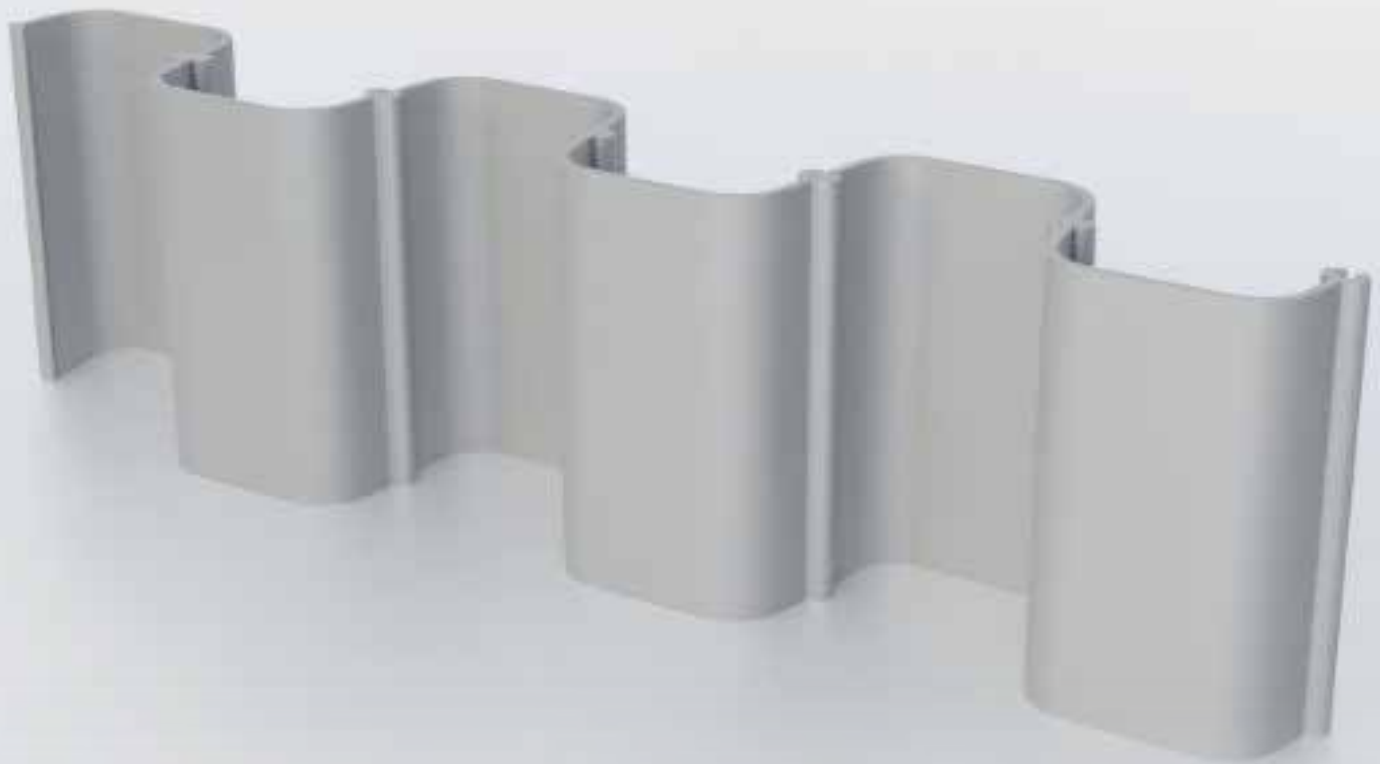




PLASTSULUNDSEIN  
VINYYLIPONTTIPAALU  
VINYL BARRIER SYSTEM



**PVC ECOLOGICAL  
BARRIER SYSTEM (EPZ)**

# PVC ECOLOGICAL BARRIER SYSTEM (EPZ)



# PrimProject OÜ

Tehase poolt volitatud plastsulundseina edasimüüja  
Eestis, Soomes ja Rootsis

Vinyyliponttipaalun tehtaan valtuuttama jakelija  
Virossa, Suomessa ja Ruoitsissa

Factory-authorized distributor of vinyl barrier system in  
Estonia, Finland and Sweden

PPH Agastył Sp. J. was founded in 1999 within the area of the "Suwałki Economic Zone" in Elk, and the main profile of its activity was the production of granules and dry mixtures based on polyvinyl chloride. The knowledge and skills gained allowed us to successively supply our customers with the highest quality products. Continuous investment in employee training, expansion of the machine park and the company laboratory have enabled further development and the creation of new products used in various sectors of the economy.

