Formshore
Kawasan Bintang Industri II, Type G No. 23A, Kel. Tanjung Uncang, Kec. Batu Aji, Kota Batam, Indonesia

The Protech™ Frond Mattress

The Protech™ Frond Mattress is a combined buoyant frond scour mat and flexible concrete mattress available in several standard variants, all featuring continuous and significantly overlapping parallel lines of buoyant fibrillated polypropylene fronds attached and aligned to the concrete blocks.

Protech™ Frond Mattress Advantages

- ROV friendly deployment
- The installation is quick and ensures instant stabilization and protection with immediate hold down.
- Long-term fibre reinforcement and sediment build-up over the mattress significantly enhance protection and reduce scour potential near structures.
- The Protech™ Frond Mattress offers scour protection for an area larger than its coverage.
- Individually profiled concrete segments provide flexibility in two planes, ensuring complete stabilization and even load distribution for subsea structures and pipelines.
- The fronds prevent edge scour and eliminate the need for geotextile filter screens under the mattress.

Buoyant Frond Material

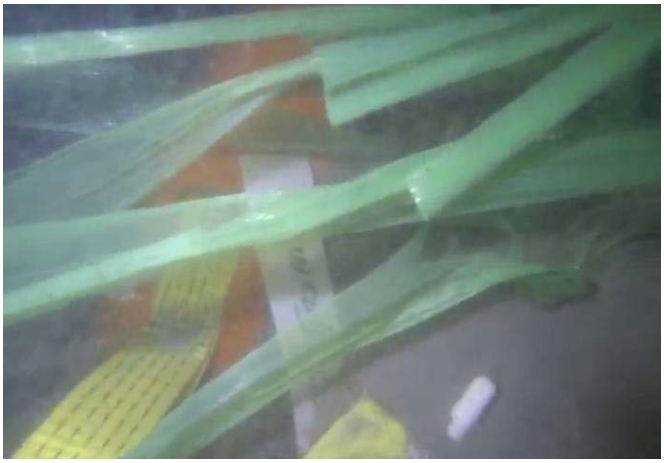
- UV stabilised Polypropylene Chemically Resistant.
- Specific gravity 0.908

Frond Length and Attachment

- Buoyant fronds are connected to the mattress in successive and continuous rows, ensuring substantial and unbroken overlap with fronds in neighbouring rows.
- Frond clumps are not utilized.
- Formshore Protec™ Frond Mattresses are constructed from individual strand fronds.
- The buoyant frond material is 1250mm in height with a minimum of 500 buoyant fronds per square meter. A "Safe Net" frond release is included for diver and ROV safety.

After 2 Days

The fronds start to catch sediment from the current flow.



After 7 Days

Buildup of sediment within the mattress area increases, reducing scouring

After 14 Days

Depth of scour in the area is significantly reduced with continuing sediment buildup

After 21 Days

Full buildup of sediment, reduces the existing scour and prevents additional scouring

The final height of a bank with a frond height of 1,250mm should safely exceed 900mm within 40 to 75 days.

Typical submerged weight of sand particles is 819.5 kg/m^3.