

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.



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



Visualization: tower base – person and car for scale.

HEIGHT	BASE / TOP SIDE	STRUCTURE MASS	SURVIVAL, 10 M ² 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

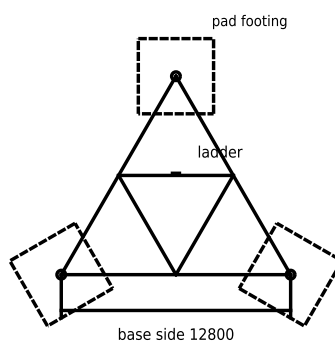
ANTENNA PAYLOAD [m ²]	SURVIVAL WIND SPEED	LEG – COMPRESSION [kN]	LEG – UPLIFT [kN]	LEG – HORIZONTAL [kN]	OVERTURNING MOMENT [kNm]
no payload	393 km/h · 244 mph	1 264.0	1 098.1	281.3	13 093
5	328 km/h · 204 mph	1 122.6	956.0	226.6	11 521
10	274 km/h · 170 mph	957.0	789.7	180.3	9 682
20	209 km/h · 130 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.

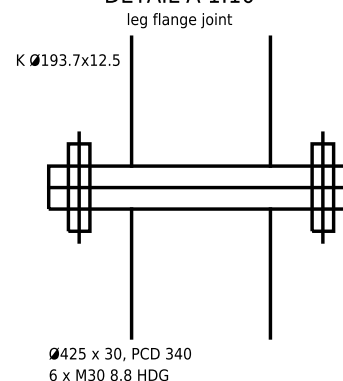
04 DOWNLOADS 3D model STEP (AP214): T1800-72_STD.step DXF drawing: T1800-72_drawing_EN.dxf www.alupro.pl

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

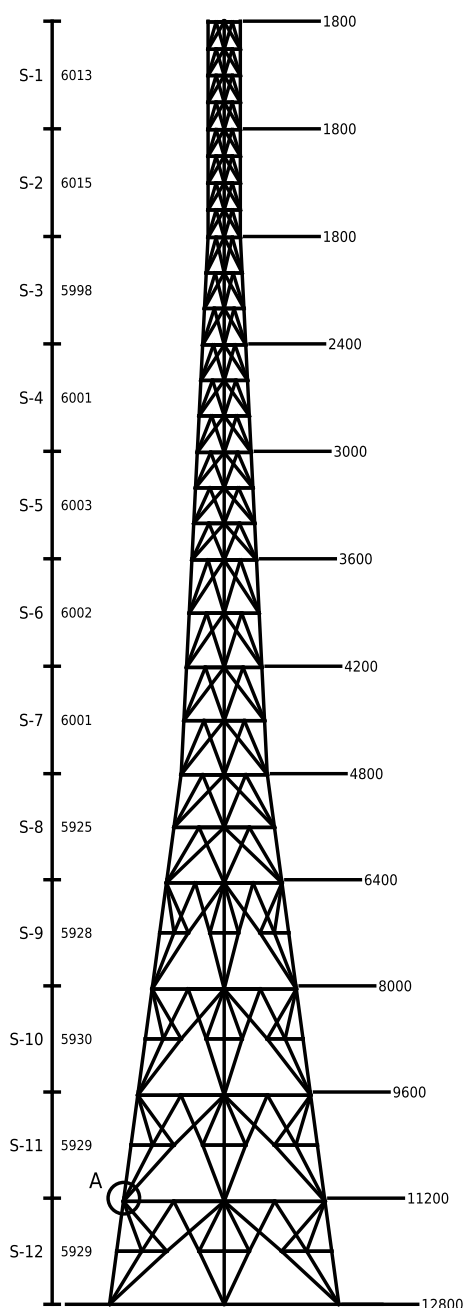
BASE PLAN 1:400



DETAIL A 1:10



FRONT VIEW 1:400



SECTIONS AND MEMBERS (steel S235)

Sect.	Length	Base side	K	Z1	S1 / ST	Z2 / S2	kg
S-1	6013	1800	Ø88.9x5	Ø42.4x5	Ø42.4x5	-	760
S-2	6015	1800	Ø101.6x10	Ø60.3x5	Ø54x5	-	1180
S-3	5998	2400	Ø114.3x10	Ø60.3x5	Ø54x5	-	1220
S-4	6001	3000	Ø114.3x10	Ø60.3x5	Ø54x5	-	1310
S-5	6003	3600	Ø133x12.5	Ø60.3x5	Ø60.3x5	-	1720
S-6	6002	4200	Ø159x12.5	Ø76.1x5	Ø60.3x5	-	1910
S-7	6001	4800	Ø159x12.5	Ø88.9x5	Ø60.3x5	-	2070
S-8	5925	6400	Ø168.3x12.5	Ø101.6x5	Ø70x5	-	2520
S-9	5928	8000	Ø168.3x12.5	Ø101.6x5	Ø101.6x5	Ø76.1x5 / Ø70x5	2780
S-10	5930	9600	Ø168.3x12.5	Ø101.6x5	Ø101.6x5	Ø76.1x5 / Ø70x5	2990
S-11	5929	11200	Ø193.7x12.5	Ø114.3x5	Ø114.3x5	Ø88.9x5 / Ø76.1x5	3680
S-12	5929	12800	Ø193.7x12.5	Ø139.7x5	Ø139.7x5	Ø114.3x5 / Ø88.9x5	3270

COMPONENTS AND MATERIALS

Tubes	circular hollow steel sections S235 (EN 10210 / EN 10219)
Corrosion protection	hot-dip galvanized EN ISO 1461; aviation paint - option
Section joints	flanges Ø260...Ø425, 6 bolts 8.8 HDG per leg
Climbing ladder	inside the shaft, supported on bracing ST - option
Foundations	3 RC pad footings (example 4.2 x 4.2 m), flanged anchors - per soil report
Structure mass	approx. 25 400 kg per shop drawings (no ladder, foundations)

ERECTION NOTES

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

TYTUŁ / TITLE	MATERIAL / MATERIAL	SKALA / SCALE	NR / REV
Catalogue sheet T1800-72	Steel S235, galvanized	as shown	2026.10.09.02 B