

STEEL LATTICE TOWER T1800-72

Self-supporting triangular steel tower: 72 m high, 12.8 m base, 1.8 m at the top. Welded sections, flange joints, hot-dip galvanized. Very stiff – for large microwave links, radars and antenna clusters.



3D rendering: T1800-72 on the ground (3D model from Alupro shop drawings).



3D rendering: tower base – person and car for scale.

HEIGHT	BASE / TOP SIDE	STRUCTURE MASS	SURVIVAL, 10 M² PAYLOAD
72 m	12.8 / 1.8 m	25.4 t	274 km/h

01 WHY THE T1800-72

- **Stiff.** High rigidity for long microwave links and radars.
- **Modular.** 12 welded sections joined by bolted flanges.
- **Large payload.** Effective antenna area of tens of m² at the top.
- **Safe access.** Ladder inside the shaft; optional work platforms with guardrails.
- **Durable.** S235 steel, hot-dip galvanized; aviation paint on request.
- **Proven.** Developed for the armed forces of a Baltic state (radar tower).

02 TECHNICAL DATA

Nominal height / top of lattice	72 m / 71.67 m
Cross-section	equilateral triangle, leg spacing 1800 mm (top) – 12 800 mm (base)
Sections	12 sections approx. 6 m (S-1 top ... S-12 bottom)
Legs K	Ø88.9x5 (S-1) ... Ø193.7x12.5 (S-11, S-12)
Bracing	Z1 / S1 / ST from Ø42.4x5 to Ø139.7x5; extra Z2 / S2 in S-9...S-12
Material	S235 steel, circular hollow sections, hot-dip galvanized
Section joints	flanges Ø260...Ø425, 6 bolts 8.8 HDG per leg
Foundations	3 RC pad footings with flanged anchors – per soil report
Structure mass	approx. 25 400 kg (per shop drawings; without ladder, platforms, foundations)
Natural frequency f1	1.44 Hz without antennas; 1.29 Hz at full zone-1 payload

03 SURVIVAL WIND SPEED AT SEA LEVEL AND REACTIONS

ANTENNA PAYLOAD [m²]	SURVIVAL WIND SPEED	LEG – COMPRESSION [kN]	LEG – UPLIFT [kN]	LEG – HORIZONTAL [kN]	OVERTURNING MOMENT [kNm]
no payload	393 km/h · 244 mph	1 264.0	1 098.1	281.3	13 093
5	328 km/h · 204 mph	1 122.6	956.0	226.6	11 521
10	274 km/h · 170 mph	957.0	789.7	180.3	9 682
20	209 km/h · 130 mph	768.9	600.1	132.6	7 588

Survival wind speed: peak gust at sea level, air density 1.225 kg/m³, uniform wind profile over the full height, unfactored wind load; all members within their design resistance (EN 1993-1-1, S235, γM 1.0). Antenna payload as an effective area at the top, Cd = 1.3; ladder included, platforms and cable tray not included. Reactions at the survival wind speed (envelope of wind directions). Not an operational limit – antenna pointing may require lower wind speeds. Preliminary values, to be verified by a structural engineer for the site.

04 DOWNLOADS **3D model STEP (AP214):** Alupro-wieza-kratownicowa-T1800-72-model-3D-STEP.zip

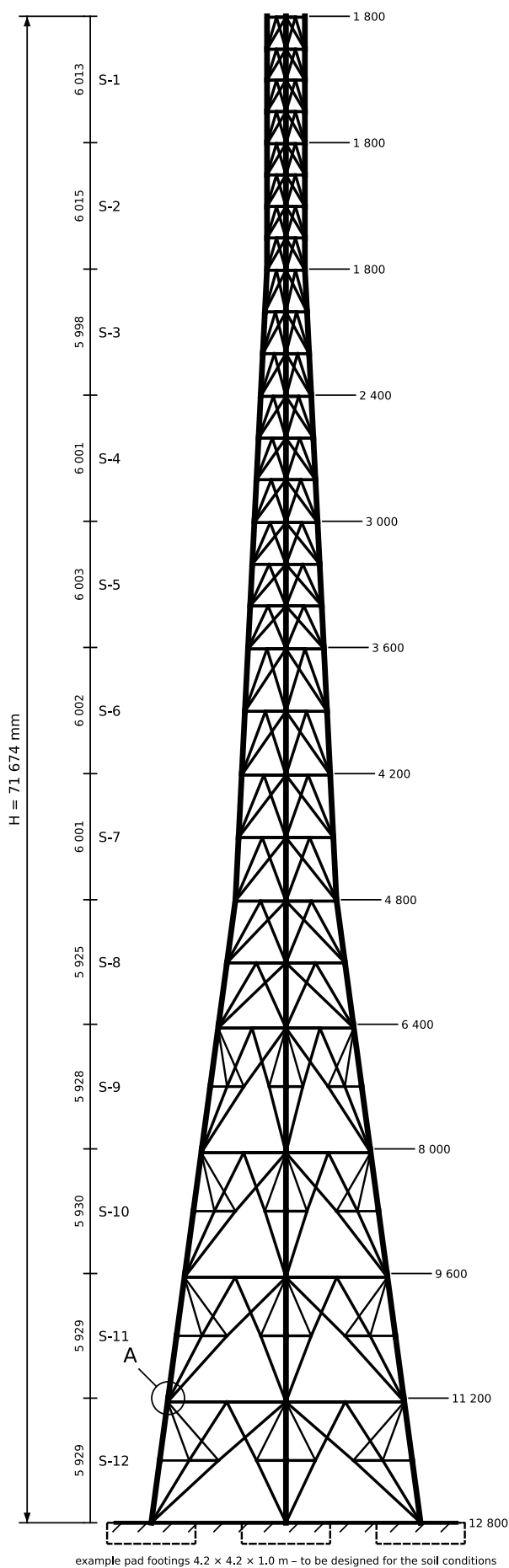
DXF drawing: Alupro-steel-lattice-tower-T1800-72-drawing-DXF-EN.zip **www.alupro.pl**

This catalogue sheet is not a structural design and is not a declaration of conformity with EN 1090. Specifications subject to change.

