



SHEETPILE

PRODUCT BROCHURE

ST SERIES • HB SERIES

PRECAST CONCRETE SHEETPILE WALL

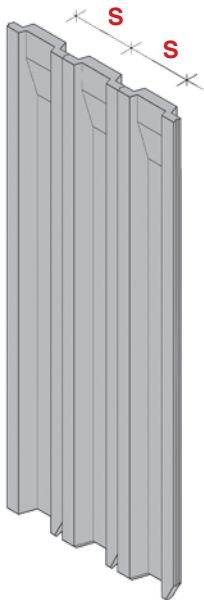
Sheet piles are widely used as temporary and permanent earth retaining systems for building platforms, stabilization of slopes, road embankments and riverbanks, and shoring walls of trenches. These embedded sheet pile walls are commonly employed for restricted site conditions, especially for wall alignment along the lot boundaries, and where open excavation is not permitted. They are also well suited to poor soil conditions, providing a cost effective alternative to replace other retaining wall systems supported on expensive piled foundations.

Precast sheet piles are manufactured in long thin structural concrete elements of folded plate sections in corrugated form. The walls are constructed by installing prefabricated sections into the ground in sequence to design depth along the planned wall alignment to support the retained earths and loads. The sheet pile walls serve generally to resist lateral earth pressures as they embedded in soils. The stability is derived from passive pressure mobilized in front of embedded toe of the wall.



PRODUCT SPECIFICATION

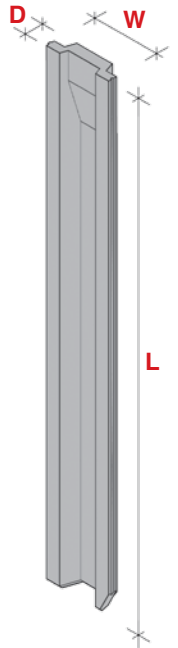
Because sheet pile walls derive their support from the surrounding soil, an investigation of the foundation materials along the wall alignment should be conducted at the inception of the planning for the wall. The coordination effort required for design and construction of a sheet pile wall is dependent on the type and location of the project. Coordination and cooperation among hydraulic, geotechnical, and structural engineers must be continuous from the inception of the project to final placement in operation.



Sheetpile ST Series

Suitable for soft clayey / silty or loose sandy soils

PRODUCT CODE	WIDTH W (mm)	DEPTH D (mm)	LENGTH L (mm)	SPACING S (mm)
ST-495	1200	495	6000	1200
			7500	
			9000	
			12000	
ST-700	1200	700	9000	1200
			12000	
			15000	
			18000	



APPLICATION



Development Project

Building Platform, Earth Retention and Slope Protection



Roadwork

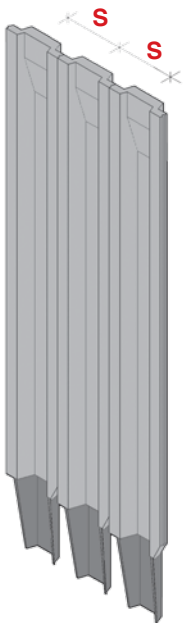
Embankment, Bridge, Abutment and Wingwall

Embedded sheet pile walls may be cantilever, anchored or propped structures. Cantilever sheet pile walls are suitable for only moderate height. For higher retained height, additional support to the wall however is skillfully achieved through the deployment of a system of anchors, ties, struts placed at a higher level.

Tongue and groove (T & G) joints are provided along the sides of the concrete sheet pile sections to guide and facilitate installation works. The T & G joint serves to reduce, if not totally conceal possible gaps between precast units during installation and prevent washing out of fines from the retained earths.



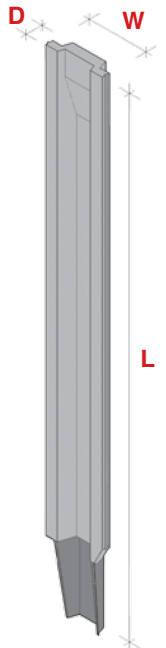
At service, sheet piles are considered to act as a beam subject to predominantly flexural stresses, and sometimes with combined axial stresses depending on the structural configurations. Sheet-piling loads are primarily developed by lateral earth pressures, which in turn develop shears, moments and deflections in the sheet pile sections. The precast concrete sections are reinforced adequately to resist these forces.



Sheetpile HB Series

Suitable for soft clayey / silty or loose sandy soils on top soil layers, but with firmer or stiffer characteristics near founding level

PRODUCT CODE	WIDTH W (mm)	DEPTH D (mm)	LENGTH L (mm)	SPACING S (mm)
HB-495	1200	495	6000 7500 9000 12000	1200
HB-700	1200	700	9000 12000 15000 18000	1200



Marine Structure
Wharf, Jetty, Coastal Protection



Slope and Bank Stabilization
Drain, Canal, Pond, Lake and River

ADVANTAGEOUS FEATURES



Space Saving

- The precast sheetpile method of construction alleviates site constraint problem that might arise during installation and / or at the time of service.

Cost Effective

- Efficient wall section designed significantly minimises foundation cost.

Robustness

- Strong section with in-built ribbed or corrugated profiles will facilitate driving and handling process

Corrosion Free

- Being corrosion free it will entail no treatment cost.



Conventional Steel Sheetpiling	Precast Concrete Sheetpiling
Flimsy, possibility of buckling susceptible to transverse bending failure	Robust with rigid concrete section in special profiles
Corrosion, vulnerable to adverse exposure conditions	Special cement and thicker concrete cover
Protective coating : not practical and costly	Inherent durable properties of concrete
Short lifespan, high maintenance costs	Maintenance free with concrete structure
Escalating costs of steel	Stable price, less affected by price fluctuation

Design / Specification

- Earth retaining structure design to BS8002
- Reinforced concrete design to BS8110
- Concrete grade fcu = 40-50MPa (for standard design)
- Superimposed load = 5-10 kPa (for standard design)
- Higher grades or loading specification can be customized to meet specific project requirements

Manufacture

- Cement (OPC) to MS522
- Aggregate (20mm) to MS29
- Steel bar to MS 146
- Admixture to MS922

Installation

- Vibro-hammer/ or hydraulic drop hammer of adequate capacity to site soil conditions
- Work sequence in general:
 - Site clearing, preparation of access and working platform to machinery requirements
 - Setting out alignment, install guide-frame
 - Pitch wall panel, position and drive
 - Cast capping beam
- Refer to specific method statement for each project



RIVO BUILDERS (M) SDN BHD

Lot 5127, Batu 6, Jalan Kenangan, Off Jalan Meru, 41050 Klang, Selangor Darul Ehsan
 Tel : +603 3392 8113 Fax : +603 3392 9113
 Email : rivobuilders@gmail.com
 Website : www.rivo.com.my