

Standards Manager Web Standards List
ESDU-Engineering Sciences Data Unit

Id	Number	Title	Year	Organization	Page
1	75021 E	Estimation of the surface pressure fluctuations in the turbulent boundary layer of a flight vehicle	2020	ESDU	0
2	75020 D	Estimation of far-field sound pressure levels due to buzz-saw noise of a supersonic fan or compressor.	2020	ESDU	0
3	79011 D	Estimation of noise shielding by barriers	2020	ESDU	0
4	19006	Force limited random vibration testing	2020	ESDU	
5	20003	Crack resistance curves	2019	ESDU	
6	20004	Guide to fatigue data available in the Stress and Strength of Components Series	2019	ESDU	
7	19003	Fatigue strength of shot peened helical tension and compression steel springs	2019	ESDU	
8	88023 C	Jet-by-jet shielding of noise	2019	ESDU	0
9	94035 D	The correction of measured noise spectra for the effects of ground reflection	2019	ESDU	0
10	78002 D	Evaluation of the attenuation of sound by a uniform atmosphere	2019	ESDU	0
11	78003 D	Evaluation of the attenuation of broad-band sound by a non-uniform still atmosphere	2019	ESDU	0
12	80025 D	Mean forces, pressures and flow field velocities for circular cylindrical structures: single cylinder with two-dimensional flow.	2019	ESDU	0
13	18001	Information on the use of ESDU 18002, ESDU 18003 and ESDU 18004	2019	ESDU	0
14	18002	Form factors for circular sections under combined bending and axial load	2019	ESDU	0
15	18003	Form factors for flanged sections under combined bending and axial load	2019	ESDU	0
16	18004	Form factors for angle, tee and channel sections under combined bending and axial load	2019	ESDU	0
17	18008	An overview of bonded joint design	2019	ESDU	0
18	18009	The estimation of turbulent boundary layer power-law velocity and q profiles from shape factor and momentum thickness	2019	ESDU	0
19	18010	Information on the use of Data Items on powerplant/airframe interactions for propeller-powered aircraft	2019	ESDU	0
20	18011	Cavity oscillations	2019	ESDU	0
21	19001	Fatigue of wrought and cast titanium alloys in bending and under axial loading	2019	ESDU	0
22	19002	Fatigue of wrought and cast Ti-6Al-4V alloys	2019	ESDU	0
23	19004	Guide to the effect of shot peening on fatigue strength	2019	ESDU	0
24	19005	Accumulation of water on runway	2019	ESDU	0
25	00024 A	The acoustic attenuation of absorbent linings in rectangular flow ducts with application to annular flow ducts	2019	ESDU	0
26	01015 A	Far-field sound radiation from circular ducts	2019	ESDU	0
27	04011 A	Prediction of sound attenuation in a refracting turbulent atmosphere with a Fast Field Program	2019	ESDU	0
28	08018 A	Combination of spectra in Common Data Files from ESDU Aircraft Noise Data Items	2019	ESDU	0
29	09001	Aerodynamics and aero-acoustics of rectangular planform cavities.	2019	ESDU	0
30	09002	Aerodynamics and aero-acoustics of rectangular planform cavities.	2019	ESDU	0
31	16004	Aerodynamics and aero-acoustics of rectangular planform cavities. Part V: Bibliography (up to 2016)	2019	ESDU	0
32	17004	Guide to the use of Data Items in the design of bonded joints	2019	ESDU	0
33	17008	A practical guide to turbulence and flow measurement by thermal anemometry (CTA), laser-Doppler anemometry (LDA) and particle-image velocimetry (PIV) Part 3: laser-Doppler anemometry	2018	ESDU	0
34	17009	A practical guide to turbulence and flow measurement by thermal anemometry (CTA), laser-Doppler anemometry (LDA) and particle-image velocimetry (PIV) Part 4: particle-image velocimetry	2018	ESDU	0

35	17011	Power spectral density and bandwidth correction of spectrum level	2018	ESDU	0
36	13009 A	Computer program for calculation of aerodynamic centre of wing-fuselage-nacelle combinations	2018	ESDU	0
37	14014-R2	A theoretically-based method for predicting static-to-flight effects on coaxial jet noise	2018	ESDU	0
38	11005 B	Prediction of near-field and far-field harmonic noise from subsonic propellers with non-axial inflow	2018	ESDU	0
39	02020 C	An introduction to aircraft noise	2018	ESDU	0
40	00012 C	The acoustic attenuation of absorbent linings in cylindrical flow ducts	2018	ESDU	0
41	16001	A practical guide to turbulence and flow measurement by thermal anemometry (CTA), laser-Doppler anemometry (LDA) and particle-image velocimetry (PIV) Part 1: Overview and Selection of Measurement Technique	2018	ESDU	0
42	16002	A practical guide to turbulence and flow measurement by thermal anemometry (CTA), laser-Doppler anemometry (LDA) and particle-image velocimetry (PIV) Part 2: constant-temperature anemometry	2018	ESDU	0
43	06013 B	Propeller slipstream modelling for incidence and sideslip.	2018	ESDU	0
44	76020 B	Estimation of the maximum discrete frequency noise from isolated rotors and propellers	2018	ESDU	0
45	90034 D	Computer program for the calculation of normal force and pitching moment of forebody-cylinder combinations at angles of attack up to 90 degrees and Mach numbers up to 5, including the effects of conical boat-tailing.	2018	ESDU	0
46	99006 C	Computer-based estimation procedure for near-field single-stream jet noise	2018	ESDU	0
47	AEROW 05.01.01 B	KINETIC PRESSURE IN THE WAKE BEHIND A WING	2018	ESDU	0
48	TM165A	ESDU TECHNICAL MEMORANDUM Analysis of ground-rolling tests through water with a Canberra aircraft	2018	ESDU	0
49	TM188	ESDU TECHNICAL MEMORANDUM Air and ground temperature	2018	ESDU	0
50	TM189	ESDU TECHNICAL MEMORANDUM Analysis of tests on a convergent nozzle in an altitude test facility	2018	ESDU	0
51	TM190	ESDU TECHNICAL MEMORANDUM Aircraft performance from flight test: An example of the use of manoeuvring flight	2018	ESDU	0
52	TM192	ESDU TECHNICAL MEMORANDUM Analysis of aircraft tests on flooded runways: an empirical approach	2018	ESDU	0
53	04022	An introduction to low-cycle fatigue phenomena	2018	ESDU	
54	TM183	ESDU TECHNICAL MEMORANDUM Compendium of vibration damping data for aerospace structures	2017	ESDU	0
55	TM184	ESDU TECHNICAL MEMORANDUM Effects of rear-mounted engine nacelles on sidewash at fin	2017	ESDU	0
56	TM185	ESDU TECHNICAL MEMORANDUM Air data calibration using a GPS/INS (EGI)	2017	ESDU	0
57	94035 C	The correction of measured noise spectra for the effects of ground reflection	2017	ESDU	0
58	90023 E	Airframe noise prediction	2017	ESDU	0
59	90005 C	Frequencies of resonance in wind tunnels with ventilated walls and plenum chamber.	2017	ESDU	0
60	96012 B	Subsonic and transonic base and boat-tail pressure drag of cylindrical bodies with circular-arc boat-tails.	2017	ESDU	0
61	77028G	Geometrical characteristics of typical bodies.	2017	ESDU	0
62	78019 D	Profile drag of axisymmetric bodies at zero incidence for subcritical Mach numbers	2017	ESDU	0
63	82010 D	Contribution of fin to sideforce, yawing moment and rolling moment derivatives due to sideslip, $(Y_{\dot{v}})_{\text{sub F}}$, $(N_{\dot{v}})_{\text{sub F}}$, $(L_{\dot{v}})_{\text{sub F}}$, in the presence of body, wing and tailplane.	2017	ESDU	0
64	82034 B	Aircraft forces due to interference between a jet efflux and a slotted flap.	2017	ESDU	0
65	71006 A	Low-speed longitudinal aerodynamic characteristics of slender wings.	2017	ESDU	0
66	71007 A	Low-speed normal force and pitching moment of slender wings in ground effect.	2017	ESDU	0
67	72019 C	Buckling of flat isotropic plates under uniaxial and biaxial loading.	2017	ESDU	0
68	15001 A	Aircraft performance from flight test Part 1: derivation of a mathematical model	2017	ESDU	0
69	14006	Prediction of loads in shear cleat attachments	2017	ESDU	0
70	17012	Combination of levels in dB	2017	ESDU	0
71	17013	Aircraft performance from flight test. Part 3: in-flight calibration of an angle of attack sensor	2017	ESDU	0

72	16005	Mass flow rate of a leak into an external stream	2017	ESDU	0
73	16006	Drag due to a leak discharging into an external stream	2017	ESDU	0
74	16008	Frictional and retarding forces on aircraft tyres Introduction to the ESDU methods	2017	ESDU	0
75	17002	Octave and fractional-octave band filters	2017	ESDU	0
76	17003	Fatigue crack propagation rates and threshold stress intensity factors in high strength low alloy steel plate, bar and forgings.	2017	ESDU	0
77	64001 K	Guide to stress concentration data	2017	ESDU	0
78	16008	Frictional and retarding forces on aircraft tyres Introduction to the ESDU methods	2017	ESDU	0
79	15009	Determination of hydroplaning speeds and corresponding hydrodynamic forces for rib tread aircraft tyres Application of ESDU 15003	2016	ESDU	0
80	15010	Coupling loss factors	2016	ESDU	0
81	13003	Modal density of acoustic spaces	2016	ESDU	0
82	15003 A	Planing of rib-tread aircraft tyres	2016	ESDU	0
83	14014	A theoretically-based method for predicting static-to-flight effects on coaxial jet noise	2016	ESDU	0
84	00010	Aircraft Noise Series: Record of Documents - Issue 23	2016	ESDU	0
85	98019 D	Computer-based estimation procedure for single-stream jet noise Including far-field, static jet mixing noise database for circular nozzles	2016	ESDU	0
86	05001 A	Prediction of combustor noise from gas turbine engines	2016	ESDU	0
87	99035	Performance Series record of documents - Issue 28	2016	ESDU	0
88	13003-R1	Modal density of acoustic spaces	2016	ESDU	0
89	16003	Aircraft performance from flight test Part 2: thrust-drag accounting	2016	ESDU	0
90	75028 A	Drag due to grooves in a flat plate with a turbulent boundary layer, at subsonic and supersonic speeds.	2016	ESDU	0
91	75031 D	Drag of two-dimensional steps and ridges immersed in a turbulent boundary layer for Mach numbers up to 3	2016	ESDU	0
92	74036 C	Drag due to a circular cavity in a plate with a turbulent boundary layer at subsonic, transonic and supersonic speeds.	2016	ESDU	0
93	15011	Acoustics of reverberation chambers	2016	ESDU	0
94	89047 D	In-plane forces and moments on installed inclined propellers at low forward speeds.	2016	ESDU	0
95	90029 C	An introduction to aircraft excrescence drag	2016	ESDU	0
96	AEROC 04.01.04 D	EFFECT OF IRVING INTERNAL BALANCE ON HINGE-MOMENT COEFFICIENT IN TWO-DIMENSIONAL FLOW	2016	ESDU	0
97	AEROC 08.01.01 B	RATE OF CHANGE OF PITCHING MOMENT COEFFICIENT WITH CONTROL DEFLECTION FOR A PLAIN CONTROL IN INCOMPRESSIBLE TWO-DIMENSIONAL FLOW, m_0	2016	ESDU	0
98	AEROF 01.01.08 D	LIFT COEFFICIENT INCREMENT DUE TO FULL-SPAN SLOTTED FLAPS	2015	ESDU	0
99	99003 A	Generation of GUNACA 23-series of low-drag aerofoils.	2015	ESDU	0
100	AEROA 06.01.00 K	Information on the use of Data Items on rolling moment derivatives of an aircraft	2015	ESDU	0
101	AEROA 07.01.00 I	Information on the use of Data Items on yawing moment and sideforce derivatives of an aircraft	2015	ESDU	0
102	93016 C	Parameter estimation of linear systems from frequency response measurements (Computer program)	2015	ESDU	0
103	85029 B	Calculation of ground performance in take-off and landing.	2015	ESDU	0
104	85046 E	Quadrature methods for the evaluation of definite integrals	2015	ESDU	0
105	98008 C	Prediction of noise generated by fans and compressors in turbojet and turbofan engines	2015	ESDU	0
106	TM 161 B	Calculation of coefficients of rolling, braking and yawed rolling resistance	2015	ESDU	0
107	15004	Stress concentration factors in keyways	2015	ESDU	0

108	TM 174A	Correlation of the micro-texture sharpness parameter F1	2015	ESDU	0
109	15005	Stress concentration factors for optimised holes in flat plate	2015	ESDU	0
110	00001	Aerodynamics Series: Record of Documents - Issue 26	2015	ESDU	0
111	82037 F	The response of two-degree-of-freedom systems (computer program)	2015	ESDU	0
112	13007 B	Side-force coefficients on aircraft tyres in yawed and unbraked motion on dry and wet pavements	2015	ESDU	0
113	14007	Selection of roughness bands to induce boundary-layer transition in wind-tunnel testing	2015	ESDU	0
114	TM 176A	Effective phase angle in tyre-friction modelling	2015	ESDU	0
115	AERO C.08.01.01 B	RATE OF CHANGE OF PITCHING MOMENT COEFFICIENT WITH CONTROL DEFLECTION FOR A PLAIN CONTROL IN INCOMPRESSIBLE TWO-DIMENSIONAL FLOW, m sub zero	2015	ESDU	0
116	15007	Worked example for tyre in yawed motion on a dry or wet runway surface An application of ESDU 13007	2015	ESDU	0
117	AERO A.07.01.00 I	Information on the use of Data Items on yawing moment and sideforce derivatives of an aircraft	2015	ESDU	0
118	10002 B	Introduction to worked examples of tyres rolling or braking on dry or precipitate contaminated runways. Application of ESDU 05011 and ESDU 13007	2015	ESDU	0
119	15006	Stress concentration factors for optimised notches and fillets in flat plate	2015	ESDU	0
120	AERO A.06.01.00 K	Information on the use of Data Items on rolling moment derivatives of an aircraft	2015	ESDU	0
121	TM 180	Modelling of ventilation for thermal comfort and indoor air quality	2015	ESDU	0
122	10003 B	Worked example for tyre in linear motion on a contaminated runway surface. An application of ESDU 05011	2015	ESDU	0
123	86021 D	Introduction to aerodynamic derivatives, equations of motion and stability (including the classical criteria of longitudinal stability and control, and description of the lateral modes of motion)	2015	ESDU	0
124	15008	Tyre in linear motion on a runway covered by various forms of loose snow. An application of ESDU 05011	2015	ESDU	0
125	05011 D	Summary of the model for performance of an aircraft tyre rolling or braking on dry or precipitate contaminated runways	2015	ESDU	0
126	10004 B	Worked example of ground-test machine operating on a dry or contaminated runway surface. Application of ESDU 05011	2015	ESDU	0
127	13005 A	Information on the use of Data Items on the longitudinal stability of aircraft	2015	ESDU	0
128	15012	Flow in rotating cavities	2015	ESDU	0
129	10015 B	Model for performance of a single aircraft tyre rolling or braking on dry and precipitate contaminated runways	2015	ESDU	0
130	13002 A	Worked example for aircraft with multiple-wheel undercarriages braking on water-covered runway. Application of ESDU 11004	2015	ESDU	0
131	72023 A	Low-speed longitudinal aerodynamic characteristics of aircraft in ground effect	2015	ESDU	0
132	11004 C	Decelerating forces on multiple-wheel undercarriages rolling or braking on precipitate contaminated runways	2015	ESDU	0
133	89029 B	Installed tailplane lift-curve slope at subsonic speeds	2015	ESDU	0
134	15001	Aircraft performance from flight test Part 1: derivation of a mathematical model	2015	ESDU	0
135	15002	Definitions for runway contaminants and the classification and distribution of hard runway surfaces	2015	ESDU	0
136	88031 E	Lift and longitudinal forces on propeller/nacelle/wing/flap systems	2015	ESDU	0
137	91017 F	Statistical methods applicable to analysis of aircraft performance data	2015	ESDU	0
138	11002 A	The prediction of the far-field mixing noise from coaxial subsonic jets based on a database for stationary coplanar conical nozzles	2014	ESDU	0
139	91004 A	Pitching moment derivative due to rate of pitch for projectiles at supersonic speeds	2014	ESDU	0
140	13006	ESDUperf: aircraft performance program	2014	ESDU	0
141	90010 C	Pitching moment and lift force derivatives due to rate of pitch for aircraft at subsonic speeds	2014	ESDU	0
142	14005	Lift and rolling moment due to spoilers on wings at subsonic speeds with trailing-edge flaps deployed	2014	ESDU	0
143	88040 C	Program for calculation of aileron rolling moment and yawing moment coefficients at subsonic speeds	2014	ESDU	0

144	14004	Lift and rolling moment due to spoilers on wings at subsonic speeds with trailing-edge flaps undeployed	2014	ESDU	0
145	87008 I	Rudder sideforce, yawing moment and rolling moment control derivatives at low speeds: Y sub zeta, N sub zeta and L sub zeta	2014	ESDU	0
146	13014	Viscous full-potential (VFP) method for three-dimensional wings and wing-body combinations Part 3: Error messages, failures and suggested remedies	2014	ESDU	0
147	AERO F.01.01.08 D	LIFT COEFFICIENT INCREMENT DUE TO FULL-SPAN SLOTTED FLAPS	2014	ESDU	0
148	00025 A	Computer program for prediction of aircraft lateral stability derivatives in sideslip at subsonic speeds	2014	ESDU	0
149	13012	Viscous full-potential (VFP) method for three-dimensional wings and wing-body combinations Part 2: Use of VFP and related programs	2014	ESDU	0
150	TM 172	Derivation of part span factors for lift and rolling moment	2014	ESDU	0
151	85010 A	Estimation of sideforce, yawing moment and rolling moment derivatives due to rate of roll for complete aircraft at subsonic speeds	2014	ESDU	0
152	TM 178	Effect of wing-mounted engine nacelles of propeller-driven aircraft on lateral stability derivatives in sideslip	2014	ESDU	0
153	02011	Wind Engineering Series organisation: preface sections and data items location schedule amendment record - Issue 8	2014	ESDU	0
154	13013	Viscous full-potential (VFP) method for three-dimensional wings and wing-body combinations. Part 1: Validation of VFP results with experiment and comparisons with other methods.	2014	ESDU	0
155	10011 A	Endurance of titanium and titanium alloy structural elements subjected to simulated acoustic loading	2014	ESDU	0
156	96026 C	Drag and yawing moment due to spoilers	2014	ESDU	0
157	13007 A	Side-force coefficients on aircraft tyres in yawed and unbraked motion on dry and wet pavements	2014	ESDU	0
158	91009 B	Effect of twin fins on isolated tailplane lift-curve slope	2014	ESDU	0
159	83044	Plasticity correction factors for plate buckling	2014	ESDU	0
160	83044-R1	Plasticity correction factors for plate buckling	2014	ESDU	0
161	84027 D	Endurance of fibre-reinforced composite, laminated structural elements subjected to simulated random acoustic loading.	2014	ESDU	0
162	98005 D	Design and performance evaluation of heat exchangers: the effectiveness-NTU method. Part 3: graphical and analytical data. - Incorporates A, B, and C	2014	ESDU	0
163	AERO F.02.01.08 E	VORTEX DRAG COEFFICIENT OF WING WITH PART-SPAN FLAP AND CENTRAL CUT-OUT	2013	ESDU	0
164	09009 B	Aircraft noise prediction	2013	ESDU	0
165	81014 A	Contribution of wing planform to derivatives of yawing moment and sideforce due to roll rate at subsonic speeds, $(N_p)_w$ and $(Y_p)_w$	2013	ESDU	0
166	00032 E	Aircraft Performance Program Part 2: Installing and running Programs APP02 and APP03	2013	ESDU	0
167	14003	Guide to bolted joints and screw threads data	2013	ESDU	0
168	AERO F.02.01.08 E	VORTEX DRAG COEFFICIENT OF WING WITH PART-SPAN FLAP AND CENTRAL CUT-OUT	2013	ESDU	0
169	73017 C	Reynolds number, speed of sound, dynamic viscosity, kinetic pressure and total pressure coefficient in air	2013	ESDU	0
170	13001	The prediction of shock noise from supersonic jets including the near-field	2013	ESDU	0
171	66011 A	Loaded pins in axially loaded bars. Maximum elastic stress at hole boundary	2013	ESDU	0
172	71027 A	Endurance of high strength steels (in bending)	2013	ESDU	0
173	76016 B	Generalisation of smooth continuous stress-strain curves for metallic materials	2013	ESDU	0
174	00033 D	Aircraft Performance Program Part 3: Brief guide Programs APP02, APP03	2013	ESDU	0
175	12006	Method to determine surface finish required to minimise local skin friction in the presence of a turbulent boundary layer.	2013	ESDU	0
176	02016-R1	Fracture toughness (K_{Ic}) values of some cast irons	2013	ESDU	0
177	73002 B	Fatigue of steel spline assemblies under reversed torsion	2013	ESDU	0

178	81012	Fatigue threshold stress intensity factors and slow crack propagation rates in low and medium strength low alloy steel	2013	ESDU	0
179	83040 D	Method for the rapid estimation of spanwise loading of wings with camber and twist in subsonic attached flow	2013	ESDU	0
180	82012-R1	Nested helical compression springs of round wire (To be used in conjunction with ESDU 82008)	2013	ESDU	0
181	82022-R1	Endurance of steel lugs with clearance-fit pins (Tensile mean stress)	2013	ESDU	0
182	81029-R1	Stress intensity factors in lugs (through-thickness cracks)	2013	ESDU	0
183	82009 E	Compressible flow of gases. Pressure losses and discharge coefficients of orifice plates, perforated plates and thick orifice plates in ducts.	2013	ESDU	0
184	80004-R1	Fatigue strength of steel coned disc springs (Tentative)	2013	ESDU	0
185	81007-R1	Fatigue strength in bending of steel I-beams with welded attachments	2013	ESDU	0
186	81011-R1	Fatigue crack propagation in low and medium strength low alloy steel plate, bar and forgings	2013	ESDU	0
187	81012-R1	Fatigue threshold stress intensity factors and slow crack propagation rates in low and medium strength low alloy steel	2013	ESDU	0
188	76016 B-R1	Generalisation of smooth continuous stress-strain curves for metallic materials	2013	ESDU	0
189	78016-R1	The effect of post-weld treatments on fatigue at fillet welded attachments	2013	ESDU	0
190	78023 A-R1	Fatigue strength of transverse fillet welded joints and attachments in steels under bending loading	2013	ESDU	0
191	79010-R1	Characteristics of disc springs in combination (to be used in conjunction with ESDU 78043)	2013	ESDU	0
192	78036 A-R1	The compounding method of estimating stress intensity factors for cracks in complex configurations using solutions from simple configurations	2013	ESDU	0
193	78043 A-R1	Single disc springs - elastic deflections, stresses, stiffnesses and resiliences	2013	ESDU	0
194	78013 B	Aerodynamic centre of wing-fuselage-nacelle combinations: effect of rear-fuselage pylon-mounted nacelles	2013	ESDU	0
195	76032-R1	Fatigue strength of longitudinal flange-to-web welds in steel I-beams and T-sections	2013	ESDU	0
196	77011-R1	Fatigue strength of transverse butt welds in steel plate under axial loading	2013	ESDU	0
197	75016-R1	Fatigue strength of transverse fillet and cruciform butt welds in steels	2013	ESDU	0
198	76007-R1	Fatigue strength of longitudinal fillet welded attachments and joints in steels under axial loading	2013	ESDU	0
199	76014 B-R1	Estimation of endurance and construction of constant amplitude S N curves from related data corrected for notch and mean stress effects	2013	ESDU	0
200	73002 B-R1	Fatigue of steel spline assemblies under reversed torsion	2013	ESDU	0
201	71027 A-R1	Endurance of high strength steels (in bending)	2013	ESDU	0
202	73004 A-R1	Criteria of yielding for ductile materials under static loading	2013	ESDU	0
203	74016-R1	The fatigue strength at high endurance of notched low alloy steel specimens (in bending and under axial loading, zero mean stress)	2013	ESDU	0
204	71009 A-R1	Design against fatigue Design principles	2013	ESDU	0
205	70016 B-R1	Terms and notation for fatigue endurance data.	2013	ESDU	0
206	67019 A-R1	Static strength of screwed fasteners	2013	ESDU	0
207	66011 A-R1	Loaded pins in axially loaded bars. Maximum elastic stress at hole boundary	2013	ESDU	0
208	67014 A-R1	Fatigue strength of thick cylinders under internal pressure	2013	ESDU	0
209	00035 E	Aircraft Performance Program Part 5: Detailed input and output Program APP02	2013	ESDU	0
210	81011	Fatigue crack propagation in low and medium strength low alloy steel plate, bar and forgings	2013	ESDU	0
211	83040 D	Method for the rapid estimation of spanwise loading of wings with camber and twist in subsonic attached flow	2013	ESDU	0
212	00011	Vibration and Acoustic Fatigue Series: Record of Documents - Issue 9	2013	ESDU	0
213	TM 173	Material damping of metals and alloys	2013	ESDU	0
214	73004 A	Criteria of yielding for ductile materials under static loading	2013	ESDU	0
215	81029	Stress intensity factors in lugs (through-thickness cracks)	2013	ESDU	0

