

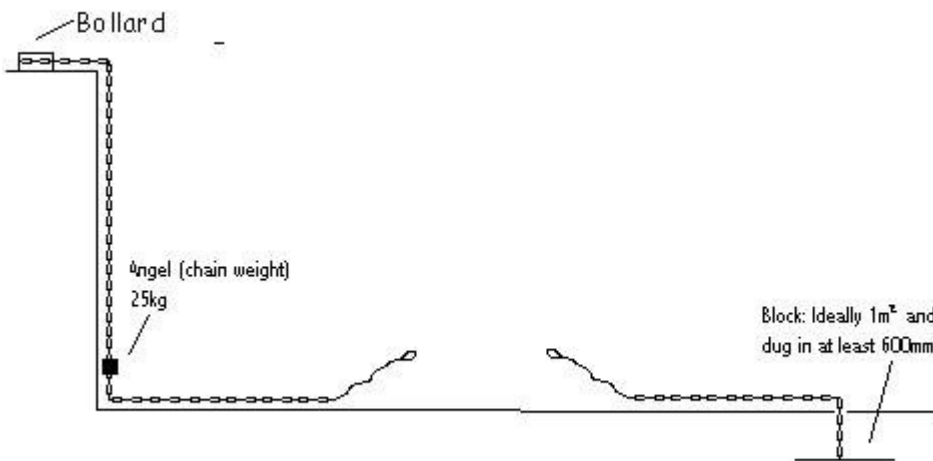
Mooring Guidance

It is the YOUR responsibility to ensure that your boat is properly moored. YOU are responsible for chains, shackles, warps and whatever else is required to guarantee your boat will not break free and/or strike other craft.

The purpose of this guide is to offer friendly advice – not expert opinion. If you are in any doubt about your own abilities you should contact a professional marine engineer.

Fore and aft moorings:

We usually moor our boats 'fore and aft'. To achieve this you will need two separate mooring chains and strops – one at the front and one at the back- and one mooring block. You will fix one chain to the wall and one to the block – which depends on whether you are at the front or rear half of the basin.



Ideally the block should be at least 1m² and made of 3/4 steel plate. In the centre should be attached a loop to enable your chain to be joined on. Some people use very heavy chain for the first metre as much of it is out of sight (and therefore 'out of mind'). The position of the (and therefore length of the chain) should take you at least past the other end of the next boat (about 30 feet). Be thoughtful about the location of the chain to avoid crossing others or being in the way when boats settle.

Chain:

Short-link tested (proof) chain should be used. 3/8 (10mm) is the absolute minimum and boats over 18 feet should use at least 1/2 (12mm). There are four things to remember:

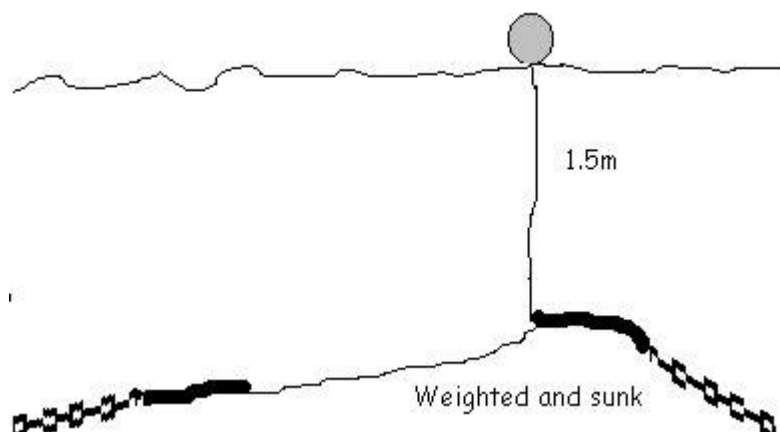
1. The weight of the chain will help stop the boat surging (therefore over sizing can help)
2. As the chain wears its strength reduces
3. The bigger the chain the bigger the shackle you can fit and shackles are only 1/3 the strength of a similar sized chain (e.g. a 3/8 shackle has 1/3 the strength of 3/8 chain)
4. Tighten shackles full and then use wire to 'mouse' the shackle pin to stop it undoing.

Strops:

Your strops should be long enough so that the chain does not hit the boat – but no longer. Strops must be of Nylon – it stretches and sinks – exactly what you need. Two 12mm (minimum) 3 strand nylon strops per end or a single thicker strop at the bow will be ideal (see tale below regarding SWL)

Painters and risers:

You will need a line to join your two sets of strops and lines to the quay. These should be nylon (it sinks) and preferably weighted. The length of the line between strops is obviously the length of the boat. A riser should be attached that is 1.5m long and weighted at bottom. At the top of this riser is your pickup buoy. This keeps everything a safe distance below the surface.



Get this wrong and you will drive over your own moorings and get stuck (and people will laugh!).

You also need to be able to pull your boat in to get on it. Fit a single line to your bow and another to your stern. Use sinking or weighted rope again (probably quite thin - 8mm). Use enough rope so that the line sits on the bottom at low tide. If on the outside consider fixing the other end to the strop of the inner boat rather than the railings. Do not use these lines for anything other than pulling the boat in to get on and off.

If you are on the outside you have to climb over the inner boat (if it is there) or disconnect your bollard chain, lengthen it with rope and move it in temporarily. DO NOT be tempted to use extra length permanently – your boat will strike your neighbours.

Some Facts:

3/8 10mm Grade 40 (M) - break 6500kg WLL 1625kg (but a 3/8 shackle has only 541kg SWL)

Break Load - is twice Proof Load - which it is loaded to in the factory hence the term 'Proof Coil'

WLL or SWL - 1/2 the proof load or 1/4 of the break load

SWL for Rope:

General formula to calculate safe working load (of new rope only).

SVVL in kg = (Diameter in mm)² x factor.

Material	Factor	Material	Factor
Nylon	2.25	Polypropylene	1.6
Polyvinyl	1.25	Polyester	2
Polyethylene	1.45	Silver	1.16
Manilla	1.0	Sisal	1.0

Source: <http://www.eaglelifting.co.za/products/SyntheticRopes.htm>

Example:

12mm Nylon SWL in kg = (12)² x 2.25 = 324kg

25mm Nylon SWL in kg = (25)² x 2.25 = 1,406kg (nearly as strong as 3/8 chain)

1 000 kilograms = 2 204 pounds

Implications:

Your 3/8 mooring system will have a SWL of 541kg because of the shackles used (not the chain or the strops). As shackles are your weak link check them regularly.

Avoid stainless steel.

Do not mix mild and stainless steel. This will create a galvanic reaction that will quickly eat away the mild steel chain.

Inspection:

Check your moorings regularly – the tide goes out at least once a day so there is no excuse! In winter dig up as much gear as possible and inspect and take home. This allows for cleaning, checking and avoids theft and storm damage.

www.portreath-harbour.org.uk

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