In 2008, the company developed a system for the production of Ecological Barrier Profiles (EPZ). In cooperation with geotechnical and hydrotechnical engineers, we have created a wide range of shapes and strength of profiles. Scientific experience helps us improve the formulations and technical parameters of our products to ensure that they can be used in many different construction projects.

PVC ecological barrier system EPZ is an effective alternative to metal sheet, concrete sheet or timber sheet piles. They are a durable construction component thanks to their excellent corrosion resistance, light weight for easy handling and installation. The EPZ profiles have an optically pleasing appearance, are resistant to UV radiation and are an environmentally friendly product. The profiles have an elegant appearance, are UV resistant and environmentally friendly. After installation, no future maintenance is required.

In June 2018, the name of PPH Agastył Sp.J. was changed to Esti Polymer. The factory was expanded, and new halogen-free granules were added to the product list



**VINYL ECOLOGICAL BARRIER (EPZ) PROFILE SYSTEMS**

Vinyl sheet piles / PVC profiles/ are an ecological and cost-effective alternative to:

- protecting banks against landslides and washouts,
- fencing off wetlands,
- riverbed regulation,
- securing places where the water level changes depending on the seasons,
- securing slopes against sliding,
- improving safety and accessibility to the water body,
- securing the banks of rivers and streams,
- securing land against flooding,
- forming embankments,
- constructing a road, a path into the water body.

Advantages of the ecological PVC barrier profile system:

- modern, all-in-one solution,
- versatile applications,
- aesthetic appearance,
- maintenance-free,
- ecological,
- non-flammable,
- easy to transport and install,
- cost-effective.

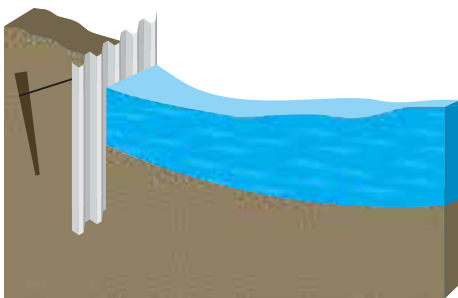


In our company you can rent the following equipment for the installation of PVC sheet piling:

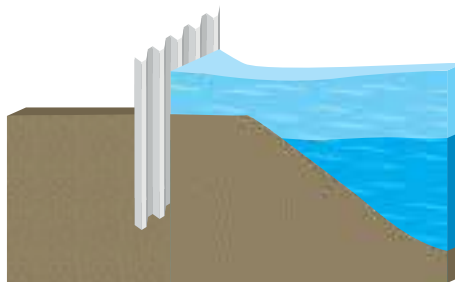
- an LP 13-30 PAC hydraulic unit with an LPD-RV hydraulic pile driving hammer,
- a complete ICE 114TM hydraulic vibrator with a universal clamp.



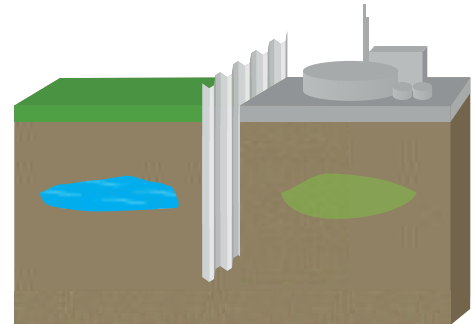
**Examples of EPZ application:**



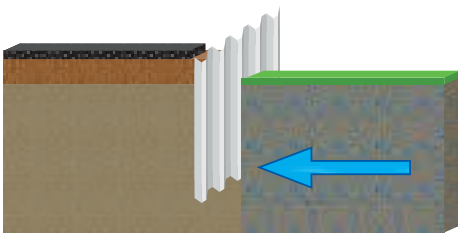
Securing the ground and bank against landslides and water washout.



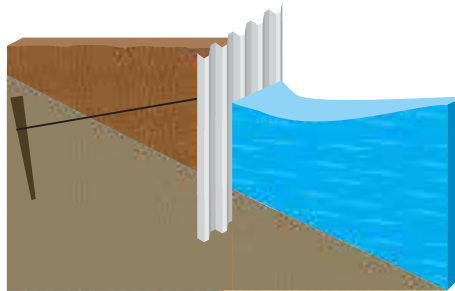
Securing places where the water level changes depending on the seasons. In this case, the sheet piles are used as a dam against flooding of rivers, lakes and water bodies.