216	85011 B	Pitot and static errors due to non-steady flight	2013	ESDU	0
217	09014 A	Elastic stress concentration factors. Geometric discontinuities in flat bars or strips of isotropic material	2013	ESDU	0
218	82011 C	Estimation of sideforce and yawing moment derivatives due to sideslip for complete aircraft at subsonic speeds	2013	ESDU	0
219	TM 95	Impact forces resulting from wheel generated spray: a re-assessment of existing data	2013	ESDU	0
220	81007	Fatigue strength in bending of steel I-beams with welded attachments	2013	ESDU	0
221	00034 E	Aircraft Performance Program Part 4: Brief form of input and output Programs APP02, APP03	2013	ESDU	0
222	13007	Side-force coefficients on aircraft tyres in yawed and unbraked motion on dry and wet pavements	2013	ESDU	0
223	82012	Nested helical compression springs of round wire (To be used in conjunction with ESDU 82008)	2013	ESDU	0
224	74016	The fatigue strength at high endurance of notched low alloy steel specimens (in bending and under axial loading, zero mean stress)	2013	ESDU	0
225	00036 D	Aircraft Performance Program Part 6: Examples of application Programs APP02 and APP03	2013	ESDU	0
226	82022	Endurance of steel lugs with clearance-fit pins (Tensile mean stress)	2013	ESDU	0
227	75016	Fatigue strength of transverse fillet and cruciform butt welds in steels	2013	ESDU	0
228	13009	Computer program for calculation of aerodynamic centre of wing-fuselage-nacelle combinations	2013	ESDU	0
229	06011 A	Spectral methods for the estimation of fatigue life	2013	ESDU	0
230	76007	Fatigue strength of longitudinal fillet welded attachments and joints in steels under axial loading	2013	ESDU	0
231	67014 A	Fatigue strength of thick cylinders under internal pressure	2013	ESDU	0
232	76015 D	Aerodynamic centre of wing-fuselage combinations	2013	ESDU	0
233	87031 C	Wing angle of attack for zero lift at subcritical Mach numbers	2013	ESDU	0
234	DWN 10009	Computer program for estimation of the performance of aircraft type tyres rolling or braking on dry and precipitate contaminated runways - Issue 7	2013	ESDU	0
235	76032	Fatigue strength of longitudinal flange-to-web welds in steel I-beams and T-sections	2013	ESDU	0
236	77012 B	Aerodynamic centre of wing-fuselage-nacelle combinations: effect of wing-pylon mounted nacelles	2013	ESDU	0
237	13004	Selection of cooling systems	2013	ESDU	0
238	00038 D	Aircraft Performance Program Part 8: description of APP02	2013	ESDU	0
239	09016	Use of local-flow conditions for calculation of roughness-particle height in transition strips on wings	2013	ESDU	0
240	03003	Stress and Strength Series organisation: preface amendment record - Issue 3	2013	ESDU	0
241	02016	Fracture toughness (K _{Ic}) values of some cast irons	2013	ESDU	0
242	71009 A	Design against fatigue Design principles	2013	ESDU	0
243	76014 B	Estimation of endurance and construction of constant amplitude S N curves from related data corrected for notch and mean stress effects	2013	ESDU	0
244	94036 A	The prediction of sound attenuation as a result of propagation close to the ground	2013	ESDU	0
245	02020 B	An introduction to aircraft noise	2013	ESDU	0
246	77011	Fatigue strength of transverse butt welds in steel plate under axial loading	2013	ESDU	0
247	00031 E	Aircraft Performance Program Part 1: Introduction to the computer programs for aircraft performance evaluation	2013	ESDU	0
248	00039 C	Aircraft Performance Program Part 9: Testing programs APP02 and APP03	2013	ESDU	0
249	67019 A	Static strength of screwed fasteners	2013	ESDU	0
250	12003	Pressure and Flow Measurements	2012	ESDU	0
251	84030 C	Longitudinal turbulence intensities over terrain with roughness changes	2012	ESDU	0
252	75021 D	Estimation of the surface pressure fluctuations in the turbulent boundary layer of a flight vehicle	2012	ESDU	0
253	82007	Structural Members: mean fluid forces on members of various cross sections	2012	ESDU	0

254	01014 A	Frictional pressure gradient in adiabatic flows of gas-liquid mixtures in horizontal pipes: prediction using empirical correlations and database	2012	ESDU	0
255	14001	Applying, measuring and maintaining pretension in steel bolts	2012	ESDU	0
256	93030 A	Three-dimensional elastic stress concentration factors Plain or countersunk hole in a wide plate subjected to tension, bending or pin loading	2012	ESDU	0
257	82031 B	Paraboloidal antennas: wind loading. Part 1: mean forces and moments	2012	ESDU	0
258	95026	Edge effects on the response of sandwich panels subjected to acoustic loading	2012	ESDU	0
259	DWN 10020	Dynamic characteristics of cylindrical helical springs. Part 4: examples and computer program - Issue 8	2012	ESDU	0
260	84015 A	Cylinder groups: mean forces on pairs of long circular cylinders	2012	ESDU	0
261	93013	Lift-curve slope for structural response calculations	2012	ESDU	0
262	77014 B	Flat panels in shear Post-buckling analysis	2012	ESDU	0
263	85012 C	Estimation of damping in laminated and fibre-reinforced plates	2012	ESDU	0
264	84011 D	Wind speed profiles over terrain with roughness changes	2012	ESDU	0
265	DWN 10018	Aerodynamics Fixes on Aircraft - Issue 6	2012	ESDU	0
266	91010 A	Response of structures to galloping excitation Background and approximate estimation	2012	ESDU	0
267	76003 C	Geometrical properties of cranked and straight-tapered wing planforms	2012	ESDU	0
268	84003 B	Fatigue crack propagation rates and threshold stress intensity factors in high alloy and corrosion resistant (stainless) steel	2012	ESDU	0
269	70012 E	Lift-curve slope and aerodynamic centre position of wings in inviscid supersonic flow	2012	ESDU	0
270	96027 A	Estimation of the unsteady lift coefficient of subsonic propeller blades in non-axial inflow	2012	ESDU	0
271	91001	Structural parameters used in response calculations Estimation of numerical values	2012	ESDU	0
272	83036 B	Natural frequencies of rectangular, specially orthotropic laminated plates	2012	ESDU	0
273	12001	Prediction of turbine noise from aero-engines	2012	ESDU	0
274	74029 E	Friction losses for fully-developed flow in straight pipes of constant cross section subsonic compressible flow of gases	2012	ESDU	0
275	89042 A	Body effect on wing angle of attack and pitching moment at zero lift at low speeds	2012	ESDU	0
276	70011 J	Lift-curve slope and aerodynamic centre position of wings in inviscid subsonic flow	2012	ESDU	0
277	89050 B	Boundary walls, fences and hoardings: mean and peak wind loads and overturning moments	2012	ESDU	0
278	85021 C	Analysis of pretensioned bolted joints subject to tensile (separating) forces	2012	ESDU	0
279	TM 168	Derivation of equations for the geometrical properties of straight-tapered and multi-panel wings	2012	ESDU	0
280	TM 175	Self-loosening of bolted joints	2012	ESDU	0
281	88023 B	Jet-by-jet shielding of noise	2012	ESDU	0
282	83035 F	Estimation of the stiffnesses and apparent elastic properties of laminated flat plates	2012	ESDU	0
283	10023 A	Computer program for calculation of equivalent straight-tapered wing planform	2012	ESDU	0
284	89036 B	The calculation of overground sound propagation in the presence of wind and temperature gradients	2012	ESDU	0
285	83045 C	Strong winds in the atmospheric boundary layer Part 2: discrete gust speeds	2012	ESDU	0
286	81018 B	Natural frequencies of thick-walled isotropic circular-cylindrical shells (shear diaphragm end conditions)	2012	ESDU	0
287	TM 169	Wing lift-curve slope in inviscid subsonic flow: Improvements to the Helmbold-Diederich equation and comparison with data from ESDU 70011	2012	ESDU	0
288	06010 A	Cycle counting methods for the estimation of fatigue life	2012	ESDU	0
289	88038	Estimation of hours per year when mean wind speed exceeds specified thresholds	2012	ESDU	0
290	64001	Guide to stress concentration data.	2012	ESDU	0
291	74029 E-R1	Friction losses for fully-developed flow in straight pipes of constant cross section subsonic compressible flow of gases	2012	ESDU	0
292	75021 D-R1	Estimation of the surface pressure fluctuations in the turbulent boundary layer of a flight vehicle	2012	ESDU	0

293	81018 B-R2	Natural frequencies of thick-walled isotropic circular-cylindrical shells (shear diaphragm end conditions).	2012	ESDU	0
294	80040G-R2	Free vibration of thin-walled, orthogonally stiffened, circular cylindrical shells	2012	ESDU	0
295	80020 B	Average downwash at the tailplane at low angles of attack and subsonic speeds	2012	ESDU	0
296	82031 B-R1	Paraboloidal antennas: wind loading. Part 1: mean forces and moments	2012	ESDU	0
297	82007-R1	Structural Members: mean fluid forces on members of various cross sections	2012	ESDU	0
298	83009 C-R1	Damping of structures Part 1: tall buildings	2012	ESDU	0
299	83020-R1	Paraboloidal antennas: wind loading. Part 2: surface pressure distribution	2012	ESDU	0
300	04021	Fluid Mechanics, Internal Flow Series: Record of Documents - Issue 15	2012	ESDU	0
301	83020	Paraboloidal antennas: wind loading. Part 2: surface pressure distribution	2012	ESDU	0
302	88037	World-wide extreme wind speeds. Part 2: examples using various methods of analysis	2012	ESDU	0
303	97021 A	Effect of trailing-edge flap deployment on average downwash at the tailplane at low speeds	2012	ESDU	0
304	04022-R1	An introduction to low-cycle fatigue phenomena	2012	ESDU	0
305	06009 A	Fatigue damage and life under random loading.	2012	ESDU	0
306	11009	Compendium of modal densities Part II: Shell structures	2012	ESDU	0
307	87035 B	Calculation methods for along-wind loading Part 2: response of line-like structures to atmospheric turbulence	2012	ESDU	0
308	TN 07007 B	Incompressible flow through orifice plates a review of the data in the literature	2012	ESDU	0
309	90029 B	An introduction to aircraft excrescence drag	2012	ESDU	0
310	TM 170	Falcon 20: rolling on dry and snow-covered surfaces	2012	ESDU	0
311	14002	Lock nuts and other thread locking devices	2012	ESDU	0
312	04022	An introduction to low-cycle fatigue phenomena	2012	ESDU	0
313	88033 A	The design of spur and helical involute gears. A procedure compatible with BS 436: Part 3: 1986 method for calculation of contact and root bending stress limitations for metallic involute gears	2012	ESDU	0
314	87034 B	World-wide extreme wind speeds Part 1: origins and methods analysis	2012	ESDU	0
315	04006 B	Pressure gradient in upward adiabatic flows of gas-liquid mixtures in vertical pipes	2012	ESDU	0
316	83009 C	Damping of structures Part 1: tall buildings	2012	ESDU	0
317	TM169	ESDU TECHNICAL MEMORANDUM Wing lift-curve slope in inviscid subsonic flow: Improvements to the Helmbold-Diederich equation and comparison with data from ESDU 70011	2012	ESDU	0
318	84011 D-R1	Wind speed profiles over terrain with roughness changes	2012	ESDU	0
319	84015 A-R1	Cylinder groups: mean forces on pairs of long circular cylinders	2012	ESDU	0
320	83045 C-R1	Strong winds in the atmospheric boundary layer Part 2: discrete gust speeds	2012	ESDU	0
321	84030 C-R1	Longitudinal turbulence intensities over terrain with roughness changes	2012	ESDU	0
322	83036 B-R2	Natural frequencies of rectangular, specially orthotropic laminated plates	2012	ESDU	0
323	85012 C-R2	Estimation of damping in laminated and fibre-reinforced plates	2012	ESDU	0
324	85021 C-R1	Analysis of pretensioned bolted joints subject to tensile (separating) forces	2012	ESDU	0
325	87034 B-R1	World-wide extreme wind speeds Part 1: origins and methods analysis	2012	ESDU	0
326	87035 B-R1	Calculation methods for along-wind loading Part 2: response of line-like structures to atmospheric turbulence	2012	ESDU	0
327	88037-R1	World-wide extreme wind speeds. Part 2: examples using various methods of analysis	2012	ESDU	0
328	88038-R1	Estimation of hours per year when mean wind speed exceeds specified thresholds	2012	ESDU	0
329	93013-R1	Lift-curve slope for structural response calculations	2012	ESDU	0
330	96027 A-R3	Estimation of the unsteady lift coefficient of subsonic propeller blades in non-axial inflow.	2012	ESDU	0
331	95026-R2	Edge effects on the response of sandwich panels subjected to acoustic loading.	2012	ESDU	0

332	93030 A-R1	Three-dimensional elastic stress concentration factors Plain or countersunk hole in a wide plate subjected to tension, bending or pin loading	2012	ESDU	0
333	91001-R1	Structural parameters used in response calculations Estimation of numerical values	2012	ESDU	0
334	91010 A-R1	Response of structures to galloping excitation Background and approximate estimation	2012	ESDU	0
335	89050 B-R1	Boundary walls, fences and hoardings: mean and peak wind loads and overturning moments	2012	ESDU	0
336	88023 B-R1	Jet-by-jet shielding of noise	2012	ESDU	0
337	89036 B-R1	The calculation of overground sound propagation in the presence of wind and temperature gradients	2012	ESDU	0
338	90016 B-R1	Natural frequencies of isotropic and orthotropic rectangular plates under static in-plane loading (including shear loading)	2011	ESDU	0
339	91013 A-R1	Methods for improving damping Part 2: layered damping treatment for structures: analysis and examples	2011	ESDU	0
340	91025 E-R1	Non-Newtonian fluids: Frictional pressure loss prediction for fully-developed flow in straight pipes	2011	ESDU	0
341	93031 A-R1	Pipeline vibrations. Computer program for the prediction of fluid transients in flexible, unbranched three-dimensional piping systems	2011	ESDU	0
342	92042 B-R1	Ejectors and jet pumps: Computer program for design and performance for compressible gas flow	2011	ESDU	0
343	93022 B-R1	Ejectors and jet pumps: computer program for design and performance for liquid flow	2011	ESDU	0
344	89011 A-R1	Natural frequencies of singly-curved laminated plates with simply-supported edges	2011	ESDU	0
345	89030 A-R1	Pipeline Vibrations Fluid transients in non-rigid, unbranched planar piping systems	2011	ESDU	0
346	88022 C-R1	Pipeline Vibrations Undamped natural vibration of pipelines	2011	ESDU	0
347	86024 E-R1	Estimation of rms strain in laminated face plates of simply-supported sandwich panels subjected to random acoustic loading. Including a simplified natural frequency prediction method	2011	ESDU	0
348	87002 C-R1	Natural frequencies of rectangular singly-curved plates	2011	ESDU	0
349	85037 D-R1	Natural frequencies of simply-supported sandwich panels with laminated face plates	2011	ESDU	0
350	84008 D-R1	Estimation of r.m.s. strain in laminated skin panels subjected to random acoustic loading	2011	ESDU	0
351	72005 E	The estimation of r.m.s. stress in stiffened skin panels subjected to random acoustic loading	2011	ESDU	0
352	82019	Undamped natural vibration of rectangular sway frame buildings and frame structures	2011	ESDU	0
353	00007 B	Drag of a rectangular planform cavity in a flat plate with a turbulent boundary layer for Mach numbers up to 3. Part II: Open and transitional flows	2011	ESDU	0
354	11007	Full-potential method for three-dimensional wings and wing-body combinations Part 6: Full-potential with frozen boundary layer	2011	ESDU	0
355	07001	Noise transmission into aircraft cabins	2011	ESDU	0
356	91025 E	Non-Newtonian fluids: Frictional pressure loss prediction for fully-developed flow in straight pipes	2011	ESDU	0
357	73014 A	The estimation of r.m.s. stress in skin panels with flexible stiffeners subjected to random acoustic loading	2011	ESDU	0
358	97030 A	VGK method for two-dimensional aerofoil sections Part 3: estimation of a separation boundary in transonic flow	2011	ESDU	0
359	92014 D	Blending profiles of disc cams with radial translating roller followers. Part 1: to reduce segment angle, reduce reference circle radius or increase follower lift	2011	ESDU	0
360	11008	Compendium of modal densities Part 1: rods, beams and plates	2011	ESDU	0
361	07002 A	Wing viscous drag coefficient in shock-free attached flow	2011	ESDU	0
362	93031 A	Pipeline vibrations. Computer program for the prediction of fluid transients in flexible, unbranched three-dimensional piping systems	2011	ESDU	0
363	07001 ADD	Noise transmission into aircraft cabins Addendum Estimation of section properties of fuselage stiffeners	2011	ESDU	0
364	00002-R1	Sound power radiation from isotropic plates	2011	ESDU	0
365	10023 B	Computer program for calculation of equivalent straight-tapered wing planform	2011	ESDU	0
366	00024	The acoustic attenuation of absorbent linings in rectangular flow ducts with application to annular flow ducts	2011	ESDU	0
367	10016	Drag of a rectangular planform cavity in a flat plate with a turbulent boundary layer for Mach numbers up to 3. Part III : Effect of doors	2011	ESDU	0

368	TM 165	Analysis of ground-rolling tests through water with a Canberra aircraft	2011	ESDU	0
369	TN 10013	CFD validation studies for incompressible flow through square-edged orifice plates	2011	ESDU	0
370	96002	Geneva mechanisms. Part 1: design	2011	ESDU	0
371	74033 A-R1	Estimation of sound pressure levels due to buzz-saw noise within the intake duct of a supersonic fan or compressor	2011	ESDU	0
372	74025 B-R1	Natural frequencies of box structures	2011	ESDU	0
373	73014 A-R1	The estimation of r.m.s. stress in skin panels with flexible stiffeners subjected to random acoustic loading	2011	ESDU	0
374	72005 E-R1	The estimation of r.m.s. stress in stiffened skin panels subjected to random acoustic loading	2011	ESDU	0
375	91013 A	Methods for improving damping Part 2: layered damping treatment for structures: analysis and examples	2011	ESDU	0
376	10019	Effect of link length tolerances on the performance of four-bar linkages	2011	ESDU	0
377	91008 A	Strength of lugs under axial load	2011	ESDU	0
378	92042 B	Ejectors and jet pumps: Computer program for design and performance for compressible gas flow	2011	ESDU	0
379	10022	Trailing-vortex drag coefficient in shock-free attached flow cambered and twisted wings	2011	ESDU	0
380	DWN TN10013	CFD validation studies for incompressible flow through square-edged orifice plates - Issue 5	2011	ESDU	0
381	CFD-BPG 11010	CFD Best Practice Guidelines for modelling pressure losses and flow characteristics in square-and knife-edged orifice plates	2011	ESDU	0
382	97031	Estimation of shelter provided by solid and porous fence	2011	ESDU	0
383	10017	A guide to the alleviation of the base drag of a flat plate with a blunt trailing edge	2011	ESDU	0
384	11005	Prediction of near-field and far-field harmonic noise from subsonic propellers with non-axial inflow	2011	ESDU	0
385	74025 B	Natural frequencies of box structures	2011	ESDU	0
386	82027 B	Estimation of lateral attenuation of air-to-ground jet or turbofan aircraft noise in one-third octave bands	2011	ESDU	0
387	07003 A	Modelling of wing viscous drag coefficient in shock-free attached flow	2011	ESDU	0
388	08018	Combination of spectra in Common Data Files from ESDU Aircraft Noise Data Items	2011	ESDU	0
389	TM 167	Mumeter Mk 6: a continuous friction measuring device. Evaluation on test surfaces at Nantes	2011	ESDU	0
390	95001 A	Kinematic analysis of disc cams	2011	ESDU	0
391	00024	The acoustic attenuation of absorbent linings in rectangular flow ducts with application to annular flow ducts	2011	ESDU	0
392	93002 B	Blending profiles of disc cams with radial translating roller followers. Part 2: to incorporate an intermediate precision point or a constant velocity component	2011	ESDU	0
393	TM 101	Derivation of lubricant entrainment velocity for disc cams with six different types of follower	2011	ESDU	0
394	92005 D	Minimum size of disc cams with radial translating roller followers	2011	ESDU	0
395	76020 A	Estimation of the maximum discrete frequency noise from isolated rotors and propellers	2011	ESDU	0
396	78002 C	Evaluation of the attenuation of sound by a uniform atmosphere	2011	ESDU	0
397	85037 D	Natural frequencies of simply-supported sandwich panels with laminated face plates	2011	ESDU	0
398	74033 A	Estimation of sound pressure levels due to buzz-saw noise within the intake duct of a supersonic fan or compressor	2011	ESDU	0
399	84008 D	Estimation of r.m.s. strain in laminated skin panels subjected to random acoustic loading	2011	ESDU	0
400	99006 B	Computer-based estimation procedure for near-field single-stream jet noise	2011	ESDU	0
401	00002	Sound power radiation from isotropic plates	2011	ESDU	0
402	01015	Far-field sound radiation from circular ducts	2011	ESDU	0
403	89011 A	Natural frequencies of singly-curved laminated plates with simply-supported edges	2011	ESDU	0
404	06002A	Dwell-Rise-Fall-Dwell and Dwell-Fall-Rise-Dwell cam laws Sections 1 to 8: segments having equal rise and fall periods	2011	ESDU	0
405	86024 E	Estimation of rms strain in laminated face plates of simply-supported sandwich panels subjected to random acoustic loading. Including a simplified natural frequency prediction method	2011	ESDU	0
406	13016	Some factors affecting the design of bolted assemblies	2011	ESDU	0

