainless mesh in stock, it may be worth considering.



One metre square planning frame made from steel reinforcing mesh