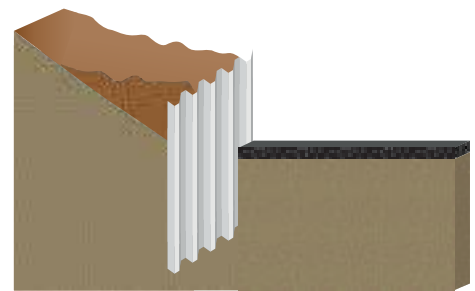
Protection of environmentally vulnerable areas.



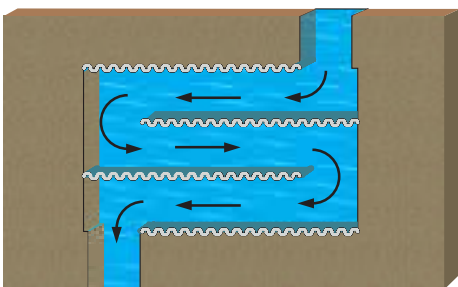
Wetland fencing.



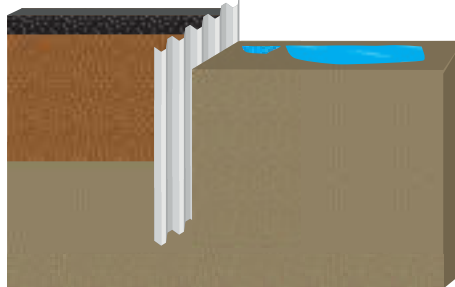
Securing the slope. This improves safety and accessibility to the water body.



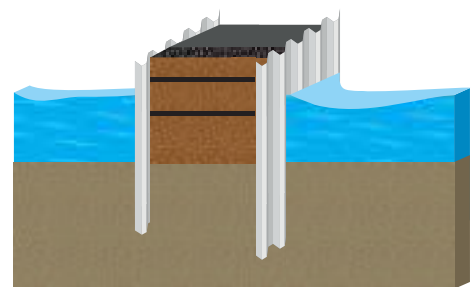
Embankment formation. In this case, the EPZ improves safety and makes it possible to use the land directly at the embankment.



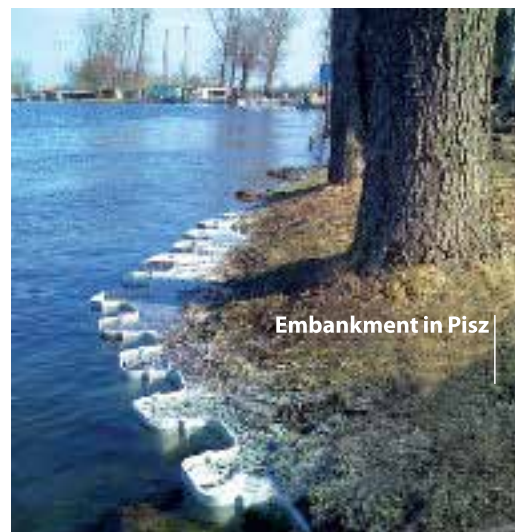
Regulation of a riverbed.



Retaining walls.



Construction of a road, a path into the water body.



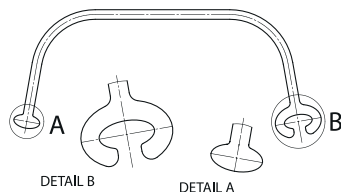
## Material properties

	Characteristic	Unit	Requirement	Required Norm
1	Density	g/cm <sup>3</sup>	1,45 ± 5%	PN-EN ISO 1183-3:2003
2	Tensile strength	Mpa	≥44	PN-EN ISO 527-2:2012
3	Tensile modulus of elasticity	Mpa	≥2700	PN-EN ISO 527-2:2012
4	Bending modulus of elasticity	Mpa	≥2800	PN-EN ISO 178:2011
5	Shear strength	Mpa	≥40	ASTM D 732-17
6	Flexural strength	Mpa	≥70	PN-EN ISO 178:2011
7	Shore D hardness	Shore'a D	≥72	PN-EN ISO 868:2005
8	Water absorption	%	≤0,03	PN-EN ISO 62:2008
9	Vicat softening temperature	°C	≥81	PN-EN ISO 306:2014-02
10	Charpy impact test	kJ/m <sup>2</sup>	≥30	PN-EN ISO 179-1:2010
11	Aging resistance	%	≥4 in greyscale	PN-EN 20105-A03:1996

**EPZ-17**
**unit value**

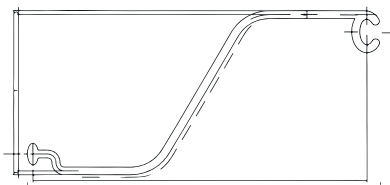
Width	mm	170
Height	mm	70
Thickness	mm	6
Moment of inertia 1m	cm <sup>4</sup>	2643,34
Section modulus 1m	cm <sup>3</sup>	377,08
Maximum bending moment 1m	kN-m	16,59
Allowable bending moment 1m	kN-m	8,30