407	TM 96	Operations on surfaces covered with slush	2011	ESDU	0
408	04011	Prediction of sound attenuation in a refracting turbulent atmosphere with a Fast Field Program	2011	ESDU	0
409	09006	Material Damping	2011	ESDU	0
410	00004	Mechanisms Series record of documents - Issue 11	2011	ESDU	0
411	87002 C	Natural frequencies of rectangular singly-curved plates	2011	ESDU	0
412	78003 C	Evaluation of the attenuation of broad-band sound by a non-uniform still atmosphere	2011	ESDU	0
413	93022 B	Ejectors and jet pumps: computer program for design and performance for liquid flow	2011	ESDU	0
414	91043 C	Mean wind speeds over hills and other topography	2011	ESDU	0
415	TM 102	Derivation of contact force and radius of curvature of cam profile for disc cams with six different types of follower	2011	ESDU	0
416	00006 B	Drag of a rectangular planform cavity in a flat plate with a turbulent boundary layer for Mach numbers up to 3. Part I: Closed flow	2011	ESDU	0
417	TN 08009 A	CFD validation studies for transitional flow in circular straight pipes with smooth walls	2011	ESDU	0
418	02009	Sound radiation from orthotropic rectangular plates Part I: Estimation by asymptotic method	2011	ESDU	0
419	86035 E	Integral length scales of turbulence over flat terrain with roughness changes	2011	ESDU	0
420	81036 A	Undamped natural vibration of core buildings	2011	ESDU	0
421	89030 A	Pipeline Vibrations Fluid transients in non-rigid, unbranched planar piping systems	2011	ESDU	0
422	88022 C	Pipeline Vibrations Undamped natural vibration of pipelines	2011	ESDU	0
423	86026 C	Introduction to polynomial cam laws	2011	ESDU	0
424	94035 B	The correction of measured noise spectra for the effects of ground reflection	2011	ESDU	0
425	90016 B	Natural frequencies of isotropic and orthotropic rectangular plates under static in-plane loading (including shear loading)	2011	ESDU	0
426	11006	Extrapolating wind-tunnel data to full-scale Reynolds number Part 3: Example (ii) Comparison of extrapolated low-Reynolds-number lift measurements on the F4 wing/body with high-Reynolds-number measurements	2011	ESDU	0
427	94011 C	Contact stress in disc cams with domed or flat faced followers	2010	ESDU	0
428	05009	Heat Transfer Series record of documents - Issue 2	2010	ESDU	0
429	03012 B	Computer program for calculation of mean value properties for non-uniform compressible flows	2010	ESDU	0
430	SPC-M13-1	Oct.09: Mathematical modeling of asphaltenes deposition and removal in crude distillation units	2010	ESDU	0
431	10012	Application of linear regression analysis to acoustic fatigue data	2010	ESDU	0
432	09015	EXTRAPOLATING WIND-TUNNEL DATA TO FULL-SCALE REYNOLDS NUMBER Part 3: Example (i) Choice of simulation criteria and transition-strip locations for the F4 Wing/Body combination at the design condition	2010	ESDU	0
433	SPG-M12-1	Sept.09: Fouling in refinery preheat trains. PHT network simulation	2010	ESDU	0
434	PERF ED 1/1 A	Approximate estimation of drag of windmilling propellers	2010	ESDU	0
435	SPA-M12-2	Sept.09: Application of ATR-FTIR imaging to study precipitation due to heating of crude oil	2010	ESDU	0
436	SPA-M6-1	Apr.08: Characterization of asphaltenes and deposited foulants	2010	ESDU	0
437	PERF ED 1/2 A	Approximate estimation of braking thrust of propellers (piston engines)	2010	ESDU	0
438	SPA-M14-1	Sept.10: Characterization of Asphaltenes and Deposited Foulants	2010	ESDU	0
439	SPG-M15-2	Refinery preheat train modelling, simulation and performance improvement	2010	ESDU	0
440	93005 A	Calculation methods for steadily loaded axial groove hydrodynamic journal bearings (Guide to use of computer program A9305)	2010	ESDU	0
441	SPD-M13-2	Oct.09: Simulation of asphaltene-hydrocarbon containing systems	2010	ESDU	0
442	SPC-M15-1	Sept.10: Mathematical modeling of asphaltenes deposition and removal in crude distillation units	2010	ESDU	0
443	SPG-M12-2	Sept.09: Modelling of fouling in heat exchangers: Overview, recent results and opportunities	2010	ESDU	0
444	SPF-M12-1	Sept.09: Annulus flow tests (status report on tube and annulus flow rig development)	2010	ESDU	0

445	00015 A	Disc cams: tribological analysis using computer program A0015	2010	ESDU	0
446	SPC-M11-1	Apr.09: Modeling of asphaltenes deposition and removal in crude-oil distillation units	2010	ESDU	0
447	SPA-M12-1	Sept.09: Characterisation of petroleum fouling with respect to operational parameters: an experimental study	2010	ESDU	0
448	10014	Full-potential method for three-dimensional wings and wing-body combinations Part 5: Pre-processor to represent effect of fore- and aft-body shape on wing flow	2010	ESDU	0
449	SPG-M10-2	Apr.09: Advanced modelling and simulation of PHT hot-end exchangers for fouling mitigation	2010	ESDU	0
450	04024 B	An introduction to rigid aeroplane response to gusts and atmospheric turbulence	2010	ESDU	0
451	SPD-M13-1	Oct.09: Modelling asphaltenes using SAFT or related approaches	2010	ESDU	0
452	93004 A	Calculation methods for steadily loaded central circumferential groove hydrodynamic journal bearings. (Guide to use of computer program A9304)	2010	ESDU	0
453	94008 C	Lubricant film thickness between disc cams and followers	2010	ESDU	0
454	04017	Fatigue Endurance Data Series organisation: preface amendment record - Issue 2	2010	ESDU	0
455	10011	Endurance of titanium and titanium alloy structural elements subjected to simulated acoustic loading	2010	ESDU	0
456	96011 C	Geneva mechanisms. Part 2: computer program	2010	ESDU	0
457	00012 B	The acoustic attenuation of absorbent linings in cylindrical flow ducts	2010	ESDU	0
458	SPC-M7-1	Apr.08: Modelling of asphaltenes deposition and removal in crude distillation units	2010	ESDU	0
459	SPG-M10-1	Apr.09: Simulating refinery preheat trains subject to fouling - operational control strategies	2010	ESDU	0
460	93001 D	Contact stress in disc cams with roller followers	2010	ESDU	0
461	92037 A	Calculation methods for externally pressurised (hydrostatic) journal bearings with capillary restrictor control (Guide to use of computer program A9237)	2010	ESDU	0
462	SPD-M10-2	Apr.09: Coarse-grained simulation of asphaltene-hydrocarbon containing systems	2010	ESDU	0
463	13015	An introduction to some methods to calculate loads and stiffnesses in bolted assemblies	2010	ESDU	0
464	82018 B	The pressure distribution at zero incidence over selected families of blunt axisymmetric forebodies	2010	ESDU	0
465	92035 A	Calculation methods for steadily loaded, off-set pivot, tilting-pad thrust bearings (Guide to use of computer program A9235)	2010	ESDU	0
466	PERF RG 2/1 B	Reduction of take-off and landing measurements to standard conditions	2010	ESDU	0
467	85028 B	Calculation methods for steadily loaded axial groove hydrodynamic journal bearings. Superlaminar operation (To be used in conjunction with Item No. 84031)	2010	ESDU	0
468	SPD-M10-1	Apr.09: Thermodynamic modelling of asphaltene-oil systems using SAFT	2010	ESDU	0
469	91026 E	Analysis of cam roller followers	2010	ESDU	0
470	SPB-M14-1	Sept.10: Interactions and rheological properties of Asphaltenes studied by Atomic Force Microscopy	2010	ESDU	0
471	SPG-M7-3	Apr.08: Detailed dynamic behaviour of pre-heat train HEXs undergoing fouling	2010	ESDU	0
472	SPF-M6-2	Apr.08: Fluid dynamic gauging	2010	ESDU	0
473	96029 C	Transonic data memorandum VGK method for two-dimensional aerofoil sections Part 2: User manual	2010	ESDU	0
474	SPA-M10-3	Apr.09: Characterisation of Maya crude oil (in terms of mass and structure)	2010	ESDU	0
475	97019 A	Equilibrium temperatures in self-contained bearing assemblies (Use of computer program A9719)	2010	ESDU	0
476	SPA-M10-2	Apr.09: Probing into petroleum heath-exchanger deposits with spectroscopic imaging	2010	ESDU	0
477	96025 F	Drag due to lift for non-planar swept wings up to high angles of attack at subsonic speeds	2010	ESDU	0
478	SPF-M6-1	Apr.08: Annulus flow tests (status report on tube and annulus flow rig development)	2010	ESDU	0
479	PERF EG 8/2 B	Estimation of rolling manoeuvrability	2010	ESDU	0
480	07004 A	Flow in rotating components - discs, cylinders and cavities	2010	ESDU	0
481	92034 A	Calculation methods for steadily loaded fixed-inclined-pad thrust bearings (Guide to use of computer program A9234)	2010	ESDU	0
482	90022 D	Force analysis of planar linkages	2010	ESDU	0

483	SPD-M6-4	Apr.08: Asphaltene precipitation from crude oil	2010	ESDU	0
484	85046 D	Quadrature methods for the evaluation of definite integrals	2010	ESDU	0
485	SPA-M6-3	Apr.08: Questions: Elemental analysis	2010	ESDU	0
486	95023 A	Dynamics of a simple flexible rotor supported in axial groove hydrodynamic journal bearings (Guide to use of computer program A9523)	2010	ESDU	0
487	SPE-M12-1	Sept.09: Stirred vessel fouling tests	2010	ESDU	0
488	PERF EG 6/4 C	Estimation of ground run during landing	2010	ESDU	0
489	SPB-M6-3	Apr.08: Atomic Force Microscopy (background to technique)	2010	ESDU	0
490	SPG-M7-1	Apr.08: Fouling in crude oil preheat trains. Control and mitigation	2010	ESDU	0
491	00018	Example of statistical analysis of wet runway friction: ground-test machine data	2010	ESDU	0
492	91038 B	Film thickness in lubricated Hertzian point contacts (Use of computer program A9138)	2010	ESDU	0
493	SPD-M6-3	Apr.08: Phase behavior of complex mixtures	2010	ESDU	0
494	90007 B	Procedures for balancing planar linkages using rotating counterweights	2010	ESDU	0
495	13008	Fatigue strength of low-carbon steel stud threads under axial and combined axial and bending loading	2010	ESDU	0
496	PERF EG 8/1 B	Estimation of turning performance	2010	ESDU	0
497	SPB-M11-1	Apr.09: Interactions and Rheological Properties of Asphaltenes Investigated using AFM	2010	ESDU	0
498	SPG-M7-2	Apr.08: Fouling mitigation in pre-heat trains. Network simulation	2010	ESDU	0
499	01008 C	Computer program for wind speeds and turbulence properties: flat or hilly sites in terrain with roughness changes	2010	ESDU	0
500	99017 A	Example of statistical analysis of wet runway friction: aircraft with limited set of test data	2010	ESDU	0
501	SPE-M15-1	Sept.10: Stirred vessel fouling tests and research into crude oil fouling	2010	ESDU	0
502	96015 A	Design and material selection for dry rubbing bearings (Use of computer program A9615)	2010	ESDU	0
503	SPA-M10-1	Apr.09: Fouling chemistry	2010	ESDU	0
504	93016 B	Parameter estimation of linear systems from frequency response measurements (Computer program)	2010	ESDU	0
505	79005 A	Undamped natural vibration of shear buildings	2010	ESDU	0
506	91037 B	Film thickness in lubricated Hertzian line contacts (Use of computer program A9137)	2010	ESDU	0
507	SPD-M6-2	Apr.08: Coarse-Grained simulation of asphaltene-hydrocarbon containing systems	2010	ESDU	0
508	SPF-M14-1	Sept.10: Annulus flow tests (status report on tube and annulus flow rig development)	2010	ESDU	0
509	85027 B	Film thicknesses in lubricated Hertzian contacts (EHL). Part 1: two-dimensional contacts (line contacts)	2010	ESDU	0
510	99016 A	Example of statistical analysis of wet runway friction: aircraft with extensive set of test data	2010	ESDU	0
511	82037 E	The response of two-degree-of-freedom systems (computer program)	2010	ESDU	0
512	SPA-M6-2	Apr.08: Advances in characterising h lt bi asphaltenes combining macro- and micro- ATR-FTIR Imaging	2010	ESDU	0
513	94034 A	Dimensions, deflections and stresses for Hertzian contacts under combined normal and tangential loading (Guide to use of computer program A9434)	2010	ESDU	0
514	74030 B	Characteristics of atmospheric turbulence near the ground Part I: definitions and general information	2010	ESDU	0
515	SPD-M6-1	Apr.08: Thermodynamic modelling of asphaltene-oil systems using SAFT	2010	ESDU	0
516	87011 E	Prediction of single-stream jet noise in flight from static circular-nozzle data	2010	ESDU	0
517	SPG-M15-1	Sept.10: Fouling - Challenges and Opportunities	2010	ESDU	0
518	99015 C	Statistical analysis of wet runway friction for aircraft and ground-test machines	2010	ESDU	0
519	PERF EG 6/2 C	Estimation of approach speed	2010	ESDU	0
520	SPB-M6-2	Apr.08: Colloidal Interactions Between Asphaltene and Different Surfaces Measured by Atomic force microscopy (AFM)	2010	ESDU	0
521	SPD-M6-1	Apr.08: Thermodynamic modelling of asphaltene-oil systems using SAFT	2010	ESDU	0
522	TM 151	Stresses in the tread material of an unloaded inflated tyre	2010	ESDU	0

523	SPD-M14-1	Sept.10: Thermodynamic modelling of asphaltene-oil systems using SAFT	2010	ESDU	0
524	93006 A	Calculation methods for steadily loaded axial groove hydrodynamic journal bearings. Low viscosity process fluid lubrication (Guide to use of computer program A9306)	2010	ESDU	0
525	96031 D	Computer programs for response of structures to vortex shedding Structures of circular or polygonal cross section Part 1. Microsoft Excel module	2010	ESDU	0
526	SPB-M6-1	Apr.08: Interfacial and Rheological Properties of Asphaltenes Investigated using AFM	2010	ESDU	0
527	PERF EG 5/1 C	Estimation of take-off distance	2010	ESDU	0
528	SPF-M12-2	Sept.09: Fluid dynamic gauging	2010	ESDU	0
529	69005 A	The response of first- and second-order systems	2009	ESDU	0
530	PERF RP 1/0 A	Standard British method of performance reduction for piston-engined aircraft with constant-speed propellers	2009	ESDU	0
531	A2	WIND ENGINEERING SERIES: TITLES Issue 5	2009	ESDU	0
532	CFD-BMK 09011	CFD Benchmarks for predicting friction losses and flow characteristics in straight pipes	2009	ESDU	0
533	PERF RP 2/0 A	General method of performance reduction for piston-engined aircraft with constant-speed propellers	2009	ESDU	0
534	06024 B	Dynamic characteristics of cylindrical helical springs. Part 1: deformation, stresses and stability	2009	ESDU	0
535	72021 C	Effect of wing on rolling moment due to yawing	2009	ESDU	0
536	PERF RT 1/3 A	Performance reduction for aircraft with turbo-props. â Non-dimensionalâ graphical method. Range and endurance.	2009	ESDU	0
537	TN 08008 A	CFD studies for the validation of friction losses and flow characteristics in circular straight pipes with smooth walls	2009	ESDU	0
538	A1	FLUID MECHANICS, INTERNAL FLOW SERIES:TITLES Issue 6	2009	ESDU	0
539	PERF RT 1/0 B	Performance reduction for aircraft with turbo-props. â Non-dimensionalâ graphical method	2009	ESDU	0
540	08012	Aerodynamics and aero-acoustics of rectangular planform cavities. Part IIIB: Alleviation of unsteady flow effects - acoustic suppression using passive devices	2009	ESDU	0
541	00003	Dynamics Series record of documents	2009	ESDU	0
542	PERF RT 1/1 A	Performance reduction for aircraft with turbo-props. â Non-dimensionalâ graphical method. Level speed	2009	ESDU	0
543	CFD-BPG 09010	CFD Best Practice Guidelines for modelling friction losses and flow characteristics in straight pipes	2009	ESDU	0
544	75031 B	Drag of two-dimensional steps and ridges immersed in a turbulent boundary layer for Mach numbers up to 3	2009	ESDU	0
545	00030	Structures series organisation: preface amendment record - Issue 4	2009	ESDU	0
546	04023 B	Aerodynamics and aero-acoustics of rectangular planform cavities Part II: Unsteady flow and aero-acoustics	2009	ESDU	0
547	08006	Example of risk analysis for an aircraft subject to performance errors	2009	ESDU	0
548	00037 D	Aircraft Performance Program Part 7: Error messages Programs APP02 and APP03	2009	ESDU	0
549	00013 A	OSCAM. Computer-aided cam mechanism design: installation Associated software: OSCAM	2009	ESDU	0
550	90020 B	Airframe-induced upwash at subsonic speeds	2009	ESDU	0
551	89013 B	Transverse (through-the-thickness) shear stiffnesses of fibre reinforced composite laminated plates	2009	ESDU	0
552	08007	Strength of lugs under oblique load	2009	ESDU	0
553	08011	Aerodynamics and aero-acoustics of rectangular planform cavities. Part IIIA: Alleviation of unsteady flow effects Introduction	2009	ESDU	0
554	08015 A	Dynamic characteristics of cylindrical helical springs. Part 2: vibration	2009	ESDU	0
555	00005	Tribology Series record of documents	2009	ESDU	0
556	09003	Dynamic characteristics of cylindrical helical springs. Part 3: impact loading on compression springs	2009	ESDU	0
557	PERF RP 1/2 A	Standard British method of performance reduction for piston-engined aircraft with constant-speed propellers. Rate of climb	2009	ESDU	0
558	82023 B	The estimation of basic dimensions of disc cams with translating followers	2009	ESDU	0
559	PERF RP 1/1 A	Standard British method of performance reduction for piston-engined aircraft with constant-speed propellers. Level speed.	2009	ESDU	0

560	93015 B	Program for calculation of maximum lift coefficient of plain aerofoils and wings at subsonic speeds	2009	ESDU	0
561	09005	Introduction to Damping	2009	ESDU	0
562	PERF RT 1/2 A	Performance reduction for aircraft with turbo-props. â Non-dimensionalâ graphical method. Rate of climb	2009	ESDU	0
563	93032 A	Examples of excrescence drag prediction for typical wing components of a subsonic transport aircraft at the cruise condition	2009	ESDU	0
564	PERF RP 1/3 A	Standard British method of performance reduction for piston-engined aircraft with constant-speed propellers. Final consumption	2009	ESDU	0
565	99031 B	Computer program for estimation of lift curve to maximum lift for wing-fuselage combinations with high-lift devices at low speeds	2009	ESDU	0
566	09012	Aerodynamics of parachutes	2009	ESDU	0
567	02008 C	Aerodynamics and aero-acoustics of rectangular planform cavities Part I: Time-averaged flow	2009	ESDU	0
568	09004	Labyrinth seal flow	2009	ESDU	0
569	02007 B	AMOPS: computer program for the calculation of area and moments of area of planar shapes	2009	ESDU	0
570	09013	Initial buckling of flat isosceles triangular plates under compression reacted by compression and/or shear	2009	ESDU	0
571	01001 B	Elasto-plastic buckling of flat isotropic stiffened panels and struts in compression.	2008	ESDU	0
572	SPA-M9-1	Chemical photography of petroleum deposits. Characterisation of asphaltenes and deposited foulants using vibrational spectroscopy - Sept. 08 update.	2008	ESDU	0
573	SPB-M8-1	Determining the mechanical properties of asphaltene films - Sept. 08 update.	2008	ESDU	0
574	97025 A	Similarity rules for application in aircraft performance work.	2008	ESDU	0
575	90023 D	Airframe noise prediction	2008	ESDU	0
576	SPD-M8-1	Coarse-grained simulation of asphaltene-hydrocarbon containing systems - Sept. 08 update.	2008	ESDU	0
577	STRUSW	Structures Series - Software.	2008	ESDU	0
578	PERF RJ2/0 B	Introductory sheet on the analytical method of performance reduction for aircraft with turbo-jets.	2008	ESDU	0
579	03001 A	Elastic buckling of long, flat, symmetrically-laminated (AsBoDf), composite stiffened panels and struts in compression.	2008	ESDU	0
580	87005 D	Increment in aerofoil profile drag coefficient due to the deployment of a single-slotted flap.	2008	ESDU	0
581	66027 F	Friction losses for fully-developed flow in straight pipes.	2008	ESDU	0
582	08014	Guide to contaminated runway testing	2008	ESDU	0
583	82006 B	Selection of DRD cam laws.	2008	ESDU	0
584	PERF RJ1/2 C	Performance analysis for aircraft with turbo-jets. "Non-dimensional" graphical method. Rate of climb.	2008	ESDU	0
585	SPD-M8-2	Thermodynamic modelling of asphaltene - oil systems using SAFT - Sept. 08 update.	2008	ESDU	0
586	08010	Example of similarity methods applied to aircraft drag data from flight test	2008	ESDU	0
587	PERFSW	Performance Series - Software. - Issue 8	2008	ESDU	0
588	08003	Treatment of risk within commercial air transport	2008	ESDU	0
589	NOISSW	Aircraft Noise Series - Software.	2008	ESDU	0
590	84041 A	Properties of common engineering materials	2008	ESDU	0
591	MECHSW	Mechanisms Series - Software.	2008	ESDU	0
592	SPF-M8-2	Fluid dynamic gauging - Sept 08 update.	2008	ESDU	0
593	PERF RJ2/1 A	Analytical method of performance reduction for aircraft with turbo-jets. Rate of climb.	2008	ESDU	0
594	71011 A	Stresses due to interference-fit pins and bushes in plates, strips or lugs	2008	ESDU	0
595	SPD-M8-3	Predicting adsorption isotherms using a two-dimensional Statistical Associating Fluid Theory.	2008	ESDU	0
596	08004	Example of risk analysis applied to en-route flight path for large jet transport aircraft	2008	ESDU	0
597	06005	Dwell-rise-fall-dwell cam laws. Computer program.	2008	ESDU	0

598	08005	Example of risk analysis applied to aircraft landing distance	2008	ESDU	0
599	SPC-M9-1	Dynamics of fouling deposition and removal in the presence of aging effects - Sept. 08 update.	2008	ESDU	0
600	SPG-M8-1	Advanced modelling and simulation of hot end refinery heat exchangers for fouling mitigation - Sept. 08 update.	2008	ESDU	0
601	77022 C	Equations for calculation of International Standard Atmosphere and associated off-standard atmospheres	2008	ESDU	0
602	08013	Increment in wing profile drag coefficient due to the deployment of a single-slotted flap.	2008	ESDU	0
603	99034	Transonic Aerodynamics Series organisation: preface, location schedule, amendment record.	2008	ESDU	0
604	07012	Crack growth criteria for the estimation of fatigue life.	2008	ESDU	0
605	SPF-M8-1	Tube and annulus flow loop development and testing - Sept. 08 update.	2008	ESDU	0
606	SPE-M8-1	Stirred vessel fouling tests - Sept. 08 update.	2008	ESDU	0
607	SPA-M9-2	A study of deposit formation in a micro-bomb reactor (MBR): effect of residence time - Sept. 08 update.	2008	ESDU	0
608	08002	Fouling in cooling systems using fresh water.	2008	ESDU	0
609	05024 B	Flow through sudden contractions of duct area: pressure losses and flow characteristics.	2008	ESDU	0
610	98016 B	Elastic buckling of flat isotropic stiffened panels and struts in compression.	2008	ESDU	0
611	SPG-M8-2	Fouling mitigation/control in preheat trains - Sept. 08 update.	2008	ESDU	0
612	SPF-M3-7	Developing a high temperature and pressure fluid dynamic gauge for the crude oil annular test section.	2007	ESDU	0
613	SPG-M5-3	Simulating operation of refinery preheat trains subject to fouling.	2007	ESDU	0
614	98005 C	Design and performance evaluation of heat exchangers: the effectiveness-NTU method. Part 3: graphical and analytical data. - Incorporates A, B, and C	2007	ESDU	0
615	05008	Cyclic stress-strain response of type 316 austenitic stainless steels during low-cycle fatigue at temperatures between -269 and 800 degrees C (-452 and 1472 degrees F).	2007	ESDU	0
616	84017 A	Contact phenomena. II: stress fields and failure criteria in concentrated elastic contacts under combined normal and tangential loading.	2007	ESDU	0
617	SPG-M3-3	Impacts of fouling in oil refineries, standard design methods, proposed approach.	2007	ESDU	0
618	74015 A	Performance in incompressible flow of plane-walled diffusers with single-plane expansion.	2007	ESDU	0
619	SPA-M4-2	Advances in characterising asphaltenes combining macro- and micro-ATR-FTIR imaging	2007	ESDU	0
620	AERO A.08.01.05 B	Aerodynamic centre in two-dimensional flow.	2007	ESDU	0
621	73023 A	Pressure losses in three-leg pipe junctions: combining flows.	2007	ESDU	0
622	87027 A	Computer program for the prediction of fluid transients in liquid-filled systems.	2007	ESDU	0
623	SPF-M3-6	Fluid Dynamic Gauging in annular geometries.	2007	ESDU	0
624	94044 A	Excrescence drag levels on aircraft.	2007	ESDU	0
625	81039 C	Flow of liquids. Pressure losses across orifice plates, perforated plates and thick orifice plates in ducts.	2007	ESDU	0
626	77016 B	The gravitational component of pressure gradient for two-phase gas or vapour/liquid flow through straight pipes.	2007	ESDU	0
627	68002 A	Shafts with interference-fit collars. Part I: some factors affecting the design of an assembly.	2007	ESDU	0
628	01011 B	Compendium of curves and approximating algebraic functions.	2007	ESDU	0
629	77009 B	Pressure losses in curved ducts: interaction factors for two bends in series.	2007	ESDU	0
630	74021 C	The stability and response of linear systems. Part III: methods of analysis based on frequency response.	2007	ESDU	0
631	95025 B	Drag due to lift for plane swept wings, alone or in combination with a body, up to high angles of attack at subsonic speeds.	2007	ESDU	0
632	SPG-M5-1	Fouling in crude oil preheat trains.	2007	ESDU	0
633	86015 B	Fluid transients in pipes. Estimation of maximum pressures and forces in steam lines.	2007	ESDU	0
634	81043 C	Sound in low velocity ventilation ducts.	2007	ESDU	0
635	SPD-M2-2	Molecular modelling of asphaltene containing systems.	2007	ESDU	0

