Ece®
EMPRESA DE CONTROL DE EROSIÓN

Pietrucha
REPRESENTATIVE IN PARAGUAY



RETENTION · CUT-OFF · RIVER DEFENCES

Synthetic sheet piles Pietrucha

Structural PVC profiles that replace steel where steel corrodes: bank protection, cut-off walls and retaining walls — 5 times lighter and with minimal maintenance.

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01 THE PIETRUCHA GROUP

Pietrucha Group is a Polish family company founded in **1960**, specialising in thermoplastic geotechnical profiles, present in around **40 countries** across 5 continents. More than 30 years processing thermoplastics, its own plant with R&D and quality **ISO 9001:2015** validated by laboratories and technical universities.

Its sheet piles **EcoLock** (vinyl) and **SuperLock** (hybrid) are the light, economical and environmentally clean alternative to steel, timber and concrete: immune to corrosion, to sea water and to biological agents, with material certified even for contact with drinking water.

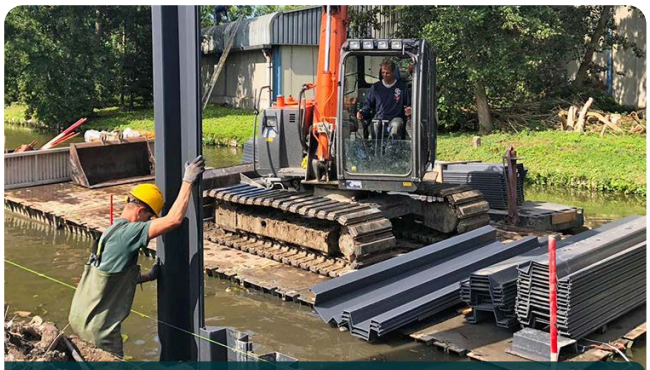
> **Design support:** calculation platform **Designer 3.0** from the manufacturer + a specialist technical office — Ece channels the sizing of every curtain at no cost to the designer.

1960
YEAR FOUNDED

40
COUNTRIES ACROSS 5 CONTINENTS

5×
LIGHTER THAN STEEL

ISO
9001:2015 CERTIFIED



Driving from a barge with a light vibratory hammer — Delft, Netherlands · Photo: Pietrucha



Embankment protection with EcoLock wall, corrosion-free and with minimal maintenance — Kraków area, Poland · Photo: Pietrucha

02 PROFILE RANGE

Monolithic profiles extruded in structural PVC (density 1.44 g/cm³ · tensile 44 MPa · modulus ≥2,300 MPa). Selection according to the design bending moment, with a safety factor of 2:

Profile	Width × height (mm)	Thickness	Section modulus	Allowable moment*
GW-537/5.5	608 × 88	5.5 mm	86.6 cm³/m	1.9 kNm/m
GW-300/5.5	300 × 115	5.5 mm	320 cm³/m	7.0 kNm/m
GW-460/5.5	460 × 130	5.5 mm	360 cm³/m	7.9 kNm/m
GW-270/5.5	270 × 155	5.5 mm	369 cm³/m	8.1 kNm/m
GW-610/6.4	606 × 180	6.4 mm	613 cm³/m	13.5 kNm/m
GW-610/7.2	606 × 200	7.2 mm	774 cm³/m	17.0 kNm/m
GW-610/9.0	606 × 230	9.0 mm	1,109 cm³/m	24.4 kNm/m
GW-580/7.0 – 11.0	290 × 240	7 – 11 mm	1,228 – 1,711 cm³/m	27.0 – 37.6 kNm/m
GW-458/10.4 – 12.0	458 × 254	10.4 – 12 mm	1,542 – 1,717 cm³/m	33.9 – 37.8 kNm/m

* Safety factor = 2 · Accessory profiles: 45°/300/580-610/quadruple corners · D-HEX for barriers.

INSTALLATION WITH CONVENTIONAL PLANT

Vibratory hammer light, with a guide template (a steel mandrel for long profiles or hard soils) · **Trenching** with selected fill in shallow curtains · **Jetting** with water or air in compact soils. The manufacturer assists on site and trains the crews.



Bank protection with toe riprap and EcoLock wall — Carnikava, Latvia · Photo: Pietrucha

03 WHERE IT IS USED

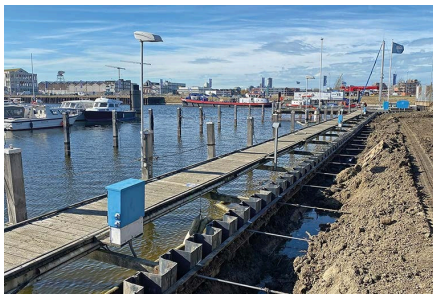
The synthetic sheet pile goes where steel corrodes and concrete cannot reach: **permanently wet environments, water with salts or effluents, and works where you have to operate from the water**. In Paraguay, that means practically the whole river system.