Number of pieces / 1 running meter: 5,88


**EPZ-25/12/6**
**unit value**

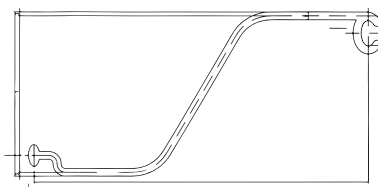
Width	mm	250
Height	mm	12
Thickness	mm	6
Moment of inertia 1m	cm <sup>4</sup>	2213,99
Section modulus 1m	cm <sup>3</sup>	351,43
Maximum bending moment 1m	kN-m	15,46
Allowable bending moment 1m	kN-m	7,73

Number of pieces / 1 running meter: 4


**EPZ-25/12/6,5**
**unit value**

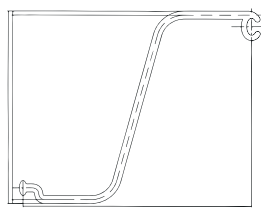
Width	mm	250
Height	mm	120
Thickness	mm	6,5
Moment of inertia 1m	cm <sup>4</sup>	2381,03
Section modulus 1m	cm <sup>3</sup>	376,15
Maximum bending moment 1m	kN-m	16,55
Allowable bending moment 1m	kN-m	8,28

Number of pieces / 1 running meter: 4


**EPZ-25/21/7**
**unit value**

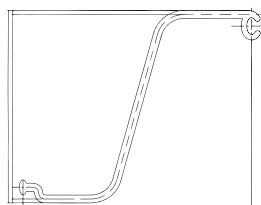
Width	mm	250
Height	mm	210
Thickness	mm	7
Moment of inertia 1m	cm <sup>4</sup>	9067,61
Section modulus 1m	cm <sup>3</sup>	835,72
Maximum bending moment 1m	kN-m	36,77
Allowable bending moment 1m	kN-m	18,39

Number of pieces / 1 running meter: 4


**EPZ-25/21/7,5**
**unit value**

Width	mm	250
Height	mm	210
Thickness	mm	7,5
Moment of inertia 1m	cm <sup>4</sup>	9729,78
Section modulus 1m	cm <sup>3</sup>	894,28
Maximum bending moment 1m	kN-m	39,35
Allowable bending moment 1m	kN-m	19,67

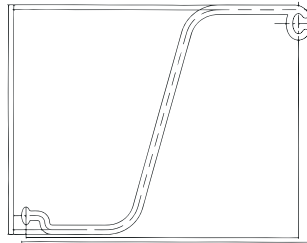
Number of pieces / 1 running meter: 4



## EPZ-25/21/9

	unit	value
Width	mm	250
Height	mm	210
Thickness	mm	9
Moment of inertia 1m	cm <sup>4</sup>	11248,39
Section modulus 1m	cm <sup>3</sup>	1027,25
Maximum bending moment 1m	kN-m	45,20
Allowable bending moment 1m	kN-m	22,60

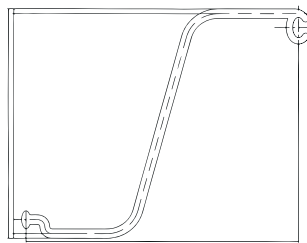
Number of pieces / 1 running meter: 4



## EPZ-25/21/9,5

	unit	value
Width	mm	250
Height	mm	210
Thickness	mm	9,5
Moment of inertia 1m	cm <sup>4</sup>	12847,02
Section modulus 1m	cm <sup>3</sup>	1078,96
Maximum bending moment 1m	kN-m	47,47
Allowable bending moment 1m	kN-m	23,74

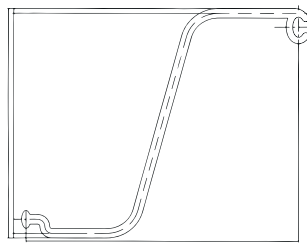
Number of pieces / 1 running meter: 4



## EPZ-25/21/11

	unit	value
Width	mm	250
Height	mm	210
Thickness	mm	11
Moment of inertia 1m	cm <sup>4</sup>	13863,49
Section modulus 1m	cm <sup>3</sup>	1254,61
Maximum bending moment 1m	kN-m	55,20
Allowable bending moment 1m	kN-m	27,60