636	85009 A	Fluid transients in pipes. Use of air inlet/outlet valves as surge suppression devices.	2007	ESDU	0
637	78001 A	The momentum-change component of pressure change in two-phase flow and other non-equilibrium effects.	2007	ESDU	0
638	73022 A	Pressure losses in three-leg pipe junctions: dividing flows.	2007	ESDU	0
639	79037 B	A guide to fan selection and performance.	2007	ESDU	0
640	AEROW 01.01.05 E	Item Nos 72024 and 97020 together provide a more accurate value of and they supersede this Item, which has been temporarily retained within the Sub-series because it is used within the methods of some other Items.	2007	ESDU	0
641	SPC-M3-1	Fundamental transfer processes.	2007	ESDU	0
642	88025 D	Derivation of primary air-data parameters for hypersonic flight.	2007	ESDU	0
643	94046 A	Ejectors and jet pumps: computer program for design and performance for steam/gas flow.	2007	ESDU	0
644	86030 A	Ejectors and jet pumps. Design for steam driven flow.	2007	ESDU	0
645	86032 A	Boiling inside tubes: critical heat flux for upward flow in uniformly heated vertical tubes.	2007	ESDU	0
646	TN 06023 A	CFD validation studies for pressure loss and flow characteristics in sudden contractions.	2007	ESDU	0
647	83046 A	Fluid transients in pipes and tunnels. Speed of propagation of pressure waves.	2007	ESDU	0
648	SPF-M3-4	CFD studies of fluid mixing in the loop: manifold design.	2007	ESDU	0
649	satexpress	EXPRESS program. User Guide	2007	ESDU	0
650	CFD-BPG 07008	CFD Best Practice Guidelines for modelling pressure loss and flow characteristics. Incompressible flow in sudden contractions.	2007	ESDU	0
651	SPF-M4-5	Fluid Dynamic Gauging (FDG) in duct flows.	2007	ESDU	0
652	83037 D	Pressure losses in curved ducts: single bends.	2007	ESDU	0
653	77029 C	Pressure losses in curved ducts: coils.	2007	ESDU	0
654	SS3 E	Guide to Items on struts, beams and shafts.	2007	ESDU	0
655	97029 A	One-dimensional representation of steady, spatially non-uniform flow. An equivalent mean-value set for compressible flow. Part 2. Implementation for an ideal, thermally-perfect gas.	2007	ESDU	0
656	SPF-M3-5	Crude oil supplies. Overall progress.	2007	ESDU	0
657	84038 A	Fluid transients in pipes. Pressure surge following pump trip in rising mains and other similar discharge lines. Suppression using air vessels.	2007	ESDU	0
658	SPF-M4-1	Sept 07 Overview - Tube and annulus flow tests.	2007	ESDU	0
659	74020 C	The stability and response of linear systems. Part II: methods of displaying stability characteristics.	2007	ESDU	0
660	72009 A	Pressure drop in ducts across round-wire gauzes normal to the flow.	2007	ESDU	0
661	74040 C	Pressure loss during crossflow of fluids with heat transfer over plain tube banks without baffles.	2007	ESDU	0
662	03017 A	Pitching moment curve of wings with leading-edge and trailing-edge high-lift devices deployed at low speeds.	2007	ESDU	0
663	06013 A	Propeller slipstream modelling for incidence and sideslip.	2007	ESDU	0
664	SPE-M4-1	Stirred vessel fouling tests.	2007	ESDU	0
665	FMI2 B	Guide to the flow relationships and statistical methods used in the Data Items on two-phase flow pressure gradients in straight pipes.	2007	ESDU	0
666	SPH-M3-1	Technology transfer.	2007	ESDU	0
667	SPD-M4-1	Thermodynamics and molecular modelling.	2007	ESDU	0
668	05007	Strain-life data for type 316 austenitic stainless steels at temperatures between -269 and 816 degrees C (-452 and 1501 degrees F).	2007	ESDU	0
669	SPF-M4-4	CFD studies of fluid mixing in the loop: Manifold design.	2007	ESDU	0
670	SPA-M2-2	Advanced characterisation of asphaltenes using vibrational spectroscopy.	2007	ESDU	0
671	88019 D	Calculation methods for along-wind loading. Part 3. Response of buildings and plate-like structures to atmospheric turbulence.	2007	ESDU	0

672	85032 A	Ejectors and jet pumps. Design and performance for incompressible liquid flow.	2007	ESDU	0
673	66030 C	Pressure losses in flowmetering devices.	2007	ESDU	0
674	85044 A	Fluid transients in pipes. Pressure surge following booster pump trip. Suppression using pump bypass.	2007	ESDU	0
675	SPA-M4-1	Characterization of asphaltenes and deposited foulants - Overview Sept 07	2007	ESDU	0
676	SPB-M4-1	Interfacial and rheological properties of asphaltenes investigated using AFM	2007	ESDU	0
677	95011 B	One-dimensional representation of steady, spatially non-uniform flow. An equivalent mean-value set for compressible flow. Part I. Implementation for an ideal, calorically-perfect gas.	2007	ESDU	0
678	68003 C	Shafts with interference-fit collars. Part II: nominal elastic interface pressures and stresses.	2007	ESDU	0
679	87015 B	Performance improvement of axial diffusers for incompressible flow.	2007	ESDU	0
680	75026 C	Performance of circular annular diffusers in incompressible flow.	2007	ESDU	0
681	STSTSW	Stress and Strength Series - Software.	2007	ESDU	0
682	SPA-M4-3	Characterisation of asphaltenes and deposited foulants.	2007	ESDU	0
683	82009 D	Compressible flow of gases. Pressure losses and discharge coefficients of orifice plates, perforated plates and thick orifice plates in ducts.	2007	ESDU	0
684	SPD-M2-1	Modelling asphaltenes using soft or related approaches.	2007	ESDU	0
685	07011	Damping of structural vibrations by acoustic radiation.	2007	ESDU	0
686	AERO W.01.01.05 E	Slope of lift curve for two-dimensional flow. - Incorporates Amendments A, B, C, D, and E	2007	ESDU	0
687	SPG-M3-1	Control and mitigation.	2007	ESDU	0
688	SPF-M3-1	Pipe and annulus flow tests.	2007	ESDU	0
689	68004 A	Shafts with interference-fit collars. Part III: procedure for calculation of nominal elastic interface pressures and stresses in assemblies of three or more elements.	2007	ESDU	0
690	SPD-M4-3	Coarse grained simulation of asphaltene-hydrocarbon containing systems.	2007	ESDU	0
691	90025 A	Performance of conical diffusers in subsonic compressible flow.	2007	ESDU	0
692	07005	Normal force and pitching moment of non-axisymmetric bodies: square cross-sections with corner rounding.	2007	ESDU	0
693	SPC-M3-2	Stability of two-fluid flow through a channel.	2007	ESDU	0
694	SPF-M4-2	Major effort on rig design.	2007	ESDU	0
695	82003 A	Example to illustrate the use of Data Items on noise from ducted ventilation and air-conditioning systems.	2007	ESDU	0
696	81021 A	Pressure losses caused by obstructions in ducts or pipes.	2007	ESDU	0
697	SPB-M2-1	Interfacial and rheological properties of asphaltenes studied by atomic force microscopy.	2007	ESDU	0
698	SPG-M3-4	Why another HEN simulator?	2007	ESDU	0
699	06019	Temperature measurement: resistance thermometry.	2007	ESDU	0
700	82001 A	An introduction and guide to noise in ventilation, air-conditioning and other ducting systems.	2007	ESDU	0
701	VACFSW	Vibration and Acoustic Fatigue Series - Software.	2007	ESDU	0
702	84013 B	Fluid transients in pipes. Reduction and control of pressure surges in liquids.	2007	ESDU	0
703	SPE-M3-1	Stirred vessel fouling tests.	2007	ESDU	0
704	Fouling	Summary of UK-Government funded research programme into crude oil fouling.	2007	ESDU	0
705	FMI1 A	Introductory memorandum on the pressure losses in internal flow systems.	2007	ESDU	0
706	SPG-M5-2	Modelling of shell-and-tube heat exchanger undergoing crude oil fouling.	2007	ESDU	0
707	SPF-M3-2	Major effort on rig design.	2007	ESDU	0
708	67035 B	Jet flow parameters	2007	ESDU	0
709	88014 B	Computer program for the prediction of air-lift pump performance.	2007	ESDU	0

710	SPF-M4-3	Design details.	2007	ESDU	0
711	06018	Temperature measurement: thermocouples.	2007	ESDU	0
712	82002 A	Reduction of sound in ventilation and similar air distribution systems.	2007	ESDU	0
713	SPA-M2-1	Characterisation of asphaltenes and deposited foulants.	2007	ESDU	0
714	89012 A	Two-phase flow pressure losses in pipeline fittings. - Reprinted with Amendment A	2007	ESDU	0
715	SPC-M3-3i	Modellization of two phase flow with application to aphaltenes deposition and removal.	2007	ESDU	0
716	77032 C	Fluctuating loads and dynamic response of bodies and structures in fluid flows - background information.	2007	ESDU	0
717	SPD-M4-2	Modelling asphaltenes using SAFT or related approaches.	2007	ESDU	0
718	97002 D	Information for the use of Data Items on high-lift devices.	2007	ESDU	0
719	69022 E	Pressure losses in valves.	2007	ESDU	0
720	SPF-M3-3	Preliminary design of the annulus test section.	2007	ESDU	0
721	76027 B	Introduction to design and performance data for diffusers.	2007	ESDU	0
722	SPO-M4-1	Fouling in a crude oil preheat train - a new attack on an old problem	2007	ESDU	0
723	74028 D	One-dimensional compressible gas flow in ducts.	2007	ESDU	0
724	76018 D	The frictional component of pressure gradient for two-phase gas or vapour/liquid flow through straight pipes.	2007	ESDU	0
725	CFD-BMK 07009	CFD Benchmarks for predicting pressure loss and flow characteristics. Incompressible flow in sudden contractions.	2007	ESDU	0
726	SPC-M5-1	Fundamental transfer processes.	2007	ESDU	0
727	07010	Extrapolating wind-tunnel data to full-scale Reynolds number Part 2: Procedures	2007	ESDU	0
728	SPH-M5-1	Sept. 07 Overview - Technology transfer.	2007	ESDU	0
729	72011 E	Flow through a sudden enlargement of area in a duct.	2007	ESDU	0
730	84039 B	Strength of angles and club-foot fittings (transmitting tensile loads).	2006	ESDU	0
731	89047 C	In-plane forces and moments on installed inclined propellers at low forward speeds.	2006	ESDU	0
732	WINDSW	Wind Engineering Series - Software.	2006	ESDU	0
733	TRIBSW	Tribology Series - Software.	2006	ESDU	0
734	02001 A	Viscosity of liquids: Aliphatic nitriles.	2006	ESDU	0
735	DYNMSW	Dynamics Series - Software.	2006	ESDU	0
736	TRANSW	Transonic Aerodynamics Series - Software.	2006	ESDU	0
737	06004	Dwell-Rise-Fall-Dwell and Dwell-Fall-Rise-Dwell cam laws. Sections 14 to 23: examples.	2006	ESDU	0
738	05022	Extrapolating wind-tunnel data to full-scale Reynolds number. Part 1: Principles	2006	ESDU	0
739	06012	The influence of propeller slipstream on aircraft rolling moment due to sideslip.	2006	ESDU	0
740	06008	Viscosity of liquids: Branched chain aliphatic esters.	2006	ESDU	0
741	06001	Aerofoil skin friction drag for Mach numbers below the drag-rise condition.	2006	ESDU	0
742	85015 B	Introduction to installation effects on thrust and drag for propeller-driven aircraft.	2006	ESDU	0
743	AERO F.02.01.06 B	Profile drag coefficient increment due to full-span single-slotted flaps (Handley Page and NACA types).	2006	ESDU	0
744	06021	Strength of lugs under transverse load.	2006	ESDU	0
745	06006	Viscosity of liquids: Aliphatic alcohols, glycols and glycerol.	2006	ESDU	0
746	87024 D	Low-speed drag coefficient increment at constant lift due to full-span plain flaps.	2006	ESDU	0
747	FMIFSW	Fluid Mechanics, Internal Flow Series - Software.	2006	ESDU	0
748	90036 C	Structures of non-circular cross section: dynamic response due to vortex shedding.	2006	ESDU	0

749	06015	Full-potential method for three-dimensional wings and wing-body combinations - inviscid flow. Part 3: Method with improved estimates of body lift and drag contributions (FPIBE).	2006	ESDU	0
750	92006 A	A background to the handling qualities of aircraft.	2006	ESDU	0
751	88029 C	Yawing moment coefficient for plain ailerons at subsonic speeds.	2006	ESDU	0
752	03007 A	Viscosity of liquids: Aromatic compounds containing oxygen.	2006	ESDU	0
753	06016	Full-potential method for three-dimensional wings and wing-body combinations - inviscid flow. Part 4: Evaluation of trailing-vortex drag and wave components.	2006	ESDU	0
754	85029 A	Calculation of ground performance in take-off and landing.	2006	ESDU	0
755	92012 A	Fouling and slagging in combustion plant.	2006	ESDU	0
756	06014	Zero-lift drag coefficient increment due to full-span plain flaps.	2006	ESDU	0
757	06020	Computer program for estimation of aerofoil characteristics at subcritical speeds: lift-curve slope, zero-lift incidence and pitching moment, aerodynamic centre and drag polar minimum.	2006	ESDU	0
758	06009	Fatigue damage and life under random loading.	2006	ESDU	0
759	06007	Viscosity of liquids: Glycol ethers.	2006	ESDU	0
760	96037 A	A qualitative introduction to static aeroelasticity: controllability, loads and stability.	2006	ESDU	0
761	02014 A	Full-potential (FP) method for three-dimensional wings and wing-body combinations - inviscid flow. Part 2: Use of FP and related programs.	2006	ESDU	0
762	06025	Guide to linear Least Squares curve fitting techniques	2006	ESDU	0
763	FFRASW	Fatigue - Fracture Series - Software.	2006	ESDU	0
764	FENDSW	Fatigue - Endurance Series - Software.	2006	ESDU	0
765	00027 A	Aerofoil profile drag for Mach numbers below the drag rise condition.	2006	ESDU	0
766	94025 A	Viscosity of liquids: Aliphatic and cyclic ketones.	2006	ESDU	0
767	04019 A	Endurance of high-strength steels.	2006	ESDU	0
768	74019 C	The stability and response of linear systems. Part 1: Introduction.	2006	ESDU	0
769	02013 A	Full-potential (FP) method for three-dimensional wings and wing-body combinations - inviscid flow. Part 1: Principles and results.	2006	ESDU	0
770	95019 A	Viscosity of liquids: Aliphatic ethers.	2006	ESDU	0
771	96020 A	Viscosity of liquids: Straight chain aliphatic esters.	2006	ESDU	0
772	97027 A	Viscosity of liquids: Aliphatic amines.	2006	ESDU	0
773	FMIASW	Fluid Mechanics, Internal Flow (Aerospace) Series - Software.	2006	ESDU	0
774	06003	Dwell-Rise-Fall-Dwell and Dwell-Fall-Rise-Dwell cam laws. Sections 9 to 13: segments having asymmetric rise and fall periods.	2006	ESDU	0
775	00016 B	Heat exchanger fouling in the pre-heat train of a crude oil distillation unit.	2005	ESDU	0
776	02012 A	Subsonic base and boat-tail pressure drag of cylindrical bodies with circular-arc boat-tails and a central propulsive jet.	2005	ESDU	0
777	93017 A	Thermal conductivity of liquids: Carboxylic acids.	2005	ESDU	0
778	67037 A	Direction and incidence angles.	2005	ESDU	0
779	67036 A	Geometric and kinematic relationships for various axis systems.	2005	ESDU	0
780	96023 A	Thermal conductivity of liquids: Branched chain aliphatic esters.	2005	ESDU	0
781	97008 A	Thermal conductivity of liquids: Aliphatic aldehydes and ketones.	2005	ESDU	0
782	04007 A	Normal force and pitching moment of non-axisymmetrical bodies: square and triangular cross-sections without corner rounding.	2005	ESDU	0
783	05015	Normal force and pitching moment of non-circular bodies: elliptical cross-sections at supersonic speeds.	2005	ESDU	0
784	05001	Prediction of combustor noise from gas turbine engines	2005	ESDU	0

785	77021 B	Properties of a standard atmosphere.	2005	ESDU	0
786	96018 A	Thermal conductivity of liquids: Straight chain aliphatic esters.	2005	ESDU	0
787	99010 A	Supersonic base drag of cylindrical bodies with a central propulsive jet.	2005	ESDU	0
788	88004 A	Thermal conductivity of liquids: Mixtures.	2005	ESDU	0
789	94023 A	Thermal conductivity of liquids: Halogenated aliphatic hydrocarbons. Part 3. Halogenated higher hydrocarbons (C3 to C16).	2005	ESDU	0
790	77021 B	Properties of a standard atmosphere.	2005	ESDU	0
791	02002 A	Thermal conductivity of liquids: Aromatic compounds containing oxygen.	2005	ESDU	0
792	67038 B	Measures of damping.	2005	ESDU	0
793	05020	Thermal conductivity of liquids: Aliphatic hydrocarbons. Part 1. Alkanes.	2005	ESDU	0
794	96012 A	Subsonic and transonic base and boat-tail pressure drag of cylindrical bodies with circular-arc boat-tails.	2005	ESDU	0
795	05021	Thermal conductivity of liquids: Aliphatic hydrocarbons. Part 2. Alkenes, dienes and trienes.	2005	ESDU	0
796	94022 A	Thermal conductivity of liquids: Halogenated aliphatic hydrocarbons. Part 2. Halogenated ethanes.	2005	ESDU	0
797	84010 A	Thermal conductivity of liquids: Aromatic hydrocarbons.	2005	ESDU	0
798	00021 A	Thermal conductivity of liquids: Aliphatic nitriles.	2005	ESDU	0
799	05010	Thermal conductivity of liquids: Alicyclic compounds - cycloalkanes, alkenes, alkanols, alkanones and alkylamines.	2005	ESDU	0
800	95018 A	Thermal conductivity of liquids: Aliphatic ethers.	2005	ESDU	0
801	99012 A	Thermal conductivity of liquids: Aliphatic diesters.	2005	ESDU	0
802	04012	Examples of construction of carpet plots from experimental data.	2005	ESDU	0
803	05004	Loads in circular frames due to hydrostatic pressure	2005	ESDU	0
804	98018 A	Thermal conductivity of liquids: Halogenated aromatic hydrocarbons.	2005	ESDU	0
805	83015 A	Thermal conductivity of liquids: Heterocyclic nitrogen compounds.	2005	ESDU	0
806	99013 B	Thermal conductivity of liquids: Glycols, glycerol and their aqueous solutions.	2005	ESDU	0
807	05003	Loads in circular frames due to symmetric floor loading.	2005	ESDU	0
808	86002 D	Drag and pressure recovery characteristics of auxiliary air inlets at subsonic speeds.	2004	ESDU	0
809	81040 D	The stability and response of linear systems. Part VII: examples.	2004	ESDU	0
810	89014 D	Normal force, pitching moment and side force of forebody-cylinder combinations for angles of attack up to 90 degrees and Mach numbers up to 5.	2004	ESDU	0
811	67007 A	Inertia cross-coupling during a rapid rolling manoeuvre. Estimation of critical roll rate.	2004	ESDU	0
812	04018	Fatigue - Fracture Mechanics series organisation: preface amendment record	2004	ESDU	0
813	67006 A	Inertia cross-coupling during a rapid rolling manoeuvre. Theoretical background and discussion of simplified stability boundaries.	2004	ESDU	0
814	67004 A	Conversion formulae for rotation and translation of body axes.	2004	ESDU	0
815	03014	Surface flow visualisation in aircraft design	2004	ESDU	0
816	90034 C	Computer program for the calculation of normal force and pitching moment of forebody-cylinder combinations at angles of attack up to 90 degrees and Mach numbers up to 5, including the effects of conical boat-tailing.	2004	ESDU	0
817	67005 A	Introduction to inertia cross-coupling of the lateral and longitudinal motions during a rapid rolling manoeuvre.	2004	ESDU	0
818	04010	Mobilities and impedances of structures. Part 2: Compendium of point mobilities of infinite structures.	2004	ESDU	0
819	04009	Mobilities and impedances of structures. Part 1: Compendium of frequency response functions.	2004	ESDU	0
820	97026 B	OSMEC. Computer-aided linkage design: User manual.	2004	ESDU	0
821	04005	Non-Newtonian fluids: tube viscometry worked example	2004	ESDU	0
822	TM 148	The implications of flow property profiles on determination and application of non-dimensional pressure loss coefficients for flow of incompressible fluids	2004	ESDU	0

823	97023 B	OSMEC. Computer-aided linkage design: installation.	2004	ESDU	0
824	97034 A	Non-Newtonian fluids: Guide to classification and characteristics.	2004	ESDU	0
825	96028 B	VGK method for two-dimensional aerofoil sections. Part 1: Principles and results.	2004	ESDU	0
826	95012 B	Non-Newtonian fluids: obtaining viscometric data for frictional pressure loss estimation for pipeflow.	2004	ESDU	0
827	03015	Transonic data memorandum. VGK method for two-dimensional aerofoil sections. Part 7: VGK for Windows.	2004	ESDU	0
828	73024 C	Performance of conical diffusers in incompressible flow.	2004	ESDU	0
829	87039 B	Parameter estimation of linear systems in the absence of process noise: (i) methods based on the least-squares principle.	2004	ESDU	0
830	AERO F.08.01.01 D	Pitching moment coefficient increment due to flaps for unswept wings.	2003	ESDU	0
831	97028 B	Thermophysical properties of sulphur hexafluoride.	2003	ESDU	0
832	76010 B	Heat capacity and enthalpy of liquids: halogenated methanes.	2003	ESDU	0
833	75020 C	Estimation of far-field sound pressure levels due to buzz-saw noise of a supersonic fan or compressor.	2003	ESDU	0
834	AERO F.08.01.02 C	Increment to $C_{sub m sub zero}$ due to flaps on swept-back wings.	2003	ESDU	0
835	97006 A	Selection and costing of heat exchangers. Plate-fin type.	2003	ESDU	0
836	77007 A	Heat capacity and enthalpy of liquids: halogenated ethanes and ethylenes.	2003	ESDU	0
837	03005	AMOPS: Computer program for the calculation of area and moments of area of planar shapes.	2003	ESDU	0
838	85024 A	Heat capacity and enthalpy of liquids: organic sulphur compounds (thiols and sulphides).	2003	ESDU	0
839	80030	Radial, mixed and axial flow pumps. Introduction	2003	ESDU	0
840	97011 A	Wing lift coefficient increment at zero angle of attack due to deployment of plain trailing-edge flaps at low speeds.	2003	ESDU	0
841	PD MEMO 0301	The evaluation of vapour-pressure data	2003	ESDU	0
842	89017 B	Thermophysical properties of propan-2-ol (isopropyl alcohol): Part 1. The ideal gas and the saturated liquid and vapour.	2003	ESDU	0
843	99011 A	Thermal conductivity, viscosity, isobaric specific heat capacity and Prandtl number of gases at low pressure: Aliphatic hydrocarbons - alkanes.	2003	ESDU	0
844	93003 A	Thermophysical properties of refrigerant R-134a (1,1,1,2-tetrafluoroethane).	2003	ESDU	0
845	90019 C	Vapour pressures and critical points of liquids. Halogenated ethanes.	2003	ESDU	0
846	99005 A	Thermal conductivity, viscosity, isobaric specific heat capacity and Prandtl number of gases at low pressure: inorganic gases.	2003	ESDU	0
847	89005 A	Thermophysical properties of buta-1,3-diene.	2003	ESDU	0
848	03006	Subsonic drag and pressure recovery of rectangular planform flush auxiliary inlets with ducts at angles up to 90 degrees.	2003	ESDU	0
849	97009 A	Wing lift coefficient increment at zero angle of attack due to deployment of trailing-edge split flaps at low speeds.	2003	ESDU	0
850	04008	Use of Carpet Plots to represent functions of two variables.	2003	ESDU	0
851	94032 A	Thermophysical properties of R-32 (difluoromethane).	2003	ESDU	0
852	89006 C	Vapour pressures and critical points of liquids: Halogenated C3 and higher hydrocarbons.	2003	ESDU	0
853	67001 A	Introduction to notation for aircraft dynamics.	2003	ESDU	0
854	96003 E	Lift curve of wings with high-lift devices deployed at low speeds.	2003	ESDU	0
855	98017 A	Aerofoil and wing pitching moment coefficient at zero angle of attack due to deployment of trailing-edge plain flaps at low speeds.	2003	ESDU	0
856	67003 A	The equations of motion of a rigid aircraft.	2003	ESDU	0
857	92009 A	Orthobaric densities and molar volumes of liquids: Halogenated ethanes.	2003	ESDU	0
858	95013 A	Thermophysical properties of methanol.	2003	ESDU	0
859	67002 A	Notation for aircraft dynamics.	2003	ESDU	0