Bank protection: stops scour at the toe of the bank · Komorów, Poland · Photo: Pietrucha



Urban channel with a footpath on the crest · Poznań area, Poland · Photo: Pietrucha



Quays and moorings: no corrosion at the waterline · Vlissingen, Netherlands · Photo: Pietrucha



Hydraulic works: spillways, gates and weirs · Grabów, Poland · Photo: Pietrucha



Ponds and fish farming: inert, does not contaminate the water · Żabieniec, Poland · Photo: Pietrucha



Road drainage: a lined channel that does not erode · Photo: Pietrucha

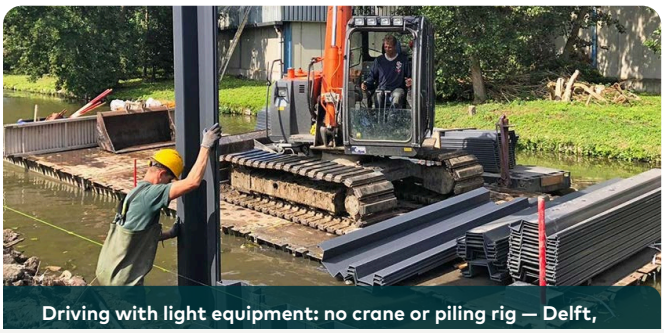
THE DECISION AGAINST STEEL

A steel sheet pile in fresh water carrying sediment loses section to corrosion and forces you to oversize it or to protect it with coatings that need maintaining. Structural PVC **does not corrode, needs no paint and adds nothing to the water**: service life is not calculated from thickness loss but from mechanical strength.

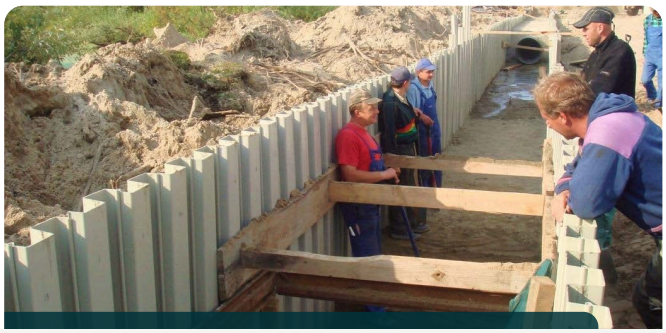
It also weighs a fraction: it travels on an ordinary lorry, is handled without a crane and is driven with light plant. On remote sites — which in Paraguay are most of them — that changes the total cost more than the price of the profile.

HOW IT IS INSTALLED

Vibratory driving with a guide template and a steel mandrel for long profiles or hard soils · **Trenching** with selected fill in shallow curtains · **Jetting** with water or air in compact soils · From land or from a barge, with the manufacturer's assistance on site and crew training.



Driving with light equipment: no crane or piling rig — Delft,



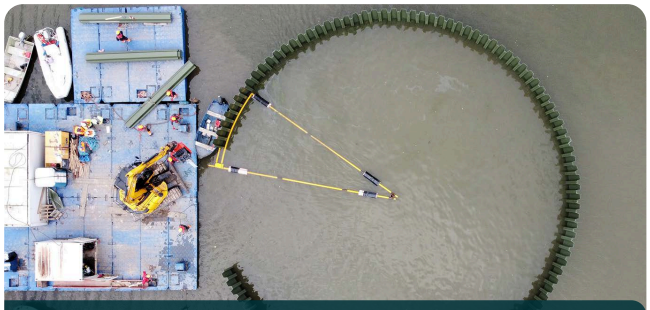
04 PIETRUCHA SHEET PILES IN PARAGUAY

50	-80%	Lower	0
YEAR MANUFACTURER'S GUARANTEE	OF WEIGHT IN FREIGHT VS. STEEL	DRIVING PLANT REQUIRED	COST OF THE TECHNICAL VERIFICATION

Made for our rivers. In a Paraguay of soft banks, aggressive waters and sites far from everything, synthetic sheet piling solves what is hard for steel: it arrives light at any site, is driven with smaller equipment and stays installed with a 50-year manufacturer's guarantee — no paint, no anodes.

Ece integrates the Pietrucha curtain with the rest of the catalogue: HYDROTEX mattresses at the toe against scour, Rafitec geotextile as a filter and Profile hydroseeding on the slope — **the complete river defence, from a single supplier**.

Star applications: waterfronts and urban defences · protection of embankments and dykes · cut-off curtains in ponds and landfills · retaining structures in environmentally sensitive areas.



Artificial island with EcoLock wall, a project 100% in the water — Lake Goczałkowice, Poland · Photo: Pietrucha

Ece®
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Retention next to a railway: the synthetic profile does not corrode from water or stray currents — Pruszków, Poland · Photo: Pietrucha