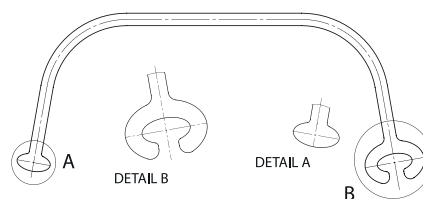
Number of pieces / 1 running meter: 4



## EPZ-29

	unit	value
Width	mm	290
Height	mm	120
Thickness	mm	10
Moment of inertia 1m	cm <sup>4</sup>	12892,91
Section modulus 1m	cm <sup>3</sup>	1074,41
Maximum bending moment 1m	kN-m	47,27
Allowable bending moment 1m	kN-m	23,64

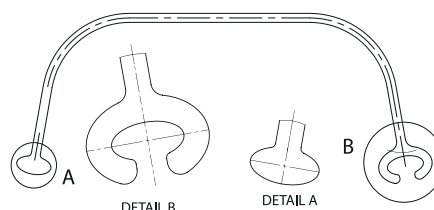
Number of pieces / 1 running meter: 3,44



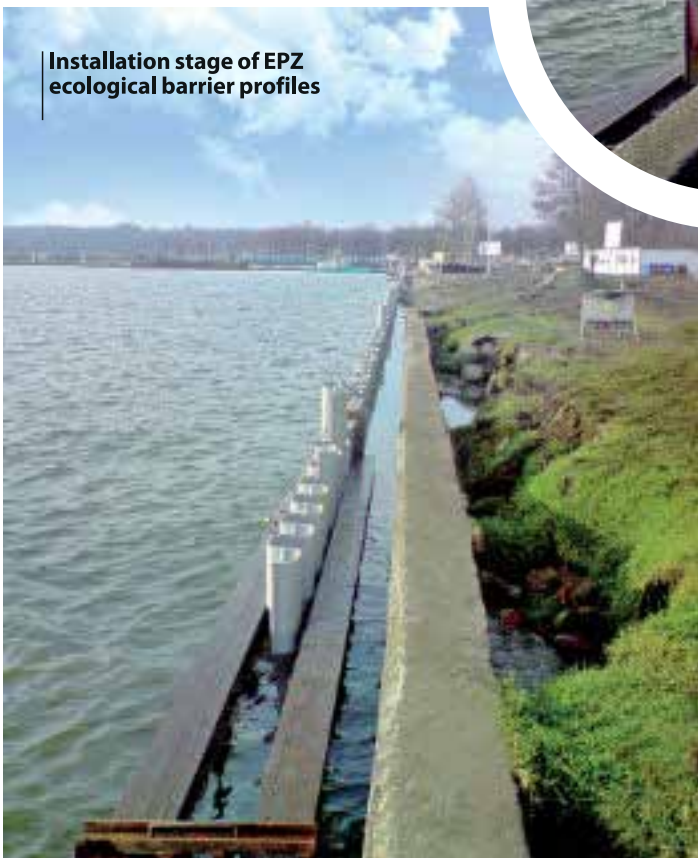
## EPZ-29/7

	unit	value
Width	mm	290
Height	mm	118,5
Thickness	mm	7
Moment of inertia 1m	cm <sup>4</sup>	9021,91
Section modulus 1m	cm <sup>3</sup>	761,34
Maximum bending moment 1m	kN-m	33,50
Allowable bending moment 1m	kN-m	16,75

Number of pieces / 1 running meter: 3,44



**Ekomarina**





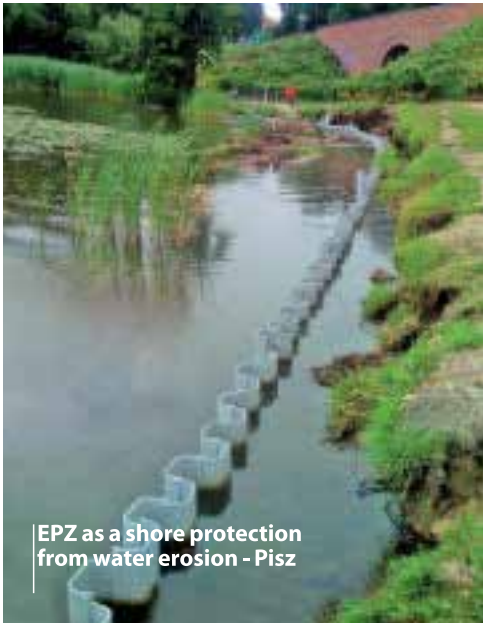
**Embankments**



**90 degree connector**



**Shores**



EPZ as a shore protection from water erosion - Pisz



Chojnice



Lake shore in Walcz



Don river in Ukraine



Lake shore in a city center  
Sepolno Krajenskie



Private property  
lake shore defence

## Roads



Chojnice



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