860	98009 A	Aerofoil and wing pitching moment coefficient at zero angle of attack due to deployment of trailing-edge split flaps at low speeds.	2003	ESDU	0
861	02004 A	Thermal conductivity, viscosity, isobaric specific heat capacity and Prandtl number of gases at low pressure: halogenated hydrocarbons - haloethanes.	2003	ESDU	0
862	99019 A	Constrained multivariate optimisation techniques for the design of aerofoil sections	2003	ESDU	0
863	03004	Fouling in cooling systems using seawater.	2003	ESDU	0
864	99004 B	Aerofoil and wing pitching moment coefficient at zero angle of attack due to deployment of trailing-edge single-slotted flaps at low speeds.	2003	ESDU	0
865	03011	An introduction to lateral static aeroelasticity: controllability, loads and stability.	2003	ESDU	0
866	03008	Thermal conductivity, viscosity, isobaric specific heat capacity and Prandtl number of gases at low pressure: Halogenated hydrocarbons - halopropanes, butanes, ethylenes, benzenes.	2003	ESDU	0
867	86007 B	Heat capacity and enthalpy of liquids: alkanes.	2003	ESDU	0
868	82004 D	Thermophysical properties of industrially important fluids on the saturation line: Phenol.	2003	ESDU	0
869	88017 B	Vapour pressures and critical points of liquids: Organic oxygen compounds.	2003	ESDU	0
870	82032 D	Thermophysical properties of industrially important fluids on the saturation line: Cresols.	2003	ESDU	0
871	86023 A	Heat capacity and enthalpy of liquids: alkenes and alkadienes.	2003	ESDU	0
872	94004 A	Stress analysis of laminated flat plates.	2003	ESDU	0
873	03010	Timing diagrams and their use in mechanism design.	2003	ESDU	0
874	03016	Selection of lubricant class (liquids, solids, semi-solids and gases)	2003	ESDU	0
875	99014 A	Aerofoil and wing pitching moment coefficient at zero angle of attack due to deployment of trailing-edge double-slotted and triple-slotted flaps at low speeds.	2003	ESDU	0
876	83005 A	Thermophysical properties of industrially important fluids on the saturation line: Xylenols.	2003	ESDU	0
877	75015 A	Heat capacity and enthalpy of liquids: aromatic hydrocarbons.	2003	ESDU	0
878	89002 B	Thermophysical properties of benzene: Part 1. The ideal gas and the saturated liquid and vapour.	2003	ESDU	0
879	97018 B	Standard fatigue loading sequences.	2003	ESDU	0
880	97024	Derivation of endurance curves from fatigue test data, including run-outs	2003	ESDU	0
881	00029 A	Aerofoil and wing pitching moment coefficient at zero angle of attack due to deployment of leading-edge high-lift devices.	2003	ESDU	0
882	92027 A	Thermophysical properties of nitric oxide.	2003	ESDU	0
883	81030 A	Heat capacity and enthalpy of liquids: aliphatic ketones.	2003	ESDU	0
884	03005	AMOPS: Computer program for the calculation of area and moments of area of planar shapes.	2003	ESDU	0
885	01013 A	Aerofoil and wing pitching moment coefficient increment at zero angle of attack due to deployment of leading-edge and trailing-edge high-lift devices in combination at low speeds.	2003	ESDU	0
886	03013	Thickness selection for the flanges and web of a composite I-section beam subjected to bending and shear.	2003	ESDU	0
887	02005	Flat panels in shear - post-buckling analysis.	2003	ESDU	0
888	98024 A	Quaternion representation of aeroplane attitude and motion characteristics.	2002	ESDU	0
889	02003	Thermal conductivity, viscosity, isobaric specific heat capacity and Prandtl number of gases at low pressure: halogenated hydrocarbons - halomethanes.	2002	ESDU	0
890	82026 E	Strong winds in the atmospheric boundary layer. Part 1: hourly-mean wind speeds.	2002	ESDU	0
891	02010	Sound radiation from orthotropic rectangular plates. Part II: validation by comparison with numerical and experimental results.	2002	ESDU	0
892	82029 B	Calculation methods for steadily loaded fixed-inclined-pad thrust bearings.	2002	ESDU	0
893	82026	Strong winds in the atmospheric boundary layer. Part 1: hourly-mean wind speeds.	2002	ESDU	0
894	94017 A	Selection of materials, manufacturing methods and lubricants for cam mechanisms.	2002	ESDU	0
895	67033 A	General guide to the choice of thrust bearing type.	2002	ESDU	0

896	66032 E	Subsonic lift-dependent drag due to boundary layer of plane, symmetrical section wings.	2002	ESDU	0
897	TM 119	Calculation of planar area and moment properties theoretical background	2002	ESDU	0
898	02006	Temperature measurement: techniques.	2002	ESDU	0
899	65007 A	General guide to the choice of journal bearing type.	2002	ESDU	0
900	02015	Composites series organisation: preface, amendment record.	2002	ESDU	0
901	01024	Example of the application of constrained multivariate optimisation techniques to the design of aerofoil sections. Dual design point, upper and lower surface shape geometry, leading and trailing edge flap deflections, RAE 2822, Euler code and BVGK.	2001	ESDU	0
902	81045 C	Forced convective heat transfer in concentric annuli with turbulent flow.	2001	ESDU	0
903	01009	Condensation of pure fluids in downflow on horizontal integral low-fin tube bundles.	2001	ESDU	0
904	84027 C	Endurance of fibre-reinforced composite, laminated structural elements subjected to simulated random acoustic loading.	2001	ESDU	0
905	91024 B	Condensation inside tubes: condensate film coefficient for vertical downflow.	2001	ESDU	0
906	STRUCT 01.01.19 B	Local buckling and crippling of rectangular tube section struts.	2001	ESDU	0
907	STRUCT 01.01.19	Local buckling and crippling of rectangular tube section struts.	2001	ESDU	0
908	85020	Characteristics of atmospheric turbulence near the ground. Part II: single point data for strong winds (neutral atmosphere).	2001	ESDU	0
909	90002 C	Struts: strength under flexural, local and inter-rivet buckling.	2001	ESDU	0
910	87030 C	Process integration.	2001	ESDU	0
911	01007	Trailing vortex drag factors for wings with part-span trailing-edge plain flaps.	2001	ESDU	0
912	92041 A	Stress analysis of single lap bonded joints (adhesive and adherends)	2001	ESDU	0
913	01005	Effect of geometry on low speed pitch-break characteristics of swept wings.	2001	ESDU	0
914	98012	Flexibility of, and load distribution in, multi-bolt lap joints subject to in-plane axial loads.	2001	ESDU	0
915	01025	Examples of the application of constrained multivariate optimisation techniques to the design of aerofoil sections. Design point: single, upper and lower surfaces geometry and camber line variations, initial aerofoil: NACA 0012 and RAE 2822, CFD: BVGK.	2001	ESDU	0
916	00053	Viscosity of liquids: Aromatic compounds containing nitrogen.	2001	ESDU	0
917	82020 A	Introduction to unsteady aerodynamics.	2001	ESDU	0
918	01010	Loading on a rigid aeroplane in steady lateral manoeuvres.	2001	ESDU	0
919	00050	Thermal conductivity of liquids: Aromatic compounds containing nitrogen.	2001	ESDU	0
920	92038 B	Equivalent lengths of struts (for use in buckling calculations).	2001	ESDU	0
921	85020 G	Characteristics of atmospheric turbulence near the ground. Part II: single point data for strong winds (neutral atmosphere).	2001	ESDU	0
922	00051	Thermal conductivity, viscosity, isobaric specific heat capacity and Prandtl number of gases at low pressure: hydrocarbons - alkenes, alkadienes, alkynes, cycloalkanes, aromatics.	2001	ESDU	0
923	00028	Supersonic pressure and Mach number distributions over conical, circular-arc and parabolic boat-tails.	2001	ESDU	0
924	00019	Thermal conductivity, viscosity, isobaric specific heat capacity and Prandtl number of gases at low pressure: oxygenated aliphatic hydrocarbons - alcohols, aldehydes, ketones and ethers.	2001	ESDU	0
925	01033	VGK method for two-dimensional aerofoil sections. Part 6: aerofoil with simple hinged flaps.	2001	ESDU	0
926	00014 A	OSCAM. Computer-aided cam design: user manual.	2001	ESDU	0
927	00052	Thermal conductivity, viscosity, isobaric specific heat capacity and Prandtl number of gases at low pressure: oxygenated hydrocarbons - aliphatic esters.	2001	ESDU	0
928	01012	Subsonic pressure drag of boat-tails with negligible annular base area in the presence of a central propulsive jet.	2001	ESDU	0
929	93018 B	Forced convection heat transfer in straight tubes. Part 2: laminar and transitional flow.	2001	ESDU	0
930	01002	Guide to the use of ESDU Data Items on cam design.	2001	ESDU	0

931	99008	Orthobaric densities and molar volumes of liquids. Halogenated alkylbenzenes and halogenated styrenes.	2000	ESDU	0
932	00042	EXPRESSplus program. User Guide	2000	ESDU	0
933	99007	Vapour pressures and critical points of liquids: Halogenated alkylbenzenes and halogenated styrenes.	2000	ESDU	0
934	00043	INTEGRITY program for network design. User Guide	2000	ESDU	0
935	99022	Viscosity of liquids: Halogenated aromatic hydrocarbons.	2000	ESDU	0
936	00017	Supersonic base and boat-tail pressure drag of cylindrical bodies with a conical boat-tail and a central propulsive jet	2000	ESDU	0
937	81032 D	Estimation of rolling moment derivative due to sideslip for complete aircraft at subsonic speeds.	2000	ESDU	0
938	00020	Guide to industrial water conservation. Part 1. Water re-use in single contaminant systems.	2000	ESDU	0
939	00026	Supersonic pressure drag of conical, circular-arc and parabolic boat-tails.	2000	ESDU	0
940	87004 B	Calculation of excrescence drag magnification due to pressure gradients at high subsonic speeds.	2000	ESDU	0
941	00023	Examples of the application of constrained multivariate optimisation techniques to the design of aerofoil sections. Design point: single, geometry var: LE and TE flaps, initial aerofoil: combat aircraft section, CFD: BVGK (inviscid), Euler code.	2000	ESDU	0
942	98016	Elastic buckling of flat isotropic stiffened panels and struts in compression.	2000	ESDU	0
943	AEROC 01.01.03 B	RATE OF CHANGE OF LIFT COEFFICIENT WITH CONTROL DEFLECTION IN INCOMPRESSIBLE TWO-DIMENSIONAL FLOW, (a2)0	2000	ESDU	0
944	AEROC 04.01.03 B	EFFECT OF NOSE BALANCE ON TWO-DIMENSIONAL CONTROL HINGE-MOMENT COEFFICIENTS	2000	ESDU	0
945	AEROA 06.01.03 B	STABILITY DERIVATIVE . CONTRIBUTION OF FULL-SPAN DIHEDRAL TO ROLLING MOMENT DUE TO SIDESLIP	2000	ESDU	0
946	00022	Example of the application of constrained multivariate optimisation techniques to the design of aerofoil sections. Design point: single, geometry var: LE and TE flaps, initial aerofoil: combat aircraft section, CFD: BVGK (viscous flow)	2000	ESDU	0
947	00041	ENTRANS program. User guide.	2000	ESDU	0
948	86011 B	Numerical methods for the solution of ordinary differential equations: initial value problems.	2000	ESDU	0
949	99003	Generation of GUNACA 23-series of low-drag aerofoils.	1999	ESDU	0
950	99032	VGK method for two-dimensional aerofoil sections. Part 5: design to a specified upper-surface pressure distribution.	1999	ESDU	0
951	72024 D	Aerodynamic characteristics of aerofoils in compressible inviscid airflow at subcritical Mach numbers.	1999	ESDU	0
952	73006 C	Effects of isolated body and wing-body interference on rolling moment due to sideslip: L sub v (with Addendum A for nacelle effects).	1999	ESDU	0
953	84026 C	Aerofoil maximum lift coefficient for Mach numbers up to 0.4.	1999	ESDU	0
954	99033	Static aeroelasticity: a formal analysis using normal modes.	1999	ESDU	0
955	99001	Geneva mechanisms. Part 4: advanced examples.	1999	ESDU	0
956	84026	Aerofoil maximum lift coefficient for Mach numbers up to 0.4.	1999	ESDU	0
957	82015 A	Fatigue crack propagation rates and threshold stress intensity factor ranges for titanium alloy plate, bar and forgings.	1999	ESDU	0
958	81034 B	Linearised two-dimensional oscillatory airforce coefficients and load distributions on thin aerofoils in subsonic flow.	1999	ESDU	0
959	96035 A	Geneva mechanisms. Part 3: examples.	1999	ESDU	0
960	99020	Examples of the application of constrained multivariate optimisation techniques to the design of aerofoil sections. Design point: single, geometry variation: LE and TE flap deflection or camber line vars, initial aerofoil: RAE 2822	1999	ESDU	0
961	ME2 C	Design of disc cams with various followers: derivation of kinematic equations.	1999	ESDU	0
962	AERO 00.03.30 A	Solutions to the oblique shock wave relations for a range of specific heat ratios: pressure coefficient and detachment angle.	1999	ESDU	0
963	99021	Examples of the application of constrained multivariate optimisation techniques to the design of aerofoil sections. Design point: dual, geometry variation: LE and TE flap deflection and camber line vars, initial aerofoil: RAE 2822,	1999	ESDU	0
964	99009	An introduction to Statistical Energy Analysis.	1999	ESDU	0

965	92002 A	Lift and rolling moment due to spoilers on wings with trailing-edge flaps deflected at subsonic speeds - extension of Item No. 90030.	1999	ESDU	0
966	95010 C	Computer program for estimation of spanwise loading of wings with camber and twist in subsonic attached flow. Lifting-surface theory. (With Appendix A: effect of plain flaps.)	1999	ESDU	0
967	90030 B	Lift and rolling moment due to spoilers on wings with flaps undeflected at subsonic speeds.	1999	ESDU	0
968	74012 C	Conversion of lift coefficient increment due to flaps from full span to part span.	1999	ESDU	0
969	73013 B	Reference frequency of panel with flexible stiffeners.	1999	ESDU	0
970	98021	Viscosity of liquids: Halogenated propanes and higher alkanes.	1998	ESDU	0
971	97007	Heat transfer enhancement in heat exchanger design and utilisation. Part 1. Tube inserts in single-phase flow.	1998	ESDU	0
972	98023	OSMEC. Computer mechanism design: basic examples.	1998	ESDU	0
973	98001	Estimation of airframe skin-friction drag due to impingement of tyre spray.	1998	ESDU	0
974	83042 A	Estimation of spray patterns generated from the sides of tyres running in water or slush.	1998	ESDU	0
975	98010	Falling film evaporation in vertical tubes.	1998	ESDU	0
976	CFA	Conversion factors. - Issue 2	1998	ESDU	0
977	92036 C	RESPONSE OF STRUCTURES TO ATMOSPHERIC TURBULENCE Computer Programs A9236 and B9236	1998	ESDU	0
978	81031 B	Fatigue crack propagation rates and threshold stress intensity factor ranges for aluminium alloy plate, extruded bar and forgings.	1998	ESDU	0
979	98011	Aerofoil incidence for zero lift in subsonic two- dimensional flow.	1998	ESDU	0
980	98015	Orthobaric densities and molar volumes of liquids. Halogenated benzenes.	1998	ESDU	0
981	98002	Thermal conductivity of liquids: Aliphatic amino-alcohols, diamines and nitroalkanes.	1998	ESDU	0
982	98031	VGK method for two-dimensional aerofoil sections. Part 4: estimation of excrescence drag at subsonic speeds.	1998	ESDU	0
983	98014	Vapour pressures and critical points of liquids: Halogenated benzenes.	1998	ESDU	0
984	98026	Example of similarity methods applied to base drag coefficient of conical afterbodies in axisymmetric flow (jet off).	1998	ESDU	0
985	96030 A	Response of structures to vortex shedding. Structures of circular or polygonal cross section.	1998	ESDU	0
986	98020	Estimation of transmission efficiencies of coupled plates	1998	ESDU	0
987	98007	Design and performance evaluation of heat exchangers: the effectiveness-NTU method. Part 5: analytical techniques.	1998	ESDU	0
988	CFA	Conversion factors. - Issue 2	1998	ESDU	0
989	98006	Design and performance evaluation of heat exchangers: the effectiveness-NTU method. Part 4: case studies.	1998	ESDU	0
990	80024 A	Blockage corrections for bluff bodies in confined flows	1998	ESDU	0
991	79016 B	Inelastic shear stresses and strains in the adhesives bonding lap joints loaded in tension or shear	1998	ESDU	0
992	98004	Design and performance evaluation of heat exchangers: the effectiveness-NTU method. Part 2: performance comparisons and selection of configurations presented in Part 3.	1998	ESDU	0
993	98003	Design and performance evaluation of heat exchangers: the effectiveness-NTU method. Part 1: introduction.	1998	ESDU	0
994	98013	Aerodynamic principles of winglets.	1998	ESDU	0
995	97033	Methods for analysis of the dynamic response of structures.	1997	ESDU	0
996	74011 A	Rate of change of lift coefficient with control deflection for full-span plain controls.	1997	ESDU	0
997	97010	Thermal conductivity of liquids: Aliphatic amines.	1997	ESDU	0
998	97012	Vapour pressures and critical points of liquids. Aliphatic and alicyclic amines. I: Primary amines.	1997	ESDU	0
999	97014	Vapour pressures and critical points of liquids. Aliphatic and alicyclic amines. II: Secondary and tertiary amines.	1997	ESDU	0
1000	88003 D	Effect of unshielded and shielded horn balances on hinge moment coefficients for controls at low speeds.	1997	ESDU	0
1001	97003	Fuselage interference effects on flap characteristics.	1997	ESDU	0
1002	97013	Orthobaric densities and molar volumes of liquids. Aliphatic and alicyclic amines. I: Primary amines.	1997	ESDU	0

1003	97015	Orthobaric densities and molar volumes of liquids. Aliphatic and alicyclic amines. II: Secondary and tertiary amines.	1997	ESDU	0
1004	97020	Slope of aerofoil lift curve for subsonic two-dimensional flow.	1997	ESDU	0
1005	94038 A	Computer program for estimation of leading-edge suction distribution for plane thin wings at subsonic speeds.	1997	ESDU	0
1006	96036 A	Design of laminated plates subjected to in-plane loads and bending moments.	1997	ESDU	0
1007	74009 A	Lift coefficient increment at low speeds due to full-span split flaps.	1997	ESDU	0
1008	81026 C	Representation of drag in aircraft performance calculations (with Addenda A to G).	1997	ESDU	0
1009	97016	Estimation of airframe drag by summation of components: principles and examples.	1997	ESDU	0
1010	97032	Static aeroelasticity: a formal analysis using assumed modes.	1997	ESDU	0
1011	97017	Guide to wing aerodynamic design.	1997	ESDU	0
1012	97022	Effect of stabilising fins on base drag of cylindrical bodies at supersonic speeds.	1997	ESDU	0
1013	96024 A	Example of statistical techniques applied to analysis of paved runway sizes (Bivariate Normal Distribution).	1996	ESDU	0
1014	96034	Thermophysical properties of hydrogen sulphide.	1996	ESDU	0
1015	92020 A	Energy method for analysis of measured airspeed change in landing airborne manoeuvre.	1996	ESDU	0
1016	95007	Selection and costing of heat exchangers: plate-and-frame type.	1996	ESDU	0
1017	96032	Wing lift coefficient increment at zero angle of attack due to deployment of leading-edge devices at low speeds.	1996	ESDU	0
1018	96033	Effect of angle of attack on the base axial force and drag of cylindrical bodies with conical boat-tails.	1996	ESDU	0
1019	74035 A	Subsonic lift-dependent drag due to the trailing vortex wake for wings without camber or twist.	1996	ESDU	0
1020	ME3	Analysis of Geneva mechanisms: derivation of kinematic and kinetostatic equations.	1996	ESDU	0
1021	96016	Vapour pressures and critical points of liquids. Esters of monobasic acids. 1: straight chain alkyl alkanoates.	1996	ESDU	0
1022	96014	Fatigue of bolted steel lap joints and doublers.	1996	ESDU	0
1023	96013	Fracture toughness (K _{Ic}) values for some aluminium alloys.	1996	ESDU	0
1024	96017	Orthobaric densities and molar volumes of liquids. Esters of monobasic acids. 1: straight chain alkyl alkanoates.	1996	ESDU	0
1025	AERO B.S.02.03.02 C	External wave drag at zero incidence in inviscid flow of simple ducted forebodies and truncated afterbodies.	1996	ESDU	0
1026	76033 B	Subsonic base drag of cylindrical bodies with conical boat-tails.	1996	ESDU	0
1027	87036 B	Elastic stresses and deflections for square plates with small initial curvature under uniform pressure on the concave or convex face.	1996	ESDU	0
1028	96022	Orthobaric densities and molar volumes of liquids. Esters of monobasic acids. 2: branched chain alkyl alkanoates.	1996	ESDU	0
1029	80036	Introduction to the use of linear elastic fracture mechanics in estimating fatigue crack growth rates and residual strength of components	1996	ESDU	0
1030	77020 A	Subsonic pressure drag of conical boat-tails.	1996	ESDU	0
1031	96021	Vapour pressures and critical points of liquids. Esters of monobasic acids. 2: branched chain alkyl alkanoates.	1996	ESDU	0
1032	95024	Example of analysis and representation of static pressure correction data in steady flight.	1995	ESDU	0
1033	92024 B	Aerodynamic centre of wing-body combinations.	1995	ESDU	0
1034	93021 A	Examples of flight path optimisation using a multivariate gradient-search method.	1995	ESDU	0
1035	94026 A	Introduction to the estimation of the lift coefficients at zero angle of attack and at maximum lift for aerofoils with high-lift devices at low speeds.	1995	ESDU	0
1036	95008	Thermal conductivity of liquids: Glycol ethers.	1995	ESDU	0
1037	93034 B	Normal force of low-aspect-ratio cropped-delta wings up to high angles of attack at subsonic speeds.	1995	ESDU	0
1038	80039 B	Elastic adhesive stresses in multistep lap joints loaded in tension	1995	ESDU	0
1039	80023	Buckling of rectangular specially orthotropic plates	1995	ESDU	0
1040	76028	Lift-interference and blockage corrections for two-dimensional subsonic flow in ventilated and closed wind-tunnels.	1995	ESDU	0

