

WIND ENGINEERING SERIES: TITLES

The ESDU Wind Engineering Series contains Items covering a wide range of topics, many of which will be of interest to aerospace engineers. Some of the Items of more obvious interest are included in the Aerodynamics Series. The following is a complete list of the Items in the Wind Engineering Series. If any software is associated with an Item the ESDUpac or VIEWpac number is given in brackets after the Item number.

Section 1

Organisational Documents

02011 Wind Engineering Series Organisation.

Section 2

Wind speeds and turbulence - Mean Hourly and Gust Speeds, Extreme Speeds, Turbulence Characteristics

82026 (E0108)	Strong winds in the atmospheric boundary layer. Part 1: mean-hourly wind speeds.
83045 (E0108)	Strong winds in the atmospheric boundary layer. Part 2: discrete gust speeds.
74030	Characteristics of atmospheric turbulence near the ground. Part 1: definitions and general information.
85020 (E0108)	Characteristics of atmospheric turbulence near the ground. Part II: single point data for strong winds (neutral atmosphere).
86010	Characteristics of atmospheric turbulence near the ground. Part III: variations in space and time for strong winds (neutral atmosphere).
87034	World-wide extreme wind speeds. Part 1: origins and methods of analysis.
88037	World-wide extreme wind speeds. Part 2: examples using various methods of analysis.
88038	Estimation of hours per year when mean wind speed exceeds specified thresholds.

Section 3

Wind speeds and turbulence - Effect of Terrain Roughness and Local Topography

84011	Wind speed profiles over terrain with roughness changes.
84030	Longitudinal turbulence intensities over terrain with roughness changes.
86035	Integral length scales of turbulence over flat terrain with roughness changes.
91043 (E0108)	Mean wind speeds over hills and other topography.
97031 (E9731)	Estimation of Shelter provided by solid and porous fence.
01008 (E0108)	Computer program for wind speeds and turbulence properties: flat or hilly sites in terrain with roughness changes.

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Section 4

Mean loads on structures - Single Circular and Multi-Sided Cylinders, Cylinder Groups

71012	Fluid forces on non-streamline bodies – background notes and description of the flow phenomena.
80025	Mean forces, pressures and flow field velocities for cylindrical structures: single cylinder with two-dimensional flow.
81017	Mean forces, pressures and moments for circular cylindrical structures: finite-length cylinders in uniform and shear flow.
79026	Mean fluid forces and moments on cylindrical structures: polygonal sections with rounded corners including elliptical shapes.
84015	Cylindrical groups: mean forces on pairs of long circular cylinders.

Section 5

Mean loads on structures - Rectangular-Section Cylinders, Paraboloidal Antennas, Wind-Tunnel Blockage

71016	Fluid forces, pressures and moments on rectangular blocks.
80003	Mean fluid forces and moments on rectangular prisms: surface-mounted structures in turbulent shear flow.
80024	Blockage corrections for bluff bodies in confined flows.
82031	Paraboloidal antennas: wind loading. Part 1: mean forces and moments.
83020	Paraboloidal antennas: wind loading. Part 2: surface pressure distribution.
89050	Boundary walls, fences and hoardings: mean and peak wind loads and overturning moments.

Section 6

Mean loads on structures - Lattice Frames and Towers, Beams of Various Sections

81027	Lattice structures. Part 1: mean fluid forces on single and multiple plane frames.
81028	Lattice structures. Part 2: mean fluid forces on tower-like space frames.
82007	Structural members: mean fluid forces on members of various cross sections.

Section 7

Dynamic response - Background, Turbulence Buffeting

77032	Fluctuating loads and dynamic response of bodies and structures in fluid flow – background information.
87035 (A9236)	Calculation methods for along-wind loading. Part 2. Response of line-like structures to atmospheric turbulence.