

Deploying the Silt Curtain (Model ADSB)

When deploying Adiemas 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



Furlled curtain deployed from truck



Curtain sections being joined



Furlled curtain deployed into water



Curtain with skirt dropped and anchored

Available From:

The contractors range of Silt/Turbidity Curtains are available factory direct from the manufacturer:

Adiemas Services Pty Ltd

Unit 4/2-4 Hale St, Botany NSW 2019

Contact Email: calsop@adiemas-services.com.au

Contractors Silt/Turbidity Curtains

The Adiemas has been manufacturing and installing the Australian Boom and Baffle Company "Contractors Silt Curtain" product range for over 30 years it during this time the designs have evolved with the experience gained to provide a balance between price, quality, effectiveness and durability subject to the type of works being undertaken.

The float system is provided either using webbing reinforced float cases with integrated foam log floatation or moulded HDPE floatation elements through bolted high strength skirt assemblies.

The range of products provides options for coverage of operating environments from sheltered waterways to open ocean conditions.

When selecting a curtain the following should be considered:

- Our ADSB model curtain is the original "contractors curtain" we fabricate 1000-5000m of this each month
- If you are installing a curtain in a high loading (wind, current and waves) we recommend that we undertake a mathematical model of the conditions and configure a purpose designed curtain.
- The use of terms Type 1, 2 & 3 are a derivation of US Department of Transportation generic descriptors for off the shelf products. Adiemas ADSB exceeds US Type 2 standards. If you are installing a curtain in "Type 3" conditions
- ASTM 962 pattern connectors are US Pattern generic oil boom connectors and we have found that they do not evenly transfer the loads between floatation units



Picture shows 2 bundles each containing 400m of ADSB fitted with a 1m 270gsm non woven. The Curtain is fitted with ballast chain and floats and the skirt is furlled 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	Ballast Chain	Skirt Range
ADSB	100x100 Block	150mm	610gsm	6-8mm	0.5-6m
ADHB	175mm log	200mm	900gsm	8-20mm	1.5-9m
Seacurtain-150	150mm Moulded PE	150mm	N/A	10-16mm	1-9m
Seacurtain-300	300mm Moulded PE	300mm	N/A	12-20mm	1-20m
Seacurtain-500	500mm Moulded PE	500mm	N/A	10-20mm	1-20m



Model ADSB 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 ² /min
PE8	Polyester	Non woven	270gsm	22x22	6200
PP8	Polypropylene	Non woven	270gsm	18x18	8400
PPW22	Polypropylene	Woven	250gsm	40x40	36600
PPW46	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.

Seacurtain models are configured with PPW or PET Skirts as these products are suitable for long term heavy duty deployment

Specifying Silt Curtains

ADIEMAS 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. Rule of thumb formulas as follows, for accurate estimates including wave lading please contact Adiemas directly.

Wind Loading = kgf = 26 x freeboard area in m² x (velocity of wind in knots)²

Currently Loading = kgf 26 x area of skirt in m² x (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 ADSB 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.