1041	71013	Elastic direct stresses and deflections for flat rectangular plates under uniformly distributed normal pressure.	1995	ESDU	0
1042	71005	Buckling of flat plates in shear.	1995	ESDU	0
1043	75030 C	Natural frequencies of rectangular flat plates with various edge conditions.	1995	ESDU	0
1044	95017	Orthobaric densities and molar volumes of liquids. Aliphatic and aromatic ethers.	1995	ESDU	0
1045	94031	Increments in aerofoil lift coefficient at zero angle of attack and in maximum lift coefficient due to deployment of a double-slotted or triple-slotted trailing-edge flap, with or without a leading-edge high-lift device, at low speeds.	1995	ESDU	0
1046	95021	Wing lift coefficient increment at zero angle of attack due to deployment of double-slotted or triple-slotted flaps at low speeds.	1995	ESDU	0
1047	93019 A	Wing lift increment at zero angle of attack due to deployment of single-slotted flaps at low speeds.	1995	ESDU	0
1048	95020	Viscosity of liquids: Carboxylic acids.	1995	ESDU	0
1049	95015	Examples of distributions of hard paved runway surface types.	1995	ESDU	0
1050	85027	Film thicknesses in lubricated Hertzian contacts (EHL). Part 1: two-dimensional contacts (line contacts)	1995	ESDU	0
1051	85001	Elastic stress and strain distributions around circular holes in infinite plates of orthotropic material (applicable to fibre reinforced composites).	1995	ESDU	0
1052	85031 F	Crack resistance curves.	1995	ESDU	0
1053	89052	Construction of inelastic stress-strain curves from minimal materials data (computer program).	1995	ESDU	0
1054	89052 A	Construction of inelastic stress-strain curves from minimal materials data (computer program).	1995	ESDU	0
1055	95028	Delamination and free edge stresses in composite laminates subjected to uniform prescribed axial strain and temperature change.	1995	ESDU	0
1056	91007 D	Lift-curve slope of wing-body combinations.	1995	ESDU	0
1057	AERO F.01.01.09 C	Lift coefficient increment due to full-span double flap (main flap slotted).	1995	ESDU	0
1058	78004 C	Natural frequencies of thin-walled isotropic, circular-cylindrical shells.	1995	ESDU	0
1059	90027 A	Calculation methods for steadily loaded central circumferential groove hydrodynamic journal bearings.	1995	ESDU	0
1060	95002	Vapour pressures and critical points of liquids. Glycols and cyclic diols.	1995	ESDU	0
1061	95014	Upwash interference for wings in solid-liner wind tunnels using subsonic linearised-theory.	1995	ESDU	0
1062	87003 B	A method of determining the wave drag and its spanwise distribution on a finite wing in transonic flow.	1995	ESDU	0
1063	95003	Orthobaric densities and molar volumes of liquids. Glycols and cyclic diols.	1995	ESDU	0
1064	69018 B	Elastic stresses and deflections for long flat rectangular plates under uniformly distributed and linearly varying normal pressure.	1995	ESDU	0
1065	71005 D	Buckling of flat plates in shear.	1995	ESDU	0
1066	93024 A	Vortex generators for control of shock-induced separation. Part 1: introduction and aerodynamics.	1995	ESDU	0
1067	90013 B	Normal force and pitching moment of low aspect ratio cropped-delta wings up to high angles of attack at supersonic speeds.	1995	ESDU	0
1068	93025 A	Vortex generators for control of shock-induced separation. Part 2: guide to use of vane vortex generators.	1995	ESDU	0
1069	95004	Vapour pressures and critical points of liquids: Glycol ethers (alkyl cellosolves and carbitols etc.)	1995	ESDU	0
1070	84018 D	Failure analysis of fibre reinforced composite laminates.	1995	ESDU	0
1071	AERO S.00.03.14 B	Approximate calculation of the pressure changes in two-dimensional supersonic flow.	1995	ESDU	0
1072	95005	Orthobaric densities and molar volumes of liquids. Glycol ethers (alkyl cellosolves and carbitols etc.).	1995	ESDU	0
1073	95027	Pressure loss and heat transfer for single phase flow in tubes containing twisted tape inserts.	1995	ESDU	0
1074	93026 A	Vortex generators for control of shock-induced separation. Part 3: examples of applications of vortex generators to aircraft.	1995	ESDU	0
1075	91014 A	Maximum lift of wings with trailing-edge flaps at low speeds.	1995	ESDU	0
1076	83023 A	Fracture toughness (K sub I sub c) values of some steels.	1995	ESDU	0

1077	66031 C	Introductory sheet on subcritical lift-dependent drag of wings.	1995	ESDU	0
1078	70001 B	Elastic stresses and deflections for flat square plates under uniformly distributed normal pressure.	1995	ESDU	0
1079	94012 A	Application of multivariate optimisation techniques to determination of optimum flight trajectories.	1995	ESDU	0
1080	AERO W.S.00.03.04 B	Theoretical properties of two-dimensional supersonic aerofoils of simple section.	1995	ESDU	0
1081	95016	Vapour pressures and critical points of liquids. Aliphatic and aromatic ethers.	1995	ESDU	0
1082	85001 D	Elastic stress and strain distributions around circular holes in infinite plates of orthotropic material (applicable to fibre reinforced composites).	1995	ESDU	0
1083	94030	Increments in aerofoil lift coefficient at zero angle of attack and in maximum lift coefficient due to deployment of a single-slotted trailing-edge flap, with or without a leading-edge high-lift device, at low speeds.	1995	ESDU	0
1084	71013 C	Elastic direct stresses and deflections for flat rectangular plates under uniformly distributed normal pressure.	1995	ESDU	0
1085	87013 C	Elastic wrinkling of sandwich columns and beams with unbalanced laminated fibre reinforced face plates (face plates of AsBoDs, AsBIDs and AsBsDs types).	1995	ESDU	0
1086	TD MEMO 6407 B	A method of estimating drag-rise Mach number for two-dimensional aerofoil sections.	1995	ESDU	0
1087	95009	Effect of wing height on lift and aerodynamic centre for a slender wing-body combination.	1995	ESDU	0
1088	85031 F	Crack resistance curves.	1995	ESDU	0
1089	71026 D	Frictional and retarding forces on aircraft tyres. Part II: estimation of braking force.	1995	ESDU	0
1090	89052 A	Construction of inelastic stress-strain curves from minimal materials data (computer program).	1995	ESDU	0
1091	76028 A	Lift-interference and blockage corrections for two-dimensional subsonic flow in ventilated and closed wind-tunnels.	1995	ESDU	0
1092	95006 A	Fatigue life estimation under variable amplitude loading using cumulative damage calculations.	1995	ESDU	0
1093	95022	Pitching moment of low-aspect-ratio cropped-delta wings up to high angles of attack at subsonic speeds.	1995	ESDU	0
1094	92031 A	Maximum lift of wings with leading-edge devices and trailing-edge flaps deployed.	1995	ESDU	0
1095	68032 B	Buckling loads in shear of flat sandwich panels. (Isotropic face plates and corrugated cores, all edges clamped.)	1994	ESDU	0
1096	81023 A	Lift and drag of two staggered lifting surfaces at low speeds.	1994	ESDU	0
1097	94007	Elastic buckling of cylindrically curved laminated fibre reinforced composite panels with all edges simply-supported under biaxial loading.	1994	ESDU	0
1098	94015	Surface pressure coefficient distributions for axisymmetric forecowls at zero incidence ($M_{\infty} \leq 1.5$).	1994	ESDU	0
1099	91012 A	Methods for improving damping. Part 1: an introduction and guide to practical methods of increasing structural damping.	1994	ESDU	0
1100	68031 B	Buckling loads under combined longitudinal and transverse direct stress of flat sandwich panels. (Isotropic face plates and orthotropic cores of zero flexural stiffness, all edges clamped.)	1994	ESDU	0
1101	94040	Effects of cabin pressure on climb and descent rates.	1994	ESDU	0
1102	94014	Wave drag coefficient for axisymmetric forecowls at zero incidence ($M_{\infty} \leq 1.5$).	1994	ESDU	0
1103	94006	Elastic buckling of unbalanced laminated fibre reinforced composite plates. (Rectangular plates of AsBtDs type, all edges simply-supported under biaxial loading.)	1994	ESDU	0
1104	88035 B	Maximum inelastic bending moments and form factors for symmetric bending of beams.	1994	ESDU	0
1105	72019 B	Buckling of flat isotropic plates under uniaxial and biaxial loading.	1994	ESDU	0
1106	94010	Thermophysical properties of MtBE (methyl tert-butyl ether).	1994	ESDU	0
1107	67026 C	Buckling loads in shear of flat sandwich panels. (Isotropic face plates and corrugated cores, all edges simply-supported.)	1994	ESDU	0
1108	68033 C	Buckling loads under combined longitudinal and transverse direct stress of flat sandwich panels. (Isotropic face plates and corrugated cores, all edges clamped.)	1994	ESDU	0
1109	67024 C	Buckling loads in shear of flat sandwich panels. (Isotropic face plates and orthotropic cores of zero flexural stiffness, all edges simply-supported.)	1994	ESDU	0

1110	81024 A	Drag of axisymmetric cowls at zero incidence for subsonic Mach numbers.	1994	ESDU	0
1111	94033	Flat rectangular isotropic plates under uniformly distributed normal pressure. Elastic deflections, stresses and strains, moments and forces, for various forms of edge restraint.	1994	ESDU	0
1112	94039	Effects of small changes on rate of climb.	1994	ESDU	0
1113	94009	Symmetric steady manoeuvre loads on rigid aircraft of classical configuration at subsonic speeds.	1994	ESDU	0
1114	67025 C	Buckling loads under combined longitudinal and transverse direct stress of flat sandwich panels. (Isotropic face plates and orthotropic cores of zero flexural stiffness, all edges simply-supported.)	1994	ESDU	0
1115	90004 C	Maximum inelastic bending moments and end loads in fixed ratio for beam sections of general polygonal shape (computer program).	1994	ESDU	0
1116	88009 B	Thermophysical properties of toluene. Part I: the ideal gas and the saturated liquid and vapour.	1994	ESDU	0
1117	94005	Buckling of flat rectangular orthotropic plates.	1994	ESDU	0
1118	94013	NACA 1-series geometry representation for computational fluid dynamics.	1994	ESDU	0
1119	68030 B	Buckling loads in shear of flat sandwich panels. (Isotropic face plates and orthotropic cores of zero flexural stiffness, all edges clamped.)	1994	ESDU	0
1120	94020	Selection of synthetic oils.	1994	ESDU	0
1121	94003	Stiffnesses of laminated flat plates.	1994	ESDU	0
1122	94037	Leading-edge suction distribution for plane thin wings at subsonic speeds.	1994	ESDU	0
1123	87026 A	Fatigue strength of anodized aluminium alloy.	1994	ESDU	0
1124	AERO W.00.03.01 B	Critical Mach number for high speed aerofoil sections.	1994	ESDU	0
1125	93011	Flat rectangular orthotropic plates under uniformly distributed normal pressure. Elastic stresses and deflections for various forms of edge restraint.	1994	ESDU	0
1126	AERO W.S.05.03.01 B	Pressure distribution on blunt noses of two-dimensional sections at zero incidence in supersonic flow.	1994	ESDU	0
1127	AERO W.02.04.00 B	Information on the use of Data Items in the series Wings 02.04.	1994	ESDU	0
1128	94029	Increments in aerofoil lift coefficient at zero angle of attack and in maximum lift coefficient due to deployment of a trailing-edge split flap, with or without a leading-edge high-lift device, at low speeds.	1994	ESDU	0
1129	94002	Orthobaric densities and molar volumes of liquids. Polycyclic phenyl and cyclohexyl compounds.	1994	ESDU	0
1130	94024	Thermal conductivity of liquids: Halogenated aliphatic hydrocarbons. Part 4. Halogenated alkenes and alkadienes (C1 to C4).	1994	ESDU	0
1131	94001	Vapour pressures and critical points of liquids. Polycyclic phenyl and cyclohexyl compounds.	1994	ESDU	0
1132	94028	Increments in aerofoil lift coefficient at zero angle of attack and in maximum lift coefficient due to deployment of a plain trailing-edge flap, with or without a leading-edge high-lift device, at low speeds.	1994	ESDU	0
1133	92013 B	Selection and costing of heat exchangers.	1994	ESDU	0
1134	90026 B	Inelastic bending moments, end loads, stresses and strains for beam sections of general polygonal shape.	1994	ESDU	0
1135	81047 C	Buckling of flat rectangular plates (isotropic, orthotropic and laminated composite plates and sandwich panels).	1994	ESDU	0
1136	94027	Increments in aerofoil lift coefficient at zero angle of attack and in maximum lift coefficient due to deployment of various leading-edge high-lift devices at low speeds.	1994	ESDU	0
1137	88030 A	Boundaries of linear characteristics of cambered and twisted wings at subcritical Mach numbers.	1994	ESDU	0
1138	94005	Buckling of flat rectangular orthotropic plates.	1994	ESDU	0
1139	94007	Elastic buckling of cylindrically curved laminated fibre reinforced composite panels with all edges simply-supported under biaxial loading.	1994	ESDU	0
1140	94043	Selection and costing of heat exchangers. Air-cooled type.	1994	ESDU	0
1141	94019	Through-the-thickness stresses and failure in the corner radius of a laminated composite section.	1994	ESDU	0

1142	94042	Selection and costing of heat exchangers. Shell-and-tube type.	1994	ESDU	0
1143	94016	Examples of flight path optimisation using a multivariate gradient-search method. Addendum A: variation of optimum flight profile parameters with range.	1994	ESDU	0
1144	AERO C.04.01.04 C	Effect of Irving internal balance on hinge-moment coefficient in two-dimensional flow.	1994	ESDU	0
1145	94041	Condensation inside tubes: condensate film coefficient in horizontal tubes.	1994	ESDU	0
1146	72019	Buckling of flat isotropic plates under uniaxial and biaxial loading.	1994	ESDU	0
1147	94021	Thermal conductivity of liquids: Halogenated aliphatic hydrocarbons. Part 1. Halogenated methanes and azeotropic mixtures.	1994	ESDU	0
1148	85007 C	Contact phenomena. III: calculation of individual stress components in concentrated elastic contacts under combined normal and tangential loading.	1994	ESDU	0
1149	94045	Shear force, bending moment and torque of rigid aircraft in symmetric steady manoeuvring flight.	1994	ESDU	0
1150	67032 C	Buckling loads under combined longitudinal and transverse direct stress of flat sandwich panels. (Isotropic face plates and corrugated cores, all edges simply-supported.)	1994	ESDU	0
1151	75008 B	Frequencies of vertical and lateral load factors resulting from ground manoeuvres of aircraft.	1994	ESDU	0
1152	91019 A	Example of statistical techniques applied to autoland touchdown dispersion (confidence intervals for normal and skew distributions).	1993	ESDU	0
1153	93007	Contribution of body-mounted fins and tailplanes to lateral derivatives due to sideslip at subsonic speeds for general body width to height ratio.	1993	ESDU	0
1154	90006 A	Parameter estimation of linear systems from frequency response measurements.	1993	ESDU	0
1155	90024 B	Condensation inside tubes: pressure drop in straight tubes with vertical downflow.	1993	ESDU	0
1156	81028 D	Lattice structures. Part 2: mean fluid forces on tower-like space frames.	1993	ESDU	0
1157	92023 A	Fatigue propagation behaviour of short cracks in titanium alloys.	1993	ESDU	0
1158	93033	Fatigue propagation behaviour of short cracks (1-2 mm) in steels.	1993	ESDU	0
1159	93020	Computation of static pressure downstream of a normal shock for hypersonic flight (ambient temperature known).	1993	ESDU	0
1160	84030	Longitudinal turbulence intensities over terrain with roughness changes	1993	ESDU	0
1161	93008	Thermal conductivity of liquids: Aliphatic alcohols.	1993	ESDU	0
1162	91041 B	The statistical analysis of data from Normal distributions, with particular reference to small samples.	1993	ESDU	0
1163	93009	Vapour pressures and critical points of liquids: Aliphatic and cyclic ketones.	1993	ESDU	0
1164	93023	Example of statistical techniques applied to analysis of effects of small changes.	1993	ESDU	0
1165	93010	Orthobaric densities and molar volumes of liquids. Aliphatic and cyclic ketones.	1993	ESDU	0
1166	89049 B	Response of structures to atmospheric turbulence. Response to across-wind turbulence components.	1993	ESDU	0
1167	89034 A	The maximum lift coefficient of plain wings at subsonic speeds.	1993	ESDU	0
1168	91042 A	Normal force of low aspect ratio wing-body combinations up to high angles of attack at supersonic speeds.	1993	ESDU	0
1169	91023 A	Condensation inside tubes: pressure drop in straight horizontal tubes.	1993	ESDU	0
1170	92029 B	Contribution of ventral fins to sideforce and yawing moment derivatives due to sideslip at low angle of attack.	1993	ESDU	0
1171	93012	Viscosity of liquids: Halogenated ethanes.	1993	ESDU	0
1172	FAT E.07.01 B	Endurance of aluminium alloys (unclad) (in bending).	1993	ESDU	0
1173	91031 C	Contribution of fin and tailplane to sideforce and yawing moment derivatives due to sideslip at supersonic speeds at low angle of attack.	1993	ESDU	0
1174	92007 A	Contribution of tailplane-mounted twin fins to sideforce, yawing moment and rolling moment derivatives due to sideslip at subsonic speeds.	1993	ESDU	0
1175	85036 B	Conversion of air-data system pressure errors into height and speed corrections.	1993	ESDU	0
1176	93029	Orthobaric densities and molar volumes of liquids. Fused ring compounds.	1993	ESDU	0

1177	82010 C	Contribution of fin to sideforce, yawing moment and rolling moment derivatives due to sideslip, ($Y_{\text{sub } v}$) _{sub F} , ($N_{\text{sub } v}$) _{sub F} , ($L_{\text{sub } v}$) _{sub F} , in the presence of body, wing and tailplane.	1993	ESDU	0
1178	88007 A	Effect of environment on fatigue crack propagation in aluminium alloy sheet and plate.	1993	ESDU	0
1179	92030 A	Fatigue propagation behaviour of short cracks in aluminium alloys.	1993	ESDU	0
1180	93027	Methods of testing for endurance of structural elements using simulated acoustic loading.	1993	ESDU	0
1181	92003 A	Forced convection heat transfer in straight tubes. Part 1: turbulent flow.	1993	ESDU	0
1182	91027 A	Non-destructive examination - choice of methods.	1993	ESDU	0
1183	AERO F.02.01.07 C	Conversion factor for profile drag increment for part-span flaps.	1993	ESDU	0
1184	93014	Condensation inside tubes. Computer program for pressure drop in straight tubes (horizontal and vertical with downflow).	1993	ESDU	0
1185	70016 B	Terms and notation for fatigue endurance data.	1993	ESDU	0
1186	93028	Vapour pressures and critical points of liquids. Fused ring compounds.	1993	ESDU	0
1187	92018	Orthobaric densities and molar volumes of liquids. Halogenated ethylenes.	1992	ESDU	0
1188	87033 C	Normal force and pitching moment of conical boat-tails.	1992	ESDU	0
1189	92017	Fatigue strength of cruciform and other fillet welded joints in aluminium alloys.	1992	ESDU	0
1190	92021	Example of statistical techniques applied to analysis of landing ground roll distance measurements. (Linear regression, correlation coefficient and F test.)	1992	ESDU	0
1191	92008	Direct prediction of a separation boundary for aerofoils using a viscous-coupled calculation method.	1992	ESDU	0
1192	90035 A	Frictional and retarding forces on aircraft tyres. Part V: estimation of fluid drag forces.	1992	ESDU	0
1193	92019	Estimation of rate of climb.	1992	ESDU	0
1194	69026 B	Airspeed data for performance calculations.	1992	ESDU	0
1195	83018 A	Axial pressure coefficient distributions for spherically blunted secant ogive forebodies of fineness ratio 1.0, 1.5 and 2.0 at zero incidence in transonic flow.	1992	ESDU	0
1196	92016	Reducing torque fluctuation in linkage drive shafts.	1992	ESDU	0
1197	92001	Methods for improving damping. Part 3: damping material data.	1992	ESDU	0
1198	92015	Guide to the effect of shot peening on fatigue strength.	1992	ESDU	0
1199	83017 A	The wave drag coefficient of spherically blunted secant ogive forebodies of fineness ratio 1.0, 1.5, and 2.0 at zero incidence in transonic flow.	1992	ESDU	0
1200	92028	Viscosity of liquids: Halogenated methanes.	1992	ESDU	0
1201	92044	Analogue to digital transformation.	1992	ESDU	0
1202	86006 A	Pitot and static errors in steady level flight.	1992	ESDU	0
1203	92043	Pitching moment of low aspect ratio wing-body combinations up to high angles of attack at supersonic speeds.	1992	ESDU	0
1204	92026	Calculation methods for externally pressurised (hydrostatic) journal bearings with capillary restrictor control.	1992	ESDU	0
1205	68021 C	Foredrag of spherically-blunted conical forebodies at zero incidence in supersonic flow for Mach numbers up to 5.	1992	ESDU	0
1206	89033 A	Pressure drag and lift contributions for blunted forebodies of fineness ratio 2.0 in transonic flow ($M_{\text{sub } \infty}$ less than or equal to 1.4).	1992	ESDU	0
1207	83029 D	The correction of flight-test anemometric data.	1992	ESDU	0
1208	68046 D	Atmospheric data for performance calculations.	1992	ESDU	0
1209	92015	Guide to the effect of shot peening on fatigue strength.	1992	ESDU	0
1210	92017	Fatigue strength of cruciform and other fillet welded joints in aluminium alloys.	1992	ESDU	0
1211	92038	Equivalent lengths of struts (for use in buckling calculations).	1992	ESDU	0
1212	92040	An introduction to the statistical analysis of engineering data.	1992	ESDU	0
1213	92039	Drag due to gaps round undeflected trailing-edge controls and flaps at subsonic speeds.	1992	ESDU	0

1214	83010 A	Oscillatory aerodynamics of slender bodies (ASSOCIATED SOFTWARE: ESDUPAC A8310 AVAILABLE THROUGH SUBSCRIPTION ONLY)	1992	ESDU	0
1215	87038 B	Calibration of anemometric pressure systems for lag.	1992	ESDU	0
1216	88013 B	Rolling moment derivative, $L_{\dot{x}}$, for plain ailerons at subsonic speeds.	1992	ESDU	0
1217	86037 A	An introduction to the Z-transform and its application to sampled-data systems.	1992	ESDU	0
1218	86016 A	Frictional and retarding forces on aircraft tyres. Part IV: estimation of effects of yaw.	1992	ESDU	0
1219	perfor B	Corrigenda	1992	ESDU	0
1220	92022	Example of statistical techniques applied to analysis of measurements of the landing airborne manoeuvre. (Multiple linear regression with two independent variables and one dependent variable.)	1992	ESDU	0
1221	92040	An introduction to the statistical analysis of engineering data.	1992	ESDU	0
1222	81046 A	Acceleration factors for climb and descent rates at constant EAS, CAS, M.	1992	ESDU	0
1223	69026 B	Airspeed data for performance calculations.	1992	ESDU	0
1224	78008 C	Physical properties of design atmospheres	1992	ESDU	0
1225	76016	Generalisation of smooth continuous stress-strain curves for metallic materials	1991	ESDU	0
1226	91039	Static and fatigue strength of butt welded joints in aluminium alloys.	1991	ESDU	0
1227	91006	Vapour pressures and critical points of liquids. Halogenated ethylenes.	1991	ESDU	0
1228	91034	Orthobaric densities and molar volumes of liquids. Halogenated methanes.	1991	ESDU	0
1229	91003	Delamination of tapered composites.	1991	ESDU	0
1230	84031 A	Calculation methods for steadily loaded axial groove hydrodynamic journal bearings.	1991	ESDU	0
1231	91035	Vapour pressures and critical points of liquids. Alkyl amides.	1991	ESDU	0
1232	91018	Example of statistical techniques applied to cruise performance guarantees (Students "t" distribution).	1991	ESDU	0
1233	91039	Static and fatigue strength of butt welded joints in aluminium alloys.	1991	ESDU	0
1234	91022	Thermophysical properties of nitrous oxide.	1991	ESDU	0
1235	91008	Strength of lugs under axial load	1991	ESDU	0
1236	88032	Wrinkling of sandwich panel face plates (isotropic face plates on orthotropic cores, in-plane loading or bending).	1991	ESDU	0
1237	91040	Thermophysical properties of carbon monoxide.	1991	ESDU	0
1238	91020	Variability of standard aircraft performance parameters.	1991	ESDU	0
1239	88015 A	Elastic wrinkling of sandwich panels with laminated fibre reinforced face plates (face plates of AsBoDs, AsBIDs and AsBsDs types).	1991	ESDU	0
1240	87001 B	Wing pitching moment at zero lift at subcritical Mach numbers.	1991	ESDU	0
1241	91021	A method of estimating a flow breakdown boundary for aerofoils and swept wings in transonic flow.	1991	ESDU	0
1242	91022	Thermophysical properties of nitrous oxide.	1991	ESDU	0
1243	88032 A	Wrinkling of sandwich panel face plates (isotropic face plates on orthotropic cores, in-plane loading or bending).	1991	ESDU	0
1244	91011	Boiling inside tubes: saturated wet-wall heat transfer with mixtures.	1991	ESDU	0
1245	89051 A	Fatigue crack propagation rates for titanium alloy sheets.	1991	ESDU	0
1246	82008 B	Elastic stresses and deflections of helical compression and tension springs of round wire.	1991	ESDU	0
1247	91029	Excrescence drag magnification factors at the drag-rise condition for aerofoils with a specified form of upper-surface pressure distribution.	1991	ESDU	0
1248	91015	Fatigue crack propagation rates of experimental aluminium lithium sheet and plate alloys.	1991	ESDU	0
1249	91016	Energy height method for flight path optimisation. Addendum A: numerical method suitable for rapid use on IBM PC compatible computers.	1991	ESDU	0
1250	91032	Estimation of airborne performance in landing.	1991	ESDU	0
1251	90005 B	Frequencies of resonance in wind tunnels with ventilated walls and plenum chamber.	1991	ESDU	0

