

## MOORING LINE COMBINATION USING THE 2 LINE SHOCK

### ABSORPTION METHOD FOR MOORING BOATS AT HJPUG

Note: All penholders are responsible for the secure mooring of their boats as each boat is unique. The following technique has proven successful and is widely used in the pens.

This method uses 2 lines at each corner, a shock absorbing line and a backup Dockline. This system utilizes the inherent properties of a polyester braided jacket with a nylon core (Dockline) that provides a strong defensive backup line should the thinner nylon shock absorbing braided ever break.

In short, the thinner white nylon braid line is made shorter in length than the black Dockline by about 20cm which forces the stretchy white braid to stretch 20 cm before the Dockline takes any load at all. The white braid then recoils bringing the boat back to its original position. This white braid can stretch up to 25% of the mooring line length before it will break.

With the Dockline coming into play well before the 25% stretch point of the white braid never gets the chance to exceed its specified maximum stretch yield point.

Please remember, the black Dockline can stretch as well, only when the full 20 cm travel is taken up. The Dockline only comes into play in extreme conditions.

Both lines are attached to a bow shackle, and in turn, the shackle is attached to the bar via a rotating roller and pin. The whole assembly rolls up and down the bar when force is applied from the boat. This movement, as the roller rides up the bar, also absorbs shock on your lines well before the white braid begins to stretch. This rolling action also reduces wear on the bar.

An additional a shock absorbing buffer is available, but is probably not necessary. The yacht in Pen 7 is about 18 tons and the white braid is only 10mm Dia. as 12mm Dia. was not available at the time. To date, both the lines are working well together. Remember the thin white braid essentially acts as a spring. HJPUG can supply 10mm and 12mm DIA. WHITE NYLON BRAID and 14 mm and 18mm Dia. BLACK DOCKLINE on request from the directors.

A hose at the toe rail is essential to prevent the braid from fraying (see sketch).

The dragon knot is not essential and a standard bowline may do the trick. However, bowline knots are known to shake loose when not under load.

NB If you share a single bar with another boat then ensure your bow shackle is held off your neighbours bow shackle with a short rope by about 20cm. This allows both shackles to move up and down without interfering with each other.

# Dockline

- **100% Nylon Core with Black 100% Polyester Jacket**
- **The combination of a polyester cover and nylon core prevent creaking in the moorings lines while the boat is docked. Much quieter at night.**
- **UV Resistant Polyester for long life outdoors**

| DIAMETER (MM) | SPOOL LENGTH (M) | MAX LENGTH (M) | APPROX BREAK KGS |
|---------------|------------------|----------------|------------------|
| 14            | 100              | TBA            | 5,200            |
| 18            | 100              | TBA            | 8,150            |

# Double Braid Nylon

- **Made from 100% Nylon**
- **High strength with good shock absorption**
- **Used for Dock & Anchor lines, Mooring lines, Tow Lines and Surge pendants**

| DIAMETER (MM) | SPOOL LENGTH (M) | MAX LENGTH (M) | APPROX BREAK KGS |
|---------------|------------------|----------------|------------------|
|               |                  |                |                  |
|               |                  |                |                  |
| 10            | 100              | TBA            | 2,500            |
| 12            | 100              | TBA            | 3,500            |

## Suggested Line configuration

| Dual Total | Absorption line  | Backup Line      | Pen NO. |
|------------|------------------|------------------|---------|
| 6,000 Kg   | 10 Dia. 2,500 Kg | 12 Dia. 3,500 Kg | 17-30   |
| 7,700 Kg   | 10 Dia. 2,500 Kg | 14 Dia. 5,200 Kg | 13-16   |
| 8,700 Kg   | 12 Dia. 3,500 Kg | 14 Dia. 5,200 Kg | 1-4     |
| 11,650 Kg  | 12 Dia. 3,500 Kg | 18 Dia. 8,150 Kg | 5-12    |