FRONT VIEW

scale 1:300 · dimensions in mm

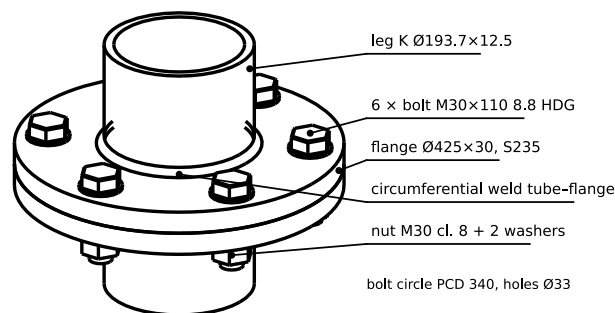
face width [mm]



example pad footings 4.2 × 4.2 × 1.0 m – to be designed for the soil conditions

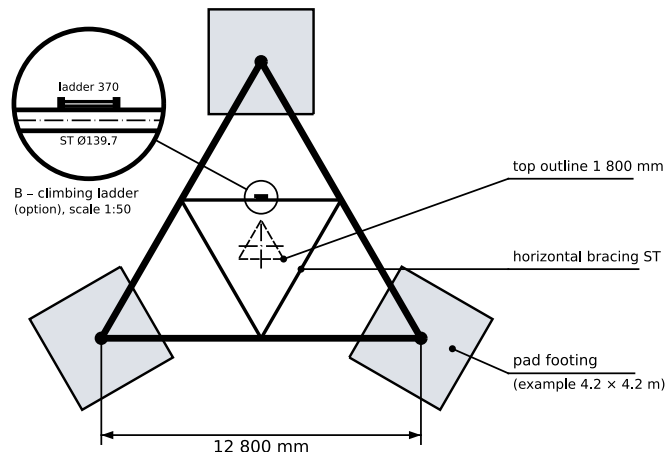
DETAIL A

leg flange joint S-12 / S-11 · isometric from the 3D model, not to scale



BASE PLAN

scale 1:300 · dimensions in mm



SECTIONS AND MEMBERS

steel S235, circular hollow sections

Sect.	Length	Base	K	Z1	S1 / ST	Z2 / S2	kg
S-1	6 013	1 800	Ø88.9×5	Ø42.4×5	Ø42.4×5	-	760
S-2	6 015	1 800	Ø101.6×10	Ø60.3×5	Ø54×5	-	1 180
S-3	5 998	2 400	Ø114.3×10	Ø60.3×5	Ø54×5	-	1 220
S-4	6 001	3 000	Ø114.3×10	Ø60.3×5	Ø54×5	-	1 310
S-5	6 003	3 600	Ø133×12.5	Ø60.3×5	Ø60.3×5	-	1 720
S-6	6 002	4 200	Ø159×12.5	Ø76.1×5	Ø60.3×5	-	1 910
S-7	6 001	4 800	Ø159×12.5	Ø88.9×5	Ø60.3×5	-	2 070
S-8	5 925	6 400	Ø168.3×12.5	Ø101.6×5	Ø70×5	-	2 520
S-9	5 928	8 000	Ø168.3×12.5	Ø101.6×5	Ø101.6×5	Ø76.1×5 / Ø70×5	2 780
S-10	5 930	9 600	Ø168.3×12.5	Ø101.6×5	Ø101.6×5	Ø76.1×5 / Ø70×5	2 990
S-11	5 929	11 200	Ø193.7×12.5	Ø114.3×5	Ø114.3×5	Ø88.9×5 / Ø76.1×5	3 680
S-12	5 929	12 800	Ø193.7×12.5	Ø139.7×5	Ø139.7×5	Ø114.3×5 / Ø88.9×5	3 270
Σ	structure mass per shop drawings						25 400

K – leg, Z1 / Z2 – diagonals, S1 / S2 – horizontals (face), ST – plan bracing.

S-1 ... S-12 – sections from the top; Base – leg spacing at the section bottom; Length – section length.

ERECTION NOTES

- Join sections at the flanges; tighten 8.8 HDG bolts with a torque wrench.
- Erect by crane from the bottom (S-12 → S-1), section by section.
- After erection check verticality and twist (survey).
- Climb only with fall arrest (SKC line – accessory).
- Inspection after 6 weeks, then every 12 months (bolts, galvanizing, welds).
- Antenna area not larger than given in the capacity table (page 1).

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TITLE		DRAWING NO	
Catalogue sheet T1800-72		2026.10.09.02 REV C	
MATERIAL	SCALE	DATE	SHEET
steel S235, hot-dip galv.	as shown	2026-10-10	2 / 2

This catalogue sheet is not a structural design. Dimensions in mm. The drawing is available as DXF at www.alupro.pl.