



## The Australian Boom and Baffle Company

### Contractors Silt Curtain

The Australian Boom and Baffle Company “Contractors Silt Curtain” has been specifically developed for Australian Marine Contractors providing a balance between price, quality, effectiveness and durability.

The float casing is constructed from PVC coated polyester which is longitudinally reinforced with polyester webbing. Floats are integrated into the casing using oil resistant, crumble proof closed cell PE foam block. A webbing reinforced PVC coated chain pocket is attached to the bottom of the skirt.

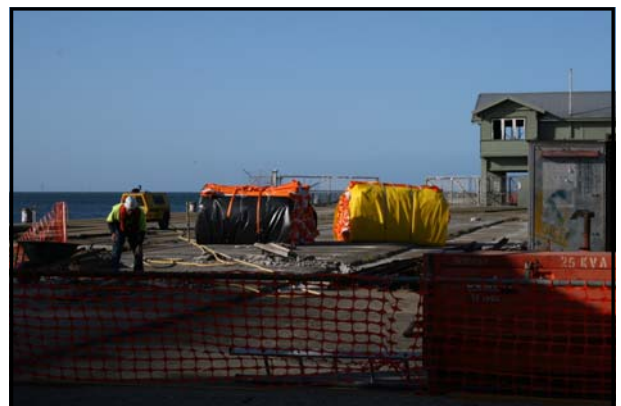
Standard skirt fabric is 270gsm non woven polyester however a range of alternative materials are available including woven and non woven polypropylene, high strength woven polyester, impermeable coated fabrics and various mesh configurations.

Curtains are available in 10, 15 or 20m sections. A joining system has been developed to provide simple but effective removal and attachment of sections both on land or in the water. The system uses ASTM 962 pattern connectors to join the floats, tension members and D rings use galvanized shackles and skirts are joined using marine zippers or eyelets and ties. Long length curtains are factory pre-joined to provide easily deployable bundles minimizing the on site installation time.



Picture shows 2 bundles each containing 400m of SC150TII fitted with a 1m 270gsm non woven. The Curtain is fitted with ballast chain and floats and the skirt is furled to the floats. The curtain bundle is contained within a laced cover which is fitted with lifting straps.

Contractors curtain bundles are easily managed on site and can be lifted into inaccessible areas or onto barges using cranes or other lifting equipment minimising manual handling. A 400m x 1m deep skirt bundle will measure 270cm long x 220cm wide and 160cm high and weigh approximately 900kgs.





## Silt Curtain Configurations

Contractors Silt Curtain Float Models					
Model #	Float Size	Freeboard	Casing Wght	Ballast Chain	Skirt Range
SC150TII	100x100mm	150mm	610gsm	6-8mm	0.5-6m
SC200TII	150x150mm	200mm	610-900gsm	8-12mm	1-10m
SC300TII	200x200mm	300mm	900gsm	8-16mm	1-20m
SC200HS	150x150mm	200mm	1000gsm	10-12mm	1-10m
SC300HS	200x200mm	300mm	1000gsm	10-20mm	1-20m



Model SC150TII fitted with a PP8 2m skirt containing heavy sediments in a tidal waterway

Contractors Silt Curtain Skirt Fabrics					
Model #	Composition	Construction	Weight	Tensile kN	Flow rate l/m <sup>2</sup> /min
PE8	Polyester	Non woven	270gsm	22x22	6200
PP8	Polypropylene	Non woven	270gsm	18x18	8400
PP22	Polypropylene	Woven	250gsm	40x40	36600
PP46	Polypropylene	Woven	>450gsm	80x120	48600
PET100	Polyester	Woven	>400gsm	100x100	4560
PET200	200x200	Knitted	>700gsm	200x200	7634

Curtains are configured by applying the appropriate floats model to the most suitable skirt material. Floats are costed per lineal metre, skirts are costed per square metre. Contoured end price is determined at max skirt depth eg. 1 to 4m contour over 20m is charged at 20 x 4m.

Float models designated HS (High Strength) are normally configured with PP46 or PET Skirts



## Specifying Silt Curtains

AB&BCo is able to configure a silt curtain to meet the anticipated environmental and hydraulic conditions, however, the ultimate effectiveness is only as good as the base information provided by clients. The primary factors to be considered are:

**Environmental Loadings:** When determining an appropriate silt curtain for a location waterflow and wind loading will determine the required longitudinal strength and anchoring arrangements.

**Wind Loading** = kgf =  $26 \times \text{freeboard area in m}^2 \times (\text{velocity of wind in knots})^2$

**Currently Loading** = kgf  $26 \times \text{area of skirt in m}^2 \times (\text{velocity of waterflow in knots})^2$

NB. 100x4m silt curtain requires 41,600kgf to hold it in 2 knots of current, a 100x2m silt curtain will require half that,

When deploying silt curtains in tidal areas where there is little tidal stream there will still be **impoundment loadings** effecting the curtain. This is the effect of the water either entering and exiting the area contained by the curtain is determined by the area impounded multiplied by the tidal range the resulting water volume is then interpolated against a tidal curve for the area to estimate the flows



**Model SC150TII Fitted with PET100 High Strength skirt deployed in a tidal waterway**

**Silt/Sediment Conditions:** Most geo-textiles have been developed and tested for soil separation and stabilization purposes therefore apparent opening and flow rate testing data often bears little similarity with actual field performance as a floating curtain. Compounding this material such as polyester expands when wet and reduces the opening size well below dry sieving test performance. The best analogy is to compare a floating silt curtain with a wire net fence if you have a mesh were a golf ball will easily pass through but then take a handful of balls and throw them at the fence they hid and bounce off, drop, deflect etc. but none pass through the same effect occurs with a silt curtain. As a dynamic floating hydraulic curtain some materials can retain >30% of their soil separation stabilization test capacity.

### When specifying silt curtains:

1. **Set clear achievable objectives with your client and environmental regulators**
2. **Properly anticipate the loadings and configure curtain accordingly**
3. **Limit skirt depth to minimum possible required**
4. **Remember strength and durability is a function of price. The cheapest price is not necessarily the cheapest solution.**



## Deploying the Silt Curtain

When deploying AB&BCo silt curtains:

1. Determine appropriate locations and strength for the shore mooring having determined the combined curtain loadings. Shore moorings may be configured a number of ways by either using: driven posts, precast or cast insitu blocks or deadman anchors.
2. Curtain bundles should be located close to the shore mooring in a location which allows for the curtain to be towed off the shore using an appropriately sized and powered water craft.
3. The curtain (with the skirt furlled and tied to the floats) is towed into position and the anchors are then deployed. The holding capacity and location of these are determined using the loading calculation.
4. Once the curtain has been anchored in position the furlled skirt is dropped



Furled curtain deployed from truck



Curtain sections being joined



Furled curtain deployed into water



Curtain with skirt dropped and anchored

Available From:

