



JLD
INTERNATIONAL

**VINYL & FRP
SHEETPILE**

www.JLDinternational.com



JLD International BV

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Safety, quality and environment are paramount at JLD.

*We are: VCA ** | ISO 9001 | CO₂ Level 5 certified.*

More information can be found on our website.



VINYL & FRP SHEETPILE

Plastic sheet piling are a surprisingly strong and durable solution for bank protection. The use of ESP plastic sheet piling ensures decades of maintenance-free ground and water defenses. If necessary.

On the basis of the anchor force and ground data (probing), a suitable design can be made for almost every situation, delivered and possibly installed by us.

APPLICATIONS:

- Bank of shore protection / revetments
- Quay walls
- Seepage walls

FEATURES & BENEFITS:

- Light-weight
- Long life
- Eco-friendly
- Recycled and recyclable
- Circular products

TYPES:

- Vinyl
- FRP





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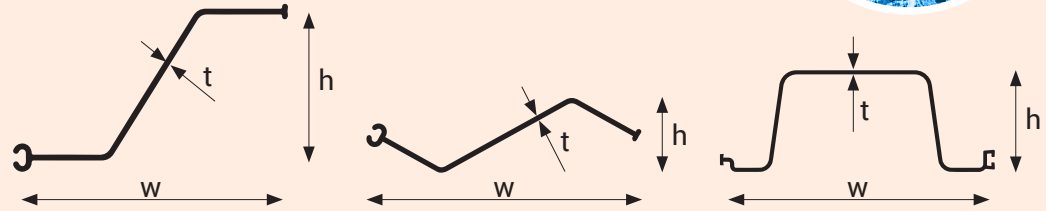
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Z-PROFILE

W-PROFILE

U-PROFILE

Z-PROFILE

VINYL Type ESP:	w = Section Width [mm]	h = Section Height [mm]	t = Section Thickness [mm]	Section Modulus [cm ³ /m]	Moment of Inertia [cm ⁴ /m]	Allowable Moment [kNm/m]	Ultimate Moment [kNm/m]
270 / 3,5 Z-PROFILE	270	150	3,5	254	2327	5,6	11,2
270 / 5,5 Z-PROFILE	270	150	5,5	369,5	3266	8,1	16,3
270 / 6 Z-PROFILE	270	150	6	398	3499	8,75	17,5
300 / 5,5 Z-PROFILE	300	115	5,5	320	1842	7,0	14,1
300 / 6 Z-PROFILE	300	115	6	345	1988	7,6	15,2
458 / 10,4 Z-PROFILE	458	254	10,4	1541,5	20718	33,9	67,8
458 / 12,0 Z-PROFILE	458	254	12,0	1717	22937	37,8	75,5
565 / 9,0 Z-PROFILE	565	245	9,0	1042	12768	22,9	45,8
580 / 7,0 Z-PROFILE	290	240	7,0	1228,3	15429	27,0	54,0
580 / 9,0 Z-PROFILE	290	240	9,0	1461,6	18739	32,2	64,3
580 / 11,0 Z-PROFILE	290	240	11,0	1711	21851	37,6	75,3
FRP Type ESP:	w = Section Width [mm]	h = Section Height [mm]	t = Section Thickness [mm]	Section Modulus [cm ³ /m]	Moment of Inertia [cm ⁴ /m]	Allowable Moment [kNm/m]	Ultimate Moment [kNm/m]
EC 26.1 Z-PROFILE	457	203,2	6,4	698,7	7091,8	120,5	241
EC 47.5 Z-PROFILE	508	254	8,6	1236,2	15699,7	170,5	341
EC 80.5 Z-PROFILE	610	356	10,9	2058,6	36643,1	281,2	562,4
FRP Type ESP:	w = Section Width [mm]	h = Section Height [mm]	t = Section Thickness [mm]	Section Modulus [cm ³ /m]	Moment of Inertia [cm ⁴ /m]	Profile Cross-Section area [cm ²]	Max. allowable stiffness [kNm ² /m]
SUPERLOCK Z-PROFILE	350	250	9	1685	21203	71,4	913,0



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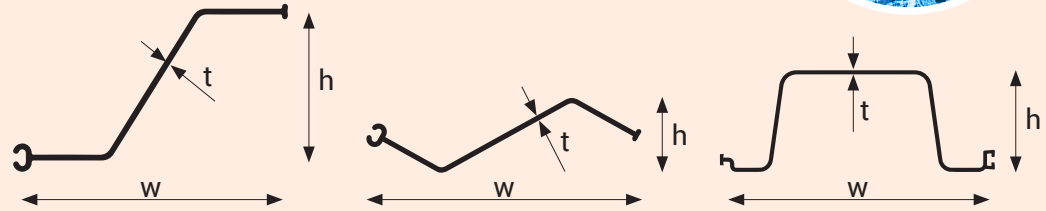
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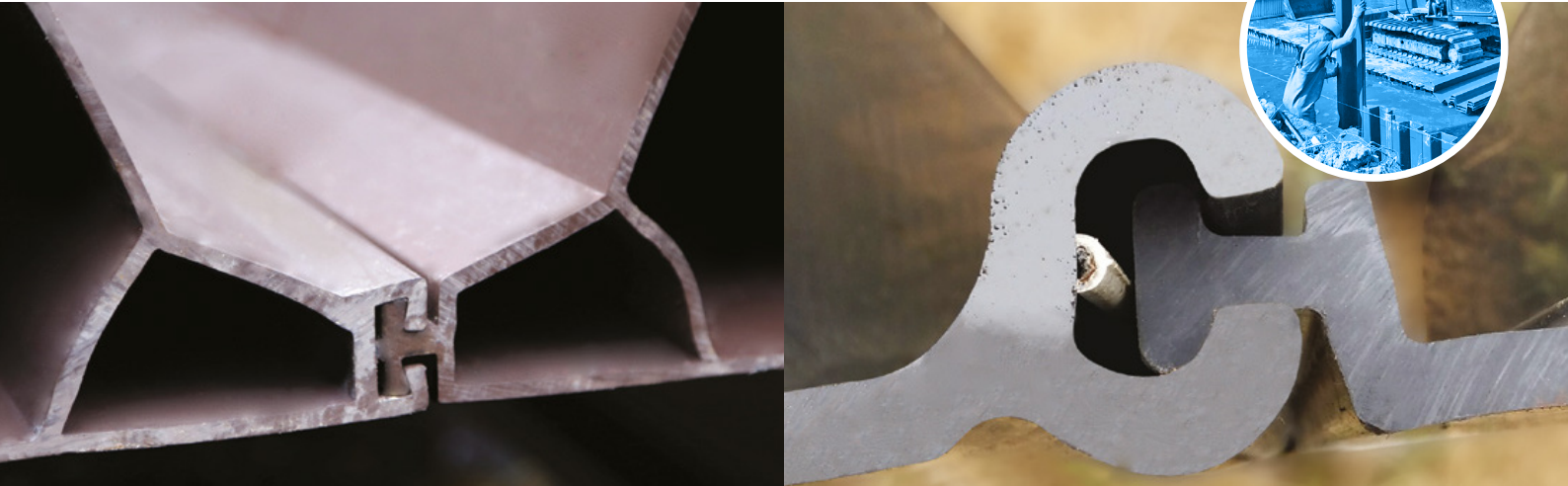
Z-PROFILE

W-PROFILE

U-PROFILE

W-PROFILE | U-PROFILE | ACCESSORIES

VINYL Type ESP:	w = Section Width [mm]	h = Section Height [mm]	t = Section Thickness [mm]	Section Modulus [cm ³ /m]	Moment of Inertia [cm ⁴ /m]	Allowable Moment [kNm/m]	Ultimate Moment [kNm/m]
270 / 3,5 W-PROFILE	309	86	3,5	51	246	1,1	2,2
270 / 5,5 W-PROFILE	309	88	5,5	87,3	385	1,9	3,8
270 / 6 W-PROFILE	309	89	6	87,3	418	2,1	4,2
537 / 5,5 W-PROFILE	608	88	5,5	86,6	382	1,9	3,8
537 / 6 W-PROFILE	608	89	6	96	417	2,1	4,2
460 / 5,5 U-PROFILE	460	130	5,5	360	2527	7,9	15,8
610 / 6,4 U-PROFILE	606	180	6,4	589,7	5325	13,0	25,9
610 / 7,2 U-PROFILE	606	200	7,2	728,7	7724	16,0	32,1
610 / 9,0 U-PROFILE	606	230	9,0	1076,8	12766	23,7	47,4
ACCESSORIES	w = Section Width [mm]	h = Section Height [mm]	t = Section Thickness [mm]	Picture:			
CORNER 270 / 300	57	57	--				
CORNER 300	45	15,60	--				
CORNER 610 / 580	96,50	58,80	--				
BUMPER	46	90	--				
CAP 120	127	60	4				
CAP 180	180	90	10				
CAP 290	290	90	10				