1252	86031 A	Introduction to air data system parameters, errors and calibration laws.	1991	ESDU	0
1253	91028	Simplified method for the prediction of aerofoil excrescence drag magnification factor for turbulent boundary layers at subcritical Mach numbers.	1991	ESDU	0
1254	86010 E	Characteristics of atmospheric turbulence near the ground. Part III: variations in space and time for strong winds (neutral atmosphere). - Incorporates A, B, C, D, and E	1991	ESDU	0
1255	84007 A	The treatment of calibrations of total air temperature probes for use in flight-test analysis work.	1991	ESDU	0
1256	72017 A	Stress response of flat or singly-curved sandwich panels with cores of zero flexural stiffness subjected to random acoustic loading.	1990	ESDU	0
1257	90001	Boiling inside tubes: post dry-out heat transfer in vertical tubes.	1990	ESDU	0
1258	90017	Thermophysical properties of refrigerant R-22 (chlorodifluoromethane).	1990	ESDU	0
1259	90003	Thermophysical properties of sulphur dioxide.	1990	ESDU	0
1260	89041 A	Estimation of subsonic far-field jet-mixing noise from single-stream circular nozzles.	1990	ESDU	0
1261	90018	Fatigue of aluminium alloy joints with various fastener systems. High load transfer.	1990	ESDU	0
1262	77028 F	Geometrical characteristics of typical bodies.	1990	ESDU	0
1263	72016 C	Natural frequencies of flat or singly-curved sandwich panels with cores of zero flexural stiffness.	1990	ESDU	0
1264	90033	Process integration: process change and batch processes.	1990	ESDU	0
1265	STRUCT 01.01.08 C	Local instability of struts with flat sides.	1990	ESDU	0
1266	89028 A	A procedure for force-balancing planar linkages using counterweights.	1990	ESDU	0
1267	TM 71	A Rayleigh-Ritz method of analysis for vibration of orthotropic plates under static in-plane loading (including shear)	1990	ESDU	0
1268	STRUCT 01.01.01 C	The strength of struts.	1990	ESDU	0
1269	SS1 E	Guide to the use of the Stress and Strength Series.	1990	ESDU	0
1270	90015 A	Vapour pressures and critical points of liquids. Halogenated methanes.	1990	ESDU	0
1271	90031	Fretting fatigue.	1990	ESDU	0
1272	STRUCT 02.01.08 C	Buckling in compression of sheet between rivets.	1990	ESDU	0
1273	89008 C	Normal-force-curve and pitching-moment-curve slopes of forebody-cylinder combinations at zero angle of attack for Mach numbers up to 5.	1990	ESDU	0
1274	81020 A	A method of estimating a separation boundary for two-dimensional aerofoil sections in transonic flow.	1990	ESDU	0
1275	90012	Energy height method for flight path optimisation.	1990	ESDU	0
1276	90028	Effect of environment on fatigue crack propagation rate in titanium alloy sheet and plate.	1990	ESDU	0
1277	89020 A	Thermophysical properties of isopropyl alcohol. Part II: thermodynamic properties at elevated pressures.	1990	ESDU	0
1278	76002 A	First-order method for estimating the subcritical pressure distribution on a two-dimensional aerofoil in compressible viscous flow.	1990	ESDU	0
1279	90009	Fatigue of aluminium alloy joints with various fastener systems. Medium load transfer.	1990	ESDU	0
1280	89019 A	Orthobaric densities and molar volumes of liquids. Aromatic hydrocarbons.	1990	ESDU	0
1281	90002	Struts: strength under flexural, local and inter-rivet buckling.	1990	ESDU	0
1282	SS1	Guide to the use of the Stress and Strength Series.	1990	ESDU	0
1283	STRUCT 01.01.01	The strength of struts.	1990	ESDU	0
1284	STRUCT 01.01.08	Local instability of struts with flat sides.	1990	ESDU	0

1285	STRUCT 02.01.08	Buckling in compression of sheet between rivets.	1990	ESDU	0
1286	90008	Introduction to transonic aerodynamics of aerofoils and wings.	1990	ESDU	0
1287	78021	Guide to Items on the strength and stability of struts	1990	ESDU	0
1288	89046	Fatigue of aluminium alloy joints with various fastener systems. Low load transfer.	1989	ESDU	0
1289	89031	Guide to the selection of surface treatments for the improvement of fatigue strength of steels.	1989	ESDU	0
1290	AERO C.04.01.08 B	Control hinge-moment coefficient derivative due to tab.	1989	ESDU	0
1291	89004	Effect of fretting on fatigue strength of aluminium alloys.	1989	ESDU	0
1292	89018	Orthobaric densities and molar volumes of liquids. Introduction to Data Items issued after July 1989.	1989	ESDU	0
1293	89045	Film thicknesses in lubricated Hertzian contacts. Part 2: point contacts.	1989	ESDU	0
1294	AERO C.04.01.06 B	Full-span control hinge-moment coefficient derivatives for unswept wings in incompressible flow with allowance for spanwise variation of sectional properties.	1989	ESDU	0
1295	89003	Thermophysical properties of benzene. Part II: thermodynamic properties at elevated pressures.	1989	ESDU	0
1296	89044	Friction in bearings.	1989	ESDU	0
1297	AERO C.04.01.03 B	Effect of nose balance on two-dimensional control hinge-moment coefficients.	1989	ESDU	0
1298	89001	Application of process integration to utilities, combined heat and power and heat pumps.	1989	ESDU	0
1299	89015	Introduction to Data Items on flight path optimisation.	1989	ESDU	0
1300	86038 A	Fouling of heat exchanger surfaces: general principles.	1989	ESDU	0
1301	STRUCT 02.03.24	Strength of castellations in shear.	1989	ESDU	0
1302	CFS	Conversion factors	1989	ESDU	0
1303	89007	Flexural and torsional-flexural buckling of thin-walled open section struts.	1989	ESDU	0
1304	89032	Parameter estimation of linear systems in the presence of process noise using the Maximum Likelihood method.	1989	ESDU	0
1305	88001 A	Boiling inside tubes: critical heat flux for flow in uniformly heated horizontal tubes.	1989	ESDU	0
1306	89021	Information on the use of Data Items on hot structures.	1989	ESDU	0
1307	89048	Elastic stress concentration factors. Geometric discontinuities in rods and tubes of isotropic materials.	1989	ESDU	0
1308	CFS	Conversion factors	1989	ESDU	0
1309	74037 B	Introduction and guide to ESDU data on acoustic fatigue.	1989	ESDU	0
1310	89007	Flexural and torsional-flexural buckling of thin-walled open section struts.	1989	ESDU	0
1311	89022	Heat transfer definitions and equations.	1989	ESDU	0
1312	89037	Orthobaric densities and molar volumes of liquids. Alcohols.	1989	ESDU	0
1313	89023	Temperatures in plates subjected to a recovery temperature varying linearly with time.	1989	ESDU	0
1314	84005 A	Estimation of drag due to inoperative turbo-jet and turbo-fan engines using Data Item Nos 81009 and 84004.	1989	ESDU	0
1315	89027	Steady state temperatures and thermal stresses in a spherical or cylindrical laminated shell.	1989	ESDU	0
1316	AERO C.04.01.01 B	Rate of change of hinge-moment coefficient with incidence for a plain control in incompressible two-dimensional flow, (b sub 1) sub zero.	1989	ESDU	0
1317	88010 A	Thermophysical properties of toluene. Part II: thermodynamic properties at elevated pressures.	1989	ESDU	0
1318	AERO C.04.01.02 B	Rate of change of hinge-moment coefficient with control deflection for a plain control in incompressible two-dimensional flow, (b sub 2) sub zero.	1989	ESDU	0
1319	89043	A comparison of techniques for balancing planar linkages.	1989	ESDU	0
1320	89038	Reflux condensation in vertical tubes.	1989	ESDU	0

1321	89024	Resultant forces and moments in completely restrained plates subjected to a recovery temperature varying linearly with time.	1989	ESDU	0
1322	88006 A	Estimation of drag arising from asymmetry in thrust or airframe configuration.	1989	ESDU	0
1323	89009	Hinge moment coefficient derivatives for trailing-edge controls on wings at subsonic speeds.	1989	ESDU	0
1324	STRUCT 02.03.24 B	Strength of castellations in shear.	1989	ESDU	0
1325	89026	Temperatures in plates subjected to a sudden increase in recovery temperature.	1989	ESDU	0
1326	AERO C.04.01.00 C	Introduction to Data Items on control hinge moments.	1989	ESDU	0
1327	89039	Boiling inside tubes: pressure drop in straight tubes with upward or horizontal flow.	1989	ESDU	0
1328	69023 D	Average gust frequencies. Subsonic transport aircraft.	1989	ESDU	0
1329	89010	Example of procedure in calculation of control hinge moments.	1989	ESDU	0
1330	89025	Thermal stresses in unrestrained plates subjected to a recovery temperature varying linearly with time.	1989	ESDU	0
1331	88008	Fatigue limit of unnotched steels (related to tensile strength).	1988	ESDU	0
1332	88034	Avoidance of buckling of some engineering elements (struts, plates and gussets).	1988	ESDU	0
1333	88020	Thermophysical properties of propylene oxide.	1988	ESDU	0
1334	85041 A	Boiling inside tubes: general aspects and saturated wet-wall heat transfer.	1988	ESDU	0
1335	88039	The Kalman filter.	1988	ESDU	0
1336	88024	Fouling in cooling water systems.	1988	ESDU	0
1337	83034 A	Elastic local buckling stresses of thin-walled unstiffened circular cylinders under combined axial compression and internal pressure.	1988	ESDU	0
1338	88018	Selection of alloys for hydrodynamic bearings.	1988	ESDU	0
1339	88005	Vapour pressures and critical points of liquids. C1 to C6 alkanols.	1988	ESDU	0
1340	84016 B	Low-fin staggered tube banks: heat transfer and pressure loss for turbulent single-phase crossflow.	1988	ESDU	0
1341	AERO A.06.01.09 B	Stability derivative ($L_{\dot{v}}$) sub γ . Contribution of part-span dihedral to rolling moment due to sideslip.	1988	ESDU	0
1342	88016 A	Thermophysical properties of ethylene oxide.	1988	ESDU	0
1343	84035 A	Drag of stub wings and fairings on a flat plate with a turbulent boundary layer at subsonic and supersonic speeds.	1988	ESDU	0
1344	68020 C	The compressible two-dimensional turbulent boundary layer, both with and without heat transfer, on a smooth flat plate, with application to wedges, cylinders, and cones.	1988	ESDU	0
1345	88027	Effect of fretting on fatigue strength of titanium alloys.	1988	ESDU	0
1346	88012	Vapour pressures and critical points of liquids. C7 to C20 alkanols.	1988	ESDU	0
1347	87037 A	Take-off performance of vectored-jet-thrust V/STOL aircraft.	1988	ESDU	0
1348	88011	Parameter estimation of linear systems in the absence of process noise: (ii) the Maximum Likelihood method.	1988	ESDU	0
1349	88028	Flow induced acoustic resonance in tubular heat exchangers.	1988	ESDU	0
1350	86022 A	High-fin staggered tube banks: heat transfer and pressure drop for turbulent single phase gas flow.	1988	ESDU	0
1351	83034	Elastic local buckling stresses of thin-walled unstiffened circular cylinders under combined axial compression and internal pressure.	1988	ESDU	0
1352	68020 C	The compressible two-dimensional turbulent boundary layer, both with and without heat transfer, on a smooth flat plate, with application to wedges, cylinders, and cones.	1988	ESDU	0
1353	67019	Static strength of screwed fasteners	1988	ESDU	0
1354	87018	Example of take-off field length calculations for a civil transport aeroplane.	1987	ESDU	0
1355	87017	Orthobaric densities and molar volumes of liquids. Part 2A: C2 to C16 alkenes.	1987	ESDU	0
1356	87016 A	Effect of size on fatigue strength of steel components.	1987	ESDU	0

1357	86013	Guide to the use of Data Items on the fatigue strength of welded joints in steels.	1987	ESDU	0
1358	81017 A	Mean forces, pressures, and moments for circular cylindrical structures: finite-length cylinders in uniform and shear flow.	1987	ESDU	0
1359	71019 A	Drag-rise Mach number of aerofoils having a specified form of upper-surface pressure distribution: charts and comments on design.	1987	ESDU	0
1360	87019	Flow induced vibration in tube bundles with particular reference to shell and tube heat exchangers.	1987	ESDU	0
1361	87022	Orthobaric densities and molar volumes of liquids. Part 2B: alkadienes and alkynes.	1987	ESDU	0
1362	74036 B	Drag due to a circular cavity in a plate with a turbulent boundary layer at subsonic, transonic and supersonic speeds.	1987	ESDU	0
1363	87007	Design and material selection for dry rubbing bearings.	1987	ESDU	0
1364	72003 A	Natural frequencies of built-up, flat, periodic skin-stringer structures. Part I: stringers rigid in bending.	1987	ESDU	0
1365	83024 A	Approximation to the roots of the lateral equations of motion of an aircraft with and without a simple yaw damper.	1987	ESDU	0
1366	74026 A	Estimation of r.m.s. stress in internal plates of a box structure subjected to random acoustic loading.	1987	ESDU	0
1367	87012	An introduction to aircraft buffet and buffeting.	1987	ESDU	0
1368	87028	Melting points, boiling points and critical properties.	1987	ESDU	0
1369	87009	Reliable data sources for key industrial chemicals.	1987	ESDU	0
1370	87010 A	Orthobaric densities and molar volumes of liquids. Part 1A: C1 to C18 alkanes.	1987	ESDU	0
1371	86013 A	Guide to the use of Data Items on the fatigue strength of welded joints in steels.	1987	ESDU	0
1372	AERO A.S.06.03.04 B	Spanwise centre of pressure of isolated lifting surface at supersonic speeds.	1987	ESDU	0
1373	86012	Vapour pressure and critical points of liquids. Part 3A: C6 to C10 alkylbenzenes.	1986	ESDU	0
1374	86033	The effect of electrodeposited chromium on the fatigue strength of low alloy steel.	1986	ESDU	0
1375	85016 A	Vapour pressures and critical points of liquids. Part 2B: C7 to C16 alkenes.	1986	ESDU	0
1376	82025 A	Failure modes of fibre reinforced laminates.	1986	ESDU	0
1377	86028	Fatigue strength of keyed assemblies.	1986	ESDU	0
1378	86008	Calculation methods for steadily loaded axial groove hydrodynamic journal bearings. Low viscosity process fluid lubrication. (To be used in conjunction with Items Nos. 84031 and 85028.)	1986	ESDU	0
1379	86027	Vapour pressure and critical points of liquids. Part 3B: additional alkyl- and alkenylbenzenes.	1986	ESDU	0
1380	86005	Vertical deflection characteristics of aircraft tyres.	1986	ESDU	0
1381	86025	Design against fatigue: vibration of structures under acoustic or aerodynamic excitation.	1986	ESDU	0
1382	86004	Simplified forms of performance equations. Addendum A: effect on aeroplane level speed of small changes in thrust, drag, weight, power.	1986	ESDU	0
1383	83014 A	Failure criteria for an individual layer of a fibre reinforced composite laminate under in-plane loading.	1986	ESDU	0
1384	86017	Propeller/body interaction for thrust and drag.	1986	ESDU	0
1385	82030 F	Fire hazard properties: flash points, flammability limits and autoignition temperatures.	1986	ESDU	0
1386	86040	Selection of surface treatments and coatings for combating wear of load-bearing surfaces.	1986	ESDU	0
1387	86001	Vapour pressures and critical points of liquids. Part 2C: alkadienes and alkynes.	1986	ESDU	0
1388	86041	Conversion of stability derivatives for a general change of body axes.	1986	ESDU	0
1389	86003	Example of the use of Data Item No. 85001. Choice of reinforcement for a circular hole in a fibre reinforced laminated plate. (Data relating to one particular set of laminate properties.)	1986	ESDU	0
1390	80025	Mean forces, pressures and flow field velocities for circular cylindrical structures: single cylinder with two-dimensional flow	1986	ESDU	0
1391	73004	Criteria of yielding for ductile materials under static loading	1985	ESDU	0
1392	85006	Contribution of wing dihedral to sideforce, yawing moment and rolling moment derivatives due to rate of roll at subsonic speeds, ($Y_{\text{sub } p}$) $\text{sub } \gamma$, ($N_{\text{sub } p}$) $\text{sub } \gamma$ and ($L_{\text{sub } p}$) $\text{sub } \gamma$.	1985	ESDU	0

1393	85022	Practical guide to the selection of condensers.	1985	ESDU	0
1394	85045	Stress concentrations: interaction and stress decay for selected cases.	1985	ESDU	0
1395	85019	Fatigue crack propagation rates and threshold stress intensity factors in high strength low alloy steel plate, bar and forgings.	1985	ESDU	0
1396	85014	Design for minimum weight. Struts of uniform section. Thin-walled round tubes.	1985	ESDU	0
1397	85008	Vapour pressures and critical points of liquids. Part 2A: C2 to C6 alkenes.	1985	ESDU	0
1398	AERO W.01.01.07 B	Maximum lift coefficients for aerofoil sections at Mach numbers from 0.60. to 0.75.	1985	ESDU	0
1399	85026	Servomechanism transfer functions.	1985	ESDU	0
1400	85010	Estimation of sideforce, yawing moment and rolling moment derivatives due to rate of roll for complete aircraft at subsonic speeds.	1985	ESDU	0
1401	85013 A	Design of disc cams and their followers: examples.	1985	ESDU	0
1402	85030	Force and moment components for take-off and landing calculations.	1985	ESDU	0
1403	83006 A	Contribution of fin to sideforce, yawing moment and rolling moment derivatives due to rate of roll, (Y sub p) sub F, (N sub p) sub F, (L sub p) sub F, in the presence of body, wing and tailplane.	1985	ESDU	0
1404	84023 A	Shell-and-tube exchangers: pressure drop and heat transfer in shellside downflow condensation.	1985	ESDU	0
1405	76011 A	First approximation to take-off field length of multi-engined transport aeroplanes.	1985	ESDU	0
1406	84025 A	Endurance of aluminium alloy lugs with steel interference-fit pins or bushes.	1985	ESDU	0
1407	85017	Thrust and drag accounting for propeller/airframe interaction.	1985	ESDU	0
1408	85002	Vapour pressures and critical points of liquids. Part 1C: C10 to C24 alkanes.	1985	ESDU	0
1409	85014	Design for minimum weight. Struts of uniform section. Thin-walled round tubes.	1985	ESDU	0
1410	84040	First approximation to landing field length for civil transport aeroplanes (50 ft, 15.24 m screen).	1984	ESDU	0
1411	84021	Vapour pressures and critical points of liquids. Introduction to Data Items issued after September 1984.	1984	ESDU	0
1412	84006	Elastic buckling of thin-walled unstiffened circular cylinders under bending, axial compression and internal pressure.	1984	ESDU	0
1413	STRUCT 02.01.47 A	Buckling stress coefficients for parallelogram shaped panels in continuous flat sheet under uniform compression.	1984	ESDU	0
1414	84022	Vapour pressures and critical points of liquids. Part 1A: C1 to C7 alkanes.	1984	ESDU	0
1415	81009 A	Estimation of windmilling drag and airflow of turbo-jet and turbo-fan engines.	1984	ESDU	0
1416	84028	Vapour pressures and critical points of liquids. Part 1B: C8 and C9 alkanes.	1984	ESDU	0
1417	81042 A	Vapour pressures and critical points of liquids. XX: additional derivatives of phenol.	1984	ESDU	0
1418	TM 49	CONTRIBUTION TO ROLLING MOMENT DERIVATIVE DUE TO SIDESLIP RESULTING FROM INTERFERENCE EFFECT OF FIN ON TAILPLANE, (L _v)TH	1984	ESDU	0
1419	84009	Nonlinear systems: an introduction to Describing Functions.	1984	ESDU	0
1420	83038 A	Baffled shell-and-tube heat exchangers; flow distribution, pressure drop and heat transfer coefficient on the shellside.	1984	ESDU	0
1421	81025 A	Vapour pressures and critical points of liquids. XIX: phenol and derivatives.	1984	ESDU	0
1422	84042	Stiffness data for finite element calculations. Equivalent stiffness factors for shear webs.	1984	ESDU	0
1423	72015 B	Endurance of aluminium alloy structural elements subjected to simulated acoustic loading.	1984	ESDU	0
1424	84020	An introduction to time-dependent aerodynamics of aircraft response, gusts and active controls.	1984	ESDU	0
1425	84004 A	Estimation of spillage drag for a wide range of axisymmetric intakes at M less than 1.	1984	ESDU	0
1426	84037	Fatigue strength of external and internal steel screw threads under axial loading. (Standard forms not greater than 1.0 inch diameter.)	1984	ESDU	0
1427	84002	Estimation of sideforce, yawing moment and rolling moment derivatives due to rate of yaw for complete aircraft at subsonic speeds.	1984	ESDU	0
1428	83033 A	Stress intensity factors for corner cracks in loaded holes in lugs and wide plates.	1984	ESDU	0

1429	82016 A	Vapour pressures and critical points of liquids. XXI: cyclic hydrocarbons.	1984	ESDU	0
1430	82034 A	Aircraft forces due to interference between a jet efflux and a slotted flap.	1984	ESDU	0
1431	66013 A	Definitions of terms for acoustic fatigue analysis.	1984	ESDU	0
1432	84001	Growth of cracks under constant amplitude fatigue loading: example calculations.	1984	ESDU	0
1433	84042	Stiffness data for finite element calculations. Equivalent stiffness factors for shear webs.	1984	ESDU	0
1434	84009	Nonlinear systems: an introduction to Describing Functions.	1984	ESDU	0
1435	84006	Elastic buckling of thin-walled unstiffened circular cylinders under bending, axial compression and internal pressure.	1984	ESDU	0
1436	STRUCT 02.01.47	Buckling stress coefficients for parallelogram shaped panels in continuous flat sheet under uniform compression.	1984	ESDU	0
1437	84012	Buckling of thin-walled unstiffened circular cylinders under torsion and pressure.	1984	ESDU	0
1438	79032	Stress concentrations at grooves for retaining rings or seals (with notes on design against fatigue).	1984	ESDU	0
1439	84032	Nonlinear systems: the Describing Function method for closed-loop system response.	1984	ESDU	0
1440	83028	Approximate parametric method for propeller thrust estimation. Addendum A: application to fixed-pitch propellers.	1983	ESDU	0
1441	83012	Fatigue strength of cold-rolled titanium alloy screw threads under axial load (room temperature and elevated temperatures).	1983	ESDU	0
1442	77014	Flat panels in shear Post-buckling analysis	1983	ESDU	0
1443	83036	Natural frequencies of rectangular, specially orthotropic laminated plates	1983	ESDU	0
1444	83043	Flexible circular frames supported by a shell. Moments, forces and displacements due to concentrated loads and couples.	1983	ESDU	0
1445	83044	Plasticity correction factors for plate buckling	1983	ESDU	0
1446	83007	Fatigue crack propagation rates and threshold stress intensity factor ranges for aluminium alloy sheet.	1983	ESDU	0
1447	STRUCT 03.06.05 A	Bending moment in elliptical frames due to internal pressure.	1983	ESDU	0
1448	83027	The synthesis of cam motion by blending segments.	1983	ESDU	0
1449	83043	Flexible circular frames supported by a shell. Moments, forces and displacements due to concentrated loads and couples.	1983	ESDU	0
1450	STRUCT 02.01.22 A	Buckling stress coefficients for flat rectangular plates in compression. (Edges restrained against rotation - antisymmetric rotation.)	1983	ESDU	0
1451	STRUCT 03.06.04 A	Radial deflections of circular frame due to concentrated loads and couples.	1983	ESDU	0
1452	83026	Contribution of body to yawing moment and sideforce derivatives due to rate of yaw, $(N_{\text{sub } r})_{\text{sub } B}$ and $(Y_{\text{sub } r})_{\text{sub } B}$.	1983	ESDU	0
1453	83041	A summary of the concepts relating to random processes.	1983	ESDU	0
1454	STRUCT 02.01.22	Buckling stress coefficients for flat rectangular plates in compression. (Edges restrained against rotation - antisymmetric rotation.)	1983	ESDU	0
1455	STRUCT 02.03.02	Flat panels in shear. Buckling of long panels with transverse stiffeners.	1983	ESDU	0
1456	STRUCT 00.07.00	Information on the use of Data Sheets in the 00.07 series.	1983	ESDU	0
1457	STRUCT 00.07.01	Torsion and secondary warping constants for a bulb angle.	1983	ESDU	0
1458	STRUCT 00.07.04	Primary warping constant for Z-sections with bulbs.	1983	ESDU	0
1459	83030	Selection of filter rating for lubrication systems.	1983	ESDU	0
1460	STRUCT 00.07.00 A	Information on the use of Data Sheets in the 00.07 series.	1983	ESDU	0
1461	82017 A	Contribution of fin to sideforce, yawing moment and rolling moment derivatives due to rate of yaw, $(Y_{\text{sub } r})_{\text{sub } F}$, $(N_{\text{sub } r})_{\text{sub } F}$, $(L_{\text{sub } r})_{\text{sub } F}$.	1983	ESDU	0

1462	AERO W.S.02.04.13 A	Profile drag coefficients for two-dimensional biconvex aerofoil with zero heat transfer at supersonic speeds.	1983	ESDU	0
1463	STRUCT 00.07.01 A	Torsion and secondary warping constants for a bulb angle.	1983	ESDU	0
1464	AERO W.S.02.04.12 A	Skin friction drag coefficients for a flat plate in two-dimensional flow with zero heat transfer.	1983	ESDU	0
1465	82021 A	Pressure loss and heat transfer for single-phase turbulent flow in roughened channels: methods of calculation.	1983	ESDU	0
1466	STRUCT 00.07.04 A	Primary warping constant for Z-sections with bulbs.	1983	ESDU	0
1467	83031	Dynamic sealing of fluids. II: guide to selection of reciprocating seals.	1983	ESDU	0
1468	83001 A	Approximate parametric method for propeller thrust estimation.	1983	ESDU	0
1469	73007 A	Stiffness of loaded flat strips under sinusoidally distributed bending couples at their edges (for use in local buckling calculations). (Uniaxial or biaxial loading. Isotropic or orthotropic materials.)	1983	ESDU	0
1470	74038 A	Effect of an axial compressive mean stress on the fatigue strength of aluminium alloy bar (plain and notched).	1983	ESDU	0
1471	STRUCT 02.03.02 B	Flat panels in shear. Buckling of long panels with transverse stiffeners.	1983	ESDU	0
1472	83007	Fatigue crack propagation rates and threshold stress intensity factor ranges for aluminium alloy sheet.	1983	ESDU	0
1473	TD MEMO 6403 C	Method for the rapid estimation of theoretical spanwise loading due to a change of incidence.	1983	ESDU	0
1474	STRUCT 03.06.03 A	Shear forces in circular frame due to concentrated loads and couples.	1983	ESDU	0
1475	83008	The estimation of basic dimensions of disc cams with swinging followers.	1983	ESDU	0
1476	83025	Drag of circular cylinders normal to a flat plate with a turbulent boundary layer for Mach numbers up to 3.	1983	ESDU	0
1477	83021	The kinematic design of epicyclic gear trains.	1983	ESDU	0
1478	83004	Calculation methods for steadily loaded, off-set pivot, tilting-pad thrust bearings.	1983	ESDU	0
1479	STRUCT 02.05.00 A	Diffusion of loads into flat uniform panels.	1983	ESDU	0
1480	81038 C	Heat pipes - performance of two-phase closed thermosyphons.	1983	ESDU	0
1481	81008 A	The stability and response of linear systems. Part VI: selection of an assessment method.	1982	ESDU	0
1482	AERO A.S.06.03.02 A	Stability derivative L sub p. Effect of fuselage interference on rolling moment due to rolling at supersonic speeds.	1982	ESDU	0
1483	AERO A.S.06.03.03 A	Stability derivative L sub p. Rolling moment due to rolling for radial multi-planar wing arrangements at supersonic speeds.	1982	ESDU	0
1484	82024	A guide to the selection of cam and follower type.	1982	ESDU	0
1485	AERO 00.01.06 A	Thermodynamic properties of air in dissociation equilibrium.	1982	ESDU	0
1486	AERO W.S.02.03.02 B	Theoretical lift-dependent drag of wings at supersonic speeds.	1982	ESDU	0
1487	82028	Pressure drag of spherically-blunted conical forebodies at zero incidence for Mach numbers of 3 and above.	1982	ESDU	0
1488	AERO 00.01.08 A	Specific heat capacities and their ratio as functions of temperature for several common gases.	1982	ESDU	0
1489	AERO S.00.03.23 A	Conditions behind oblique shock waves for air in dissociation equilibrium.	1982	ESDU	0
1490	AERO W.S.00.03.03 A	Introductory Item on two-dimensional aerofoils at supersonic speeds.	1982	ESDU	0

1491	STRUCT 02.01.17 A	Nomogram for strength of stringers in panel in compression.	1982	ESDU	0
1492	AERO S.00.03.22 A	Conditions behind normal shock waves in air in dissociation equilibrium.	1982	ESDU	0
1493	81037 A	Designing with rolling bearings. Part 2: selection of single row angular contact ball, tapered roller and spherical roller bearings.	1982	ESDU	0
1494	82005 A	Linearised two-dimensional oscillatory airforce coefficients and load distributions on thin aerofoils in supersonic flow.	1982	ESDU	0
1495	83003	Notes on the design of helical compression and tension springs of round wire.	1982	ESDU	0
1496	AERO A.S.06.03.01 A	Stability derivative $L_{sub p}$, rolling moment due to rolling for wings at supersonic speeds.	1982	ESDU	0
1497	AERO S.00.03.09 A	Properties of plane steady shock waves.	1982	ESDU	0
1498	AERO S.00.03.08 A	Simple-wave flow.	1982	ESDU	0
1499	AERO A.02.03.02 A	Optimum area distribution and associated theoretical transonic drag-rise for aircraft at zero lift.	1982	ESDU	0
1500	AERO C.01.01.01 B	Lift-curve slope for single fin and rudder. (i) Body shape merging into fin.	1982	ESDU	0
1501	81019	Methods for estimating the pressure distribution on a two-dimensional aerofoil in viscous transonic flow.	1982	ESDU	0
1502	83002	Allowable stresses for helical compression and tension springs of round wire.	1982	ESDU	0
1503	81006 A	Stress concentration factors. Axially loaded lugs with clearance-fit pins.	1982	ESDU	0
1504	Notation and Units	Notation and units in Performance Data Items	1982	ESDU	0
1505	AERO A.S.01.03.02 A	Lift-curve slope of isolated lifting surface at supersonic speeds.	1982	ESDU	0
1506	81033 A	Atlas of performance curves for crank-rocker and slider-crank linkages.	1982	ESDU	0
1507	STRUCT 02.01.17	Nomogram for strength of stringers in panel in compression.	1982	ESDU	0
1508	AERO 00.01.11 A	Mollier chart of the thermodynamic properties of argon-free air in dissociation equilibrium: $T = 2\ 000\ K$ to $T = 13\ 000\ K$.	1982	ESDU	0
1509	AERO W.S.00.03.05 A	The calculation of the theoretical characteristics of two-dimensional aerofoils at supersonic speeds.	1982	ESDU	0
1510	81013 A	Effect of trailing-edge flaps on sideforce and yawing moment derivatives due to sideslip, $(Y_{sub v})_{sub f}$ and $(N_{sub v})_{sub f}$.	1982	ESDU	0
1511	81027 A	Lattice structures. Part 1: mean fluid forces on single and multiple plane frames.	1982	ESDU	0
1512	ME1 B	Guide to the use of Item No. 76005. Kinematic and dynamic data for crank-rocker and slider-crank linkages.	1982	ESDU	0
1513	70023 A	The measurement and analysis of climb and excess power performance.	1982	ESDU	0
1514	82013	Laminate stacking sequences for special orthotropy. (Application to fibre reinforced composites).	1982	ESDU	0
1515	AERO 00.01.12 A	Mollier chart of the thermodynamic properties of argon-free air in dissociation equilibrium: $T = 100\ K$ to $T = 6\ 000\ K$.	1982	ESDU	0
1516	73019 C	Approximate methods for estimation of cruise range and endurance: aeroplanes with turbo-jet and turbo-fan engines.	1982	ESDU	0
1517	81006	Stress concentration factors. Axially loaded lugs with clearance-fit pins.	1982	ESDU	0
1518	78023	Fatigue strength of transverse welded joints and attachments in steels under bending loading.	1982	ESDU	0
1519	82014	Designing with rolling bearings. Part 3: special types.	1982	ESDU	0
1520	82033	First approximation to take-off distance to 50 ft (15.2 m) for light and general aviation aeroplanes.	1982	ESDU	0

1521	AERO W.S.02.03.10 A	Wave drag of flat plates with blunt noses at zero incidence.	1982	ESDU	0
1522	AERO W.S.08.03.02 B	Pitching velocity derivatives for wings at supersonic speeds $Z_{sub q}$ and $M_{sub q}$.	1982	ESDU	0
1523	77002 A	Design of parallel axis straight spur and helical gears: geometric design.	1981	ESDU	0
1524	81016	Viscosity of liquid aromatic hydrocarbons.	1981	ESDU	0
1525	81007	Fatigue strength in bending of steel I-beams with welded attachments	1981	ESDU	0
1526	80020	Average downwash at the tailplane at low angles of attack and subsonic speeds	1981	ESDU	0
1527	AERO W.05.01.01 A	Kinetic pressure in the wake behind a wing.	1981	ESDU	0
1528	81044	Heat transfer coefficients for water or steam in plain circular tubes: fully-developed turbulent flow.	1981	ESDU	0
1529	AERO W.S.00.03.18 B	Aerodynamic heating: temperatures at a perfectly insulated surface neglecting radiation.	1981	ESDU	0
1530	81035	An introduction to aircraft noise lateral attenuation.	1981	ESDU	0
1531	AERO S.00.03.07 A	One-dimensional isentropic gas flow.	1981	ESDU	0
1532	AERO A.06.01.01 A	Stability derivative $L_{sub p}$, rolling moment due to rolling for swept and tapered wings.	1981	ESDU	0
1533	66028 A	Relationships between some common intake parameters.	1981	ESDU	0
1534	81010	Thermophysical properties of industrially important fluids on the saturation line: ammonia.	1981	ESDU	0
1535	81041	Flexibilities of and stresses in thin unpressurised pipe bends with flanged ends under in-plane bending: influence of bend angle.	1981	ESDU	0
1536	AERO 00.02.05 A	Heat transfer under conditions of forced convection for the subsonic turbulent flow of gases in smooth straight ducts of constant cross section.	1981	ESDU	0
1537	AERO A.08.01.09 A	Flow field of subsonic axisymmetric jet in a parallel stream.	1981	ESDU	0
1538	AERO B.S.02.03.01 C	Introductory notes on the drag at zero incidence of bodies at supersonic speeds.	1981	ESDU	0
1539	69007 B	The determination of gross thrust and mass flow in flight. (Air breathing ducted-flow engines with convergent nozzles.)	1981	ESDU	0
1540	69006 A	Introduction to the measurement of thrust in flight. (Air breathing ducted-flow engines.)	1981	ESDU	0
1541	81022	Guide to the use of Data Items in the design of bonded joints.	1981	ESDU	0
1542	AERO C.01.01.04 A	Effect of gap on the slope of lift curve and slope of lift increment curve due to control surface deflection.	1980	ESDU	0
1543	68037 A	Local instability of bonded corrugated-core sandwich panels under longitudinal compression. (Symmetrical cores with identical face plates.)	1980	ESDU	0
1544	68029 A	Information on the use of Data Items on sandwich panels.	1980	ESDU	0
1545	STRUCT 02.04.04 A	Initial buckling of flat plates under bending and compression or tension.	1980	ESDU	0
1546	STRUCT 01.00.01 A	Flexural properties of stringer sections (lipped and unlipped angles, channels and Z-sections).	1980	ESDU	0
1547	71004 B	Flange efficiency factors for curved beams under bending in the plane of curvature.	1980	ESDU	0
1548	AERO B.S.05.03.01 A	Pressure distribution on forebodies and afterbodies of revolution at zero incidence in inviscid flow.	1980	ESDU	0
1549	STRUCT 00.06.05 A	Shear centre of D-section.	1980	ESDU	0

1550	AERO B.S.02.03.08 A	Forebody-afterbody interference wave drag of simple pointed or ducted body shapes with short midbodies.	1980	ESDU	0
1551	STRUCT 00.06.00 A	Information on the use of Data Items in the Struct 00.06. series.	1980	ESDU	0
1552	73018 A	Introduction to estimation of range and endurance.	1980	ESDU	0
1553	77019 A	Vapour pressures and critical points of liquids. XI: heterocyclic nitrogen compounds.	1980	ESDU	0
1554	STRUCT 00.06.01 A	Method of calculating stress distribution in a reinforced symmetrical shell under bending.	1980	ESDU	0
1555	80035	Buckling of outstanding flanges. Direct stresses varying linearly or parabolically	1980	ESDU	0
1556	71004	Flange efficiency factors for curved beams under bending in the plane of curvature.	1980	ESDU	0
1557	STRUCT 00.06.04 A	Shear centre of circular arc section.	1980	ESDU	0
1558	STRUCT 02.04.04	Initial buckling of flat plates under bending and compression or tension.	1980	ESDU	0
1559	STRUCT 01.00.01	Flexural properties of stringer sections (lipped and unlipped angles, channels and Z-sections).	1980	ESDU	0
1560	SS3	Guide to Items on struts, beams and shafts.	1980	ESDU	0
1561	STRUCT 02.01.49	Buckling stress coefficients for flat rectangular plates tapered in thickness, under compression.	1979	ESDU	0
1562	STRUCT 02.01.10	Buckling stress coefficients for slightly curved plates with clamped edges.	1979	ESDU	0
1563	STRUCT 02.03.19	Buckling stress coefficients for curved plates in shear (circumferential length exceeding axial length, edges simply-supported).	1979	ESDU	0
1564	AERO S.00.03.27 A	Examples in the use of the Mollier chart (isentropic flow and Prandtl-Meyer expansion for air in dissociation equilibrium).	1979	ESDU	0
1565	79008	Elastic stress concentration factors. Rectangular notch in the edge of a wide flat plate in tension.	1979	ESDU	0
1566	AERO B.S.02.03.12 A	Supersonic base pressure of cylindrical bodies.	1979	ESDU	0
1567	77017 B	Endurance of titanium alloy lugs (Ti-6Al-4V, annealed and Ti-4Al-4Mo-2Sn-0.5Si).	1979	ESDU	0
1568	77024 B	Thermal conductivity, viscosity, heat capacity, density and Prandtl number of sea water and its concentrates.	1979	ESDU	0
1569	77031 A	Heat transfer by free convection and radiation - simply shaped bodies in air and other fluids.	1979	ESDU	0
1570	STRUCT 02.01.49 A	Buckling stress coefficients for flat rectangular plates tapered in thickness, under compression.	1979	ESDU	0
1571	STRUCT 02.01.10 A	Buckling stress coefficients for slightly curved plates with clamped edges.	1979	ESDU	0
1572	STRUCT 02.03.19 B	Buckling stress coefficients for curved plates in shear (circumferential length exceeding axial length, edges simply-supported).	1979	ESDU	0
1573	STRUCT 02.01.11 B	Average and edge stresses for slightly curved plates with clamped edges in compression with initial irregularities.	1978	ESDU	0
1574	AERO 00.03.28 A	Conditions behind normal shock waves in a perfect gas for various values of gamma.	1978	ESDU	0
1575	AERO C.01.01.03 B	Rate of change of lift coefficient with control deflection in incompressible two-dimensional flow, (a sub 2) sub zero.	1978	ESDU	0
1576	66018 A	The relation between sound pressure level and r.m.s. fluctuating pressure.	1978	ESDU	0
1577	66017 A	Combination of levels in dB.	1978	ESDU	0
1578	68023	Thermal conductivity, viscosity, heat capacity, density and Prandtl number of solid, liquid and gaseous heavy water.	1978	ESDU	0

1579	AERO S.00.03.06 C	Introductory sheet on isentropic flow and shock waves.	1978	ESDU	0
1580	72012 B	Information on the use of Data Items on the buckling of plates and compression panels manufactured from isotropic materials.	1978	ESDU	0
1581	66016 A	Bandwidth correction.	1978	ESDU	0
1582	STRUCT 01.01.10 B	Torsional instability of stringers and struts of angle section.	1978	ESDU	0
1583	71016 C	Fluid forces, pressures and moments on rectangular blocks.	1978	ESDU	0
1584	68008 C	Specific heat capacity at constant pressure of ice, water and steam.	1978	ESDU	0
1585	77018 A	Curved panels in shear. Post-buckling analysis. - Includes Amendment A: 10/1977	1978	ESDU	0
1586	CF2	Conversion factors for fluid flows.	1978	ESDU	0
1587	68010 C	Density of ice, water and steam.	1978	ESDU	0
1588	78030	Struts with lateral loads.	1978	ESDU	0
1589	78020	Local buckling and crippling of I, Z and channel section struts	1978	ESDU	0
1590	77018	Curved panels in shear. Post-buckling analysis. - Includes Amendment A: 10/1977	1978	ESDU	0
1591	78016	The effect of post-weld treatments on fatigue at fillet welded attachments	1978	ESDU	0
1592	72012	Information on the use of Data Items on the buckling of plates and compression panels manufactured from isotropic materials.	1978	ESDU	0
1593	STRUCT 02.01.11	Average and edge stresses for slightly curved plates with clamped edges in compression with initial irregularities.	1978	ESDU	0
1594	STRUCT 01.01.10	Torsional instability of stringers and struts of angle section.	1978	ESDU	0
1595	STRUCT 02.01.02	Average and edge stresses for long flat plates in compression for different edge conditions.	1977	ESDU	0
1596	STRUCT 02.01.03	Average and edge stresses for thin flat aluminium alloy plates in compression.	1977	ESDU	0
1597	STRUCT 02.01.16	Strength of stringers in panel in compression.	1977	ESDU	0
1598	STRUCT 02.01.23	Average and edge stresses in long flat rectangular plates in compression under varying edge conditions.	1977	ESDU	0
1599	STRUCT 02.01.24	Stiffness after buckling. Flat rectangular plates in compression. (Edges simply-supported.)	1977	ESDU	0
1600	STRUCT 02.03.18	Buckling stress coefficients for curved plates in shear (axial length exceeding circumferential length, edges simply-supported).	1977	ESDU	0
1601	77023	Shear centre and primary warping constant for lipped and unlipped channel and Z-sections.	1977	ESDU	0
1602	77030	Buckling of struts. Lipped and unlipped Z sections.	1977	ESDU	0
1603	77011	Fatigue strength of transverse butt welds in steel plate under axial loading	1977	ESDU	0
1604	FAT E.05.06 A	Endurance of bonded lap joints. (Aluminium alloy sheet material; phenolic resin/vinyl powder glue, tensile loading.)	1977	ESDU	0
1605	FAT E.05.01 A	Endurance of structural joints. (Aluminium alloy material - tensile loading.)	1977	ESDU	0
1606	STRUCT 02.01.24 A	Stiffness after buckling. Flat rectangular plates in compression. (Edges simply-supported.)	1977	ESDU	0
1607	77001	Effect of intake total pressure loss on net thrust at take-off: turbo-jet and turbo-fan engines.	1977	ESDU	0
1608	77033	Fatigue of wrought and cast annealed Ti-5Al-2.5Sn titanium alloy. (In bending and under axial loading.)	1977	ESDU	0
1609	STRUCT 02.01.23 A	Average and edge stresses in long flat rectangular plates in compression under varying edge conditions.	1977	ESDU	0

1610	74018 A	Lost range, fuel and time due to climb and descent: aircraft with turbo-jet and turbo-fan engines.	1977	ESDU	0
1611	STRUCT 02.01.02 A	Average and edge stresses for long flat plates in compression for different edge conditions.	1977	ESDU	0
1612	FAT E.05.07 A	Endurance of bonded double strap joints. (Aluminium alloy sheet material; phenolic resin/vinyl powder glue, tensile loading.)	1977	ESDU	0
1613	77003	Elastic stresses and deflections under uniform pressure of flat rectangular sandwich panels; all edges clamped (isotropic face plates and orthotropic cores of zero flexural stiffness).	1977	ESDU	0
1614	73026 A	Introduction to non-dimensional methods for the measurement of performance of turbine-engined helicopters.	1977	ESDU	0
1615	STRUCT 02.01.03 A	Average and edge stresses for thin flat aluminium alloy plates in compression.	1977	ESDU	0
1616	77023	Shear centre and primary warping constant for lipped and unlipped channel and Z-sections.	1977	ESDU	0
1617	73027 A	Non-dimensional methods for the measurement of hover performance of turbine-engined helicopters.	1977	ESDU	0
1618	STRUCT 02.01.16 A	Strength of stringers in panel in compression.	1977	ESDU	0
1619	77030	Buckling of struts. Lipped and unlipped Z sections.	1977	ESDU	0
1620	77015	Lost range, fuel and time due to climb and descent: propeller-driven aeroplanes.	1977	ESDU	0
1621	AERO S.00.03.15 B	Pitot and static tubes in supersonic flow.	1977	ESDU	0
1622	76026 A	Lift and drag due to spoiler operation in the ground run.	1977	ESDU	0
1623	77027	Fatigue of wrought and cast Ti-6Al-4V titanium alloy. (In bending and under axial loading.)	1977	ESDU	0
1624	STRUCT 02.03.18 A	Buckling stress coefficients for curved plates in shear (axial length exceeding circumferential length, edges simply-supported).	1977	ESDU	0
1625	STRUCT 02.01.09 B	Inter-rievet buckling curves for specific materials.	1976	ESDU	0
1626	74003 A	Normal incidence absorption coefficients and acoustic impedances of typical single layer fibrous lining materials.	1976	ESDU	0
1627	76008	Drag of transverse rows of spherically-headed rivets immersed in a turbulent boundary layer at subsonic and supersonic speeds.	1976	ESDU	0
1628	74022 A	Buckling of corrugated shear webs.	1976	ESDU	0
1629	74004 A	Normal incidence absorption coefficients and acoustic impedances of single layer perforated sheet liners.	1976	ESDU	0
1630	STRUCT 03.06.01 A	Moments in circular frame due to concentrated loads and couples.	1976	ESDU	0
1631	TM 19	Effects of truncation on diffuser performance	1976	ESDU	0
1632	66006 A	Design for minimum weight. Struts of uniform section. Thin-walled square tubes.	1976	ESDU	0
1633	STRUCT 03.06.02 A	Direct forces in circular frame due to concentrated loads and couples.	1976	ESDU	0
1634	76030	Thermal conductivity of carbon dioxide gas and liquid.	1976	ESDU	0
1635	71014 A	Local buckling of compression panels with flanged stringers.	1976	ESDU	0
1636	66007 A	Design for minimum weight. Struts of uniform section. I-sections.	1976	ESDU	0
1637	76013	Elastic stresses and deflections under uniform pressure of flat rectangular sandwich panels; all edges simply-supported (isotropic face plates and orthotropic cores of zero flexural stiffness).	1976	ESDU	0
1638	71023 A	Normal melting points, boiling points and critical points of n-alkyl aldehydes and ketones.	1976	ESDU	0
1639	76023	Buckling of struts. Lipped and unlipped channel sections.	1976	ESDU	0
1640	76005	Kinematic and dynamic data for crank-rocker and slider-crank linkages. (Mechanisms Workbench.)	1976	ESDU	0
1641	STRUCT 04.09.01 A	Collapse coefficients for unstiffened circular cylinders under uniform external pressure.	1976	ESDU	0

1642	76022	Elastic stresses and deflections under uniform pressure of flat rectangular sandwich panels; long edges clamped, short edges simply-supported (isotropic face plates and orthotropic cores of zero flexural stiffness).	1976	ESDU	0
1643	STRUCT 02.04.01 A	Buckling stress ratios for plates under uniform compression and shear.	1976	ESDU	0
1644	76021	Dynamic viscosity of carbon dioxide gas and liquid.