ESC
VINYL SHEET PILES

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ESC VINYL SHEET PILES

2026 Edition

Flood Control | Water Control | Marine Structures | Containment & Cut-off Systems

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APP '**ESC GROUP**'

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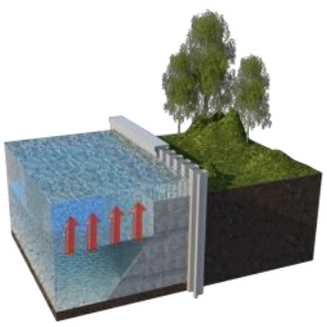
INTRODUCTION

ESC Vinyl Sheet Piles also known as PVC Sheet Piles are a modern alternative for your project. They offer a lower cost than steel, wood or concrete alternatives. The ESC Vinyl Sheet Pile is a strong, light-weight, UV and impact resistant product. The product is inert does not rust, corrode or crack. The ESC Vinyl Sheet Pile retains its structural integrity for decades.

APPLICATIONS

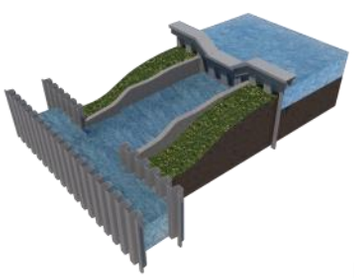
Flood Control

ESC Vinyl PVC Sheet Piles can be utilized for flood protection structures such as Flood Walls or Levees, Stabilization of Dams, Protection of Piping.



Water Control

ESC Vinyl PVC Sheet Piles can be utilized for water control structures that function by altering the flow of water in a pond, drainage channel or stream.



Marine Structures

ESC Vinyl PVC Sheet Piles provide an excellent option for a long lasting seawall due to their superior corrosion resistance, aesthetic finish and lightweight profile for easy handling and installation.

Containment & Cutoff Systems

ESC Vinyl Sheet Piles are frequently the optimal solution for fluid containment projects as they are made of an inert material that can exhibit superior chemical resistance and water corrosion resistance. The interlocks of the sheet pile can be coextruded with a sealing membrane that further improves cut-off performance. Alternatively, a hydrophilic sealant can be applied for swelling in contact with water.

ADVANTAGES

✓ **50+ year design life** - Due to its superior corrosion resistance, ESC Vinyl Sheet Piles can be installed with confidence in their structural integrity and appearance even after 50 years

✓ **Cost Efficiency** - both from installation and long term cost savings due to superior corrosion resistance and lower price per unit metre material

✓ **UV Resistance** - The PVC material is engineered with special compounds for resistance to harmful ultraviolet rays

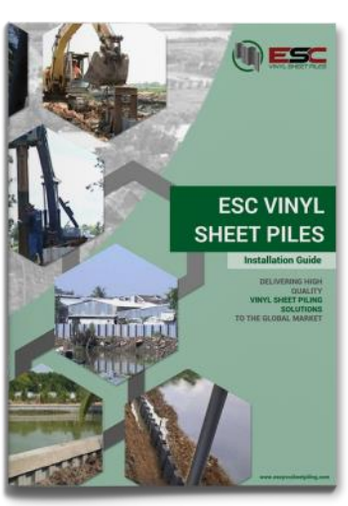
✓ **No toxic coatings** - No coatings are required, which may be detrimental to the environment

✓ **Not Affected by Marine Borers** - Small mollusks or crustaceans in the ocean can cause devastating effects over a period of time to traditional timber piling. Vinyl Sheet Piling offers an attractive alternative that is unaffected by these organisms.

✓ **Easy Installation** - Compared to steel sheet piles, vinyl sheet piles can be up to 40 times lighter per square meter making it much easier to handle. Driving can also be completed under certain conditions by pressing down with an excavator or a impact vibrohammer.

INSTALLATION GUIDELINES

Please refer to our informative Installation Guidelines manual which can be download from the ESC website for detailed and easy to understand descriptions for safe and effective vinyl sheet pile installation.



COMPARISON TO OTHER MATERIALS

	Vinyl (PVC)	Steel	Concrete	Wood
Cost	Low	High	Medium	Low
Weight	Light	Heavy	Very Heavy	Medium
Resistance to Corrosion	High	Low	N/A	N/A
Resistance to Chemicals & Sea Water Environment	High	Low	High	Low
Resistance to Cracking & Spalling	High	High	Medium	N/A
Environmentally Friendly	Yes	Yes	No	No
Aesthetics	High	Low	Medium	Medium
Installation	Easy*	Easy	Difficult	Moderate
Design Flexibility	High	High	Moderate	High

TEST STANDARDS

	ASTM	ISO	Min. Value/Range
Density		ISO 1183-3	1400-1480kg/m^3
Flexural Strength	ASTM D790	ISO 178	66MPa
Shore Durometer		ISO 868	75 Shore D
Modulus of Elasticity	ASTM D638	ISO 178/527-2	2.62GPa
Tensile Strength	ASTM D638		44MPa
Izod Impact Strength	ASTM D256		9kJ/m^2
Charpy Impact Strength		ISO 179-1	30kJ/m^2
Vicat Softening Temp.	ASTM D648	ISO 306	77˚C

PROFILE RANGE

ESC-VU25 , ESC-VU40 & ESC VU610-9.0

ESC-VU695-8 , ESC-VU705-7.5 & ESC VU740-6.0

ESC-VZ437-10.5

ESC-VZ565

ESC-VZ580

Section	Width (w) mm	Height (h) mm	Thickness (t) mm	Weight Per Pile kg/m	Weight Per Wall kg/m²	Elastic Section Modulus cm³/m	Moment of Inertia cm⁴/m	Allowable Bending Moment kNm/m	Maximum Bending Moment kNm/m
ESC-VU25	500	160	6.0	7.2	14.4	502	4,013	10.3	20.6
ESC-VU40	600	230	7.5	11.1	18.5	920	10,574	18.8	37.6
ESC-VZ437-10.5	437	254	10.5	11.6	26.5	1,480	19,300	32.6	65.1
ESC-VU610-9.0	610	230	9.0	13.2	21.6	1,086	12,478	23.9	47.8
ESC-VU695-8	695	180	8.0	14.6	20.9	717	6,961	15.1	30.1
ESC-VU695-9	695	180	9.0	16.5	23.7	792	7,740	16.6	33.3
ESC-VU695-11	695	180	11.0	19.2	27.6	932	8,863	19.6	39.1
ESC-VU705-7.5	705	180	7.5	12.4	17.6	682	6,420	13.6	34.1
ESC-VU740-6	740	180	6.0	11.1	15.0	548	5,465	11.5	23.0
ESC-VZ565-9.0	565	245	9.0	15.3	27.1	1,042	12,768	22.9	45.8
ESC-VZ580-7.0	290	240	7.0	6.1	21.0	1,228	15,429	27.0	54.0
ESC-VZ580-9.0	290	240	9.0	6.5	22.4	1,462	18,739	32.2	64.3
ESC-VZ580-11.0	290	240	11.0	7.9	27.2	1,711	21,851	37.6	75.3

PILE CAP

Type		G2
Length	mm	288
Length 1	mm	258
Height	mm	85
Thickness	mm	6
Tensile Strength	MPa	40
Bending Strength	MPa	290

JUNCTION/CORNER CONNECTION

TA 75*50*6
TA 84*60*8
TA 94*70*10N

TC 106*68*6
TC 120*78*8
TC 134*88*10

COLOUR OPTIONS

GREY (STANDARD)

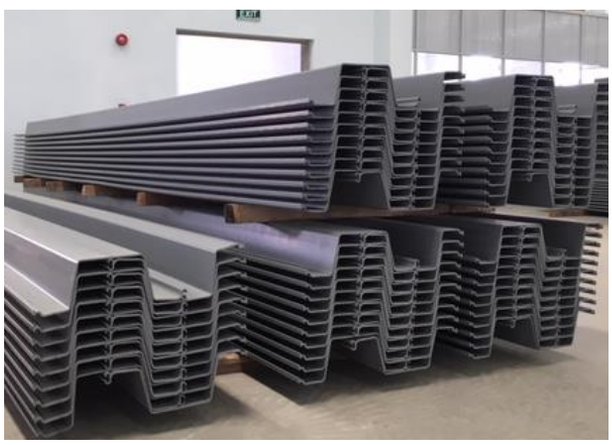
OLIVE GREEN OR BROWN

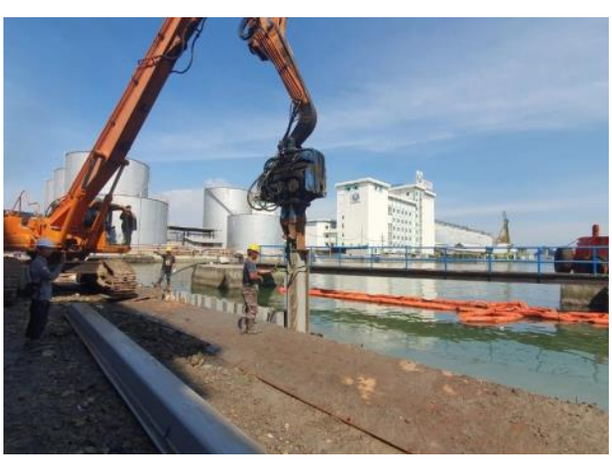
ANY COLOUR (SUBJECT TO MINIMIMUM ORDER QUANTITY)

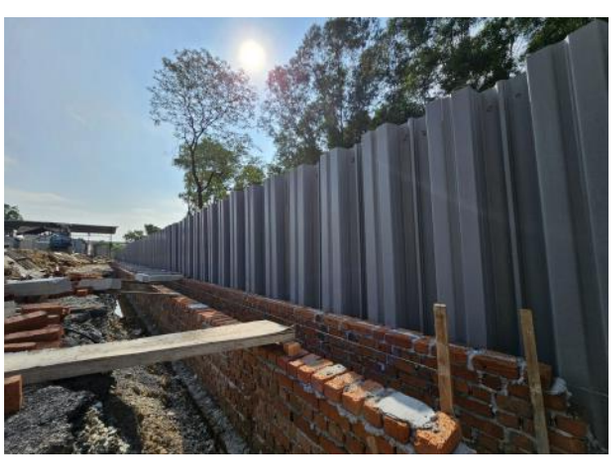
ACCESSORIES

- ✓ Sheet Pile Cap
- ✓ Ground Anchor
- ✓ Tie Rods
- ✓ Waling Channels/Beams
- ✓ Bumper Fender
- ✓ Installation Mandrel
- ✓ Driving Cap
- ✓ Driving Guide

PHOTOS







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