VINYL SHEET PILING WITH GASKETS GEOTECHNICAL PILING FOR SPECIAL PURPOSES

TIGHTNESS OF LOCKS IN THE VINYL SHEET PILING WALLS

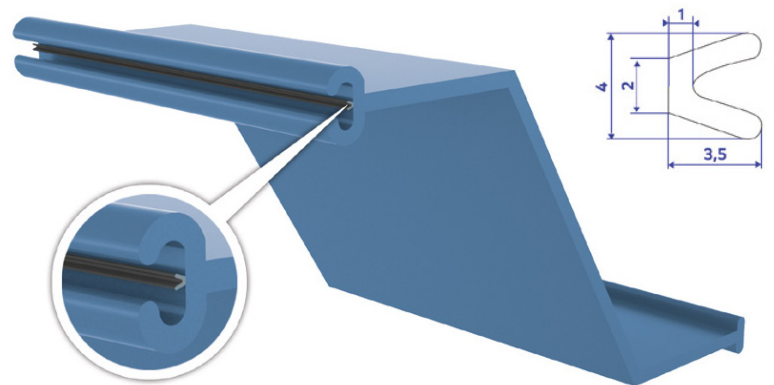
The tightness of locks in the vinyl sheet piling walls depends on the following factors:

- The shape of a lock, which can elongate or reduce the distance travelled by water.
- The width of a single vinyl sheet pile. The wider the section, the lower the number of locks per unit of length of the wall, e.g. by replacing 300 mm (width) piles with 606 mm piles, the leaking factor of the wall will be reduced by the factor of two.
- The hydrostatic pressure affecting the wall. The higher the pressure, the lower the possibility of clogging of locks.
- The stress levels at the locks' contact area. The higher the tightness and the pressure on the locks' wall surfaces, the smaller the occurring gaps, therefore, rendering the flow of water through the lock limited.

THE "V" TYPE GASKET

The "V" type gasket is used in the following vinyl sheet piles:

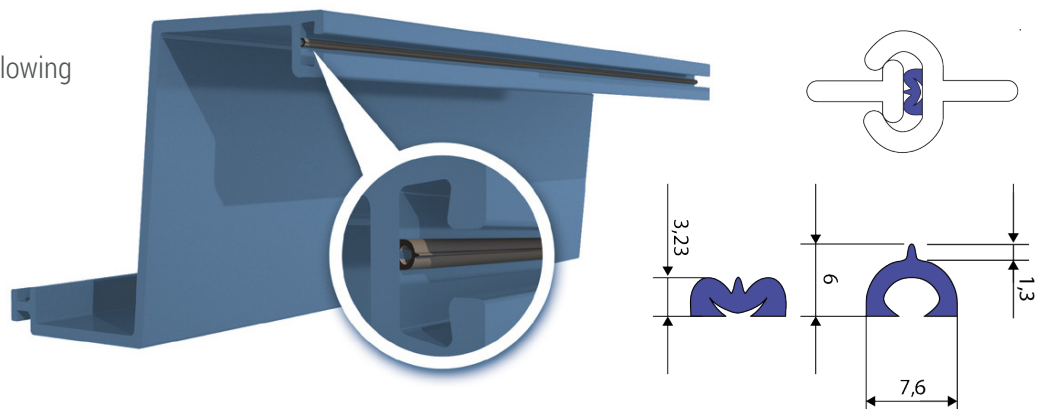
- ESP-270
- ESP-300
- ESP-460
- ESP-537
- ESP-565
- ESP-610



THE "C" TYPE GASKET

The "C" type gasket is used in the following vinyl sheet piles:

- ESP-580
- ESP-458





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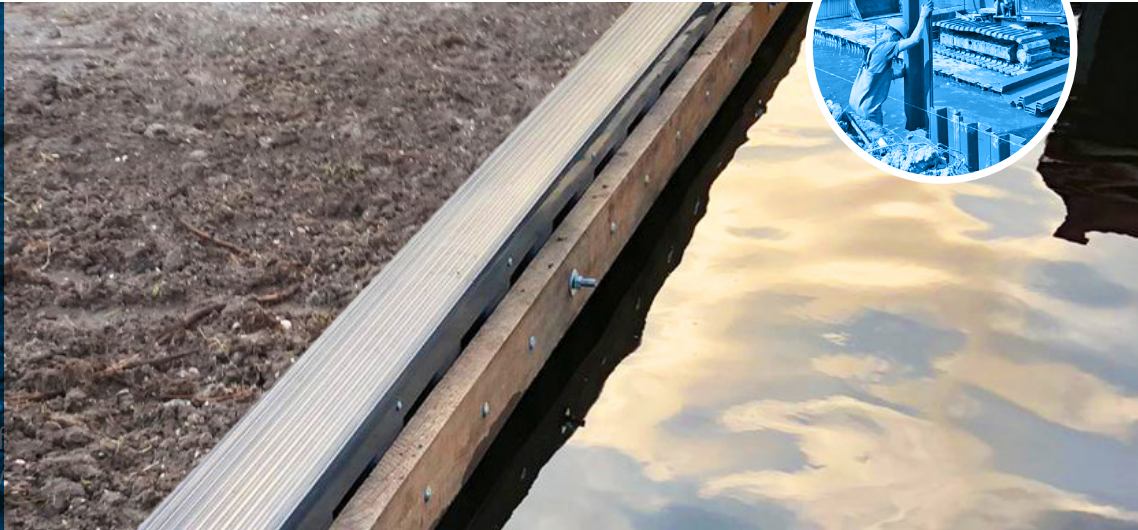
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DURABILITY

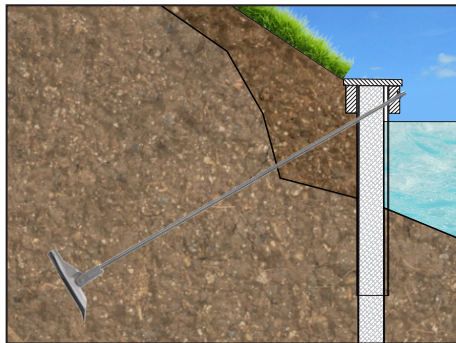
The tables above are the results of a sustainability study conducted by



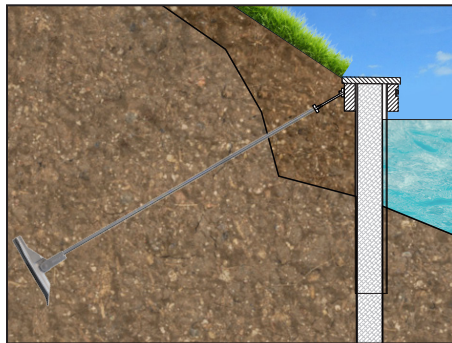
VINYL & FRP SHEETPILE | ANCHORING

The JLD-Earth Anchor is applicable for anchoring various types of sheet piles, including plastic, wood and steel. A design can be made, delivered and possibly installed for almost any situation on the basis of anchor force and soil data (CPTs).

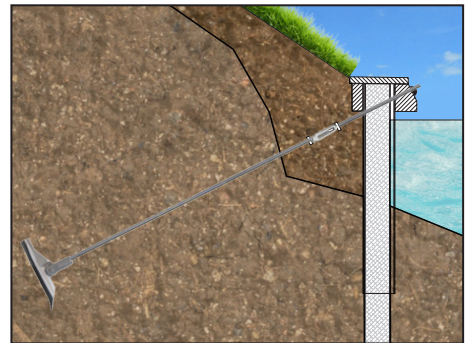
PRINCIPLE DETAILS:



DETAIL ANCHORING SHEETPILE:
Economic



DETAIL ANCHORING SHEETPILE:
Anchor Coupling + carriage bolt

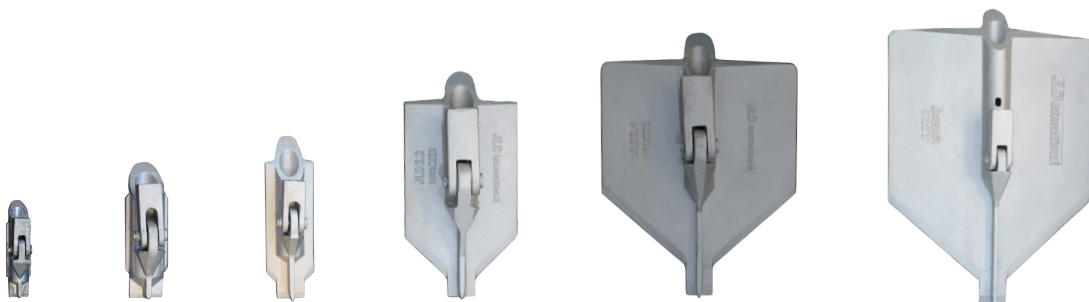


DETAIL ANCHORING SHEETPILE:
Wire Strainer + Round Head Bolt

SPECIFICATION TEXTS

On our site you will also find specification texts and detailed drawings that you can download.
www.JLDinternational.com/besteksteksten/

JLD-EARTH ANCHORS





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GENERAL PRODUCT DESCRIPTION

Plastic sheet piles are used in more and more projects. Contractors conventionally use steel sheet piling and wooden sheeting elements. The plastic sheet piles from JLD International BV consist of 98% recycled material and up to 90% less CO₂ is emitted during production. The plastic sheet pile profiles have a lifespan of at least 50, up to 100 years and do not leach. The use of plastic is on the rise as a result of its low environmental impact and high durability. This is in line with the governmental target of a circular economy by 2050 (National government, 2020).

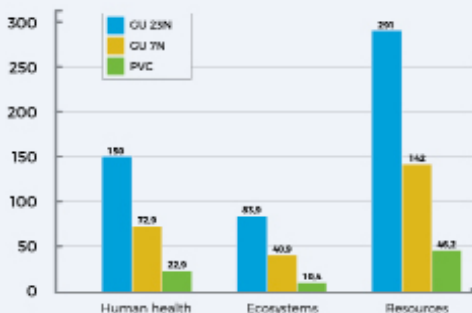


Table 1: Influence relationships on the environment

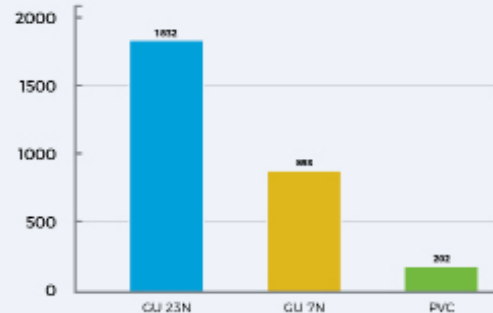


Table 2: CO₂ footprint per ton

DURABILITY

The tables above are the results of a sustainability study conducted by the Lodz University of Technology in which the comparison was made between three different sheet pile profiles consisting of two different materials, steel and PVC.

Table 1 shows the relative impact on the environment and Table 2 shows the CO₂ footprint of the various sheet pile profiles. This shows that the environmental impact of plastic sheet piles is up to six times smaller than the impact of steel sheet piles. The CO₂ footprint of plastic is nine times smaller than that of steel sheet piling (Marcinkowski, 2019).

RECYCLING

The composition of PVC lends itself to being very well recyclable at the end of its functional life. JLD has joined Circular. This is an organization that stimulates reuse within a closed cycle, wherein products are frequently collected, reused and continuously recycled through modern up-cycling techniques.

When desired, it is possible to remove the sheet pile profile from the ground at the end of its life-span so that it can be returned to a raw material for the production of a -material technically similar product.

BIBLIOGRAPHY

- Marcinkowski, A. (2019). Comparative life cycle assessment of PVC sheet piles and steel sheet piles. Lodz: Lodz University of Technology.
- Central government. (2020, 9 23). The Netherlands circular in 2050. Retrieved from Rijksoverheid.nl: <https://www.rijksoverheid.nl/onderwerpen/circulaire-economie/nederland-circulair-in-2050>

