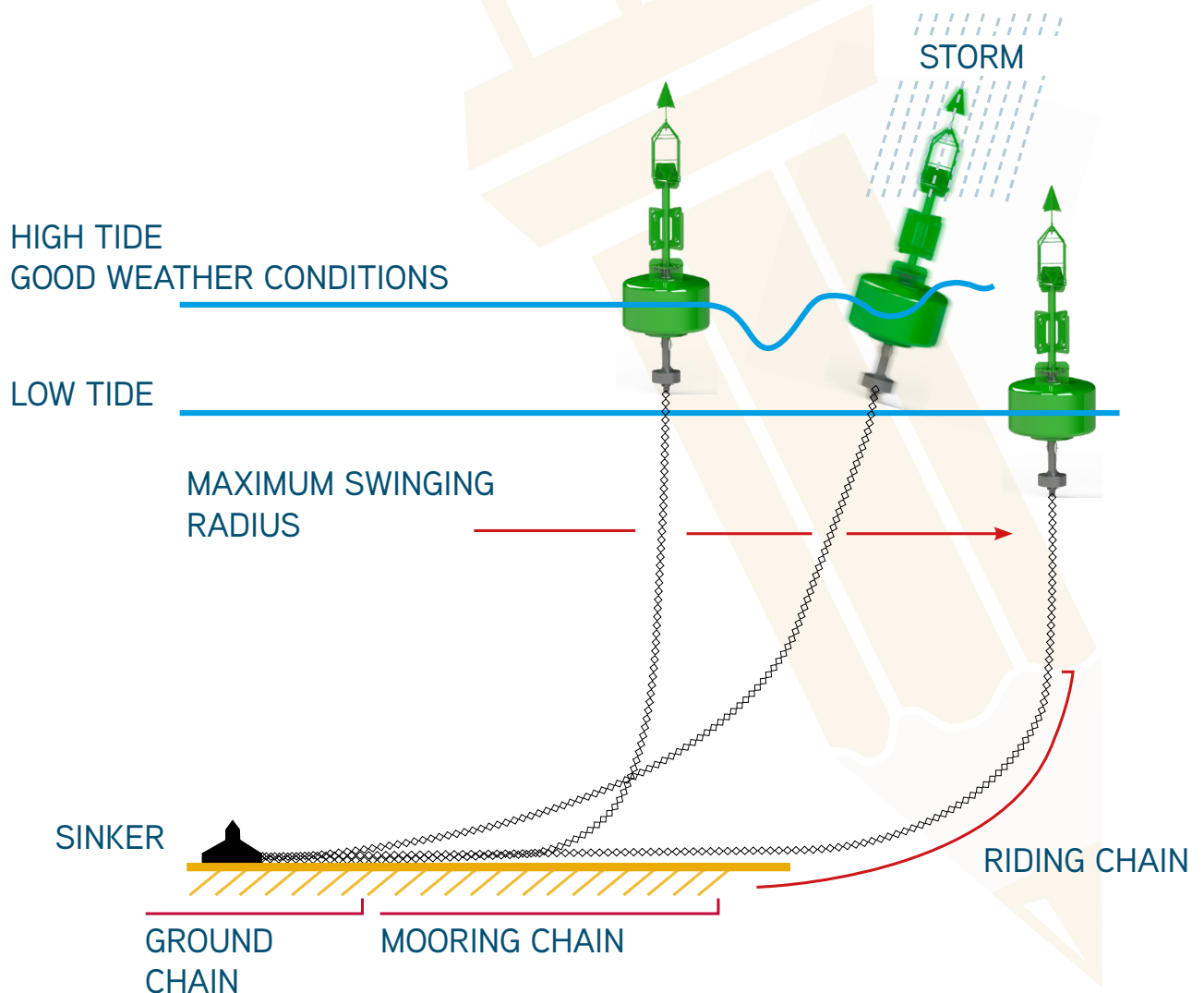


IALA GUIDELINE G1066



A mooring is normally made up of the following parts, suitably assembled. We will explain the mooring set sections and alternative options for each of them, starting from the Floating Aid to Navigation, down through the mooring system, all the way to the attachment system.

NOTE: For small to moderate sized moorings the riding chain, ground chain and thrash chain may be formed by one continuous length of chain. However, these terms are still used to identify the various sections of the mooring.





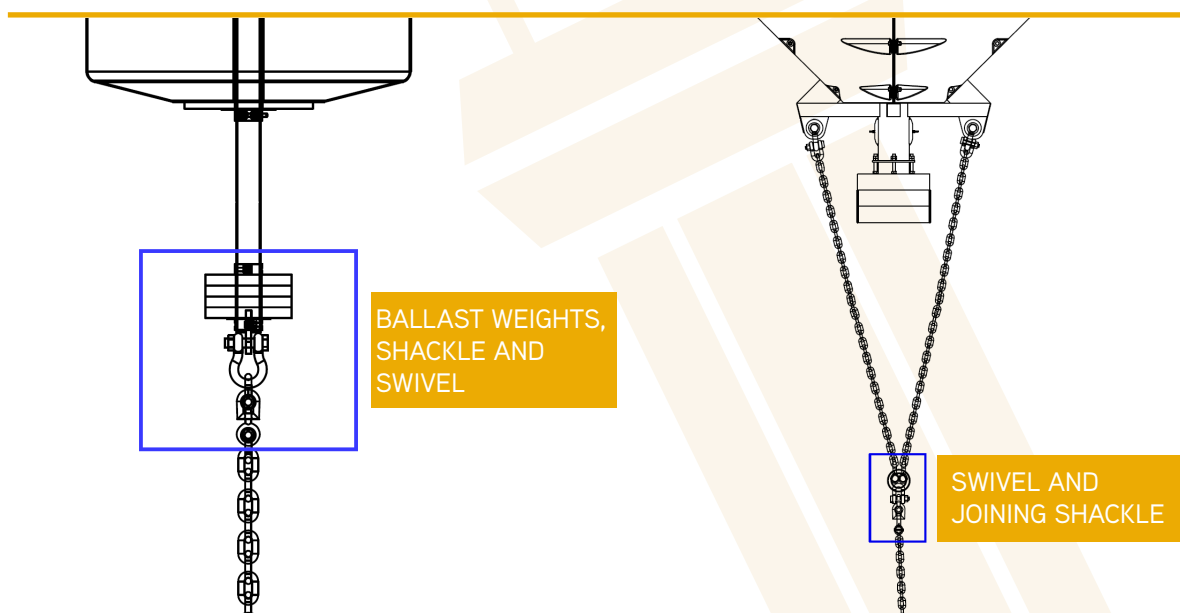
SECTION 1

TAIL CHAIN or BRIDLE

This section is the first length of chain attached to the buoy, it includes possibly bridle, joining shackles or rings, swivels and a quick release system if needed.

In a buoy with a long tail and a single mooring eye, this is the length of chain connected to the buoy. In this kind of buoys, multiple mooring eyes or regulable ballast are advisable to enable the buoy to work in various depth and conditions.

In a BRIDLE type configured buoy, with a short tail and double mooring eyes, this section is formed by two lengths of chain, joined with a joining ring or similar. The use of a bridle type mooring set enables the buoy to work in high current scenarios.



This section of the mooring suffers from interlink wear for the following reasons:

Due to the vertical movement of the system, this section absorbs a significant portion of the energy transmitted to the buoy from the rising and falling, following the movement of the surface of the sea.

It absorbs great part of the rotational movement generated by the buoy, especially if there is no swivel included (a swivel is always recommended if possible). A stabilizing fin can also be convenient in some cases (very high water current).



SECTION 2

RIDING CHAIN

This section of the mooring remains suspended beneath the buoy and is not subjected to wear on the seabed. For this reason, this section of the mooring can include synthetic rope where a lightweight mooring is preferable or rubber cord when large amounts of wave energy must be absorbed.



SECTION 3

THRASH CHAIN

The Thrash Chain is the part of the mooring lying on or near the seabed, connecting the riding chain to the ground, this section continually rises, falls and moves over the seabed and severe wear can be expected in sandy or rock sea bottoms.

It is usual to renew this part of the mooring first, either with new chain or by exchanging with a length of chain from elsewhere in the mooring. Higher diameter links can be used in this section in order to prevent and minimize this higher maintenance requirements.

Note 2: The swinging radius is a term related to sections 2 and 3, it represents the radius of the circular movement of the buoy about the position of the sinker. In tidal or river conditions, the movement of the buoy will be always in the direction of water flow.



SECTION 4

GROUND CHAIN

The Ground Chain lies on the seabed between the thrash chain and the sinker, and sometimes becomes embedded, this section works in conjunction with the sinker and has the same functions.



SECTION 5

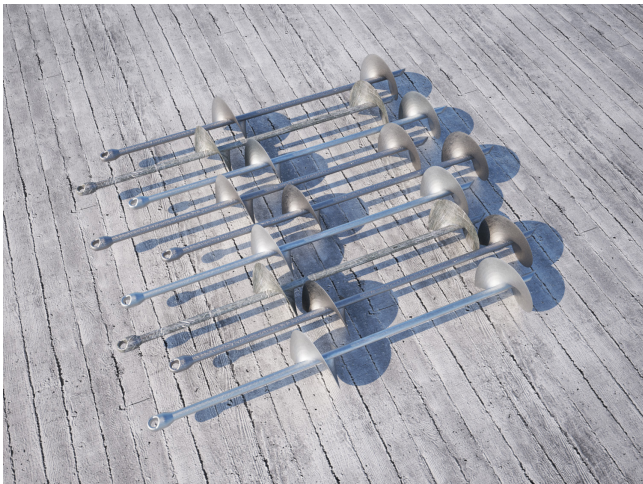
SINKER

The sinker usually provides the attachment of the mooring to the seabed. Sinkers have the advantage that they can resist loads from all directions.

Anchors may be used when a periodic recuperation of the attachment is required or to increase resistance in one direction without increasing weight, but it is very important to perform a correct installation.



Other attachment to the seabed are available and advisable depending on the mooring requirements, like ecological systems, recycled sinkers or complex mooring points (formed by combination of various typologies).



Pictures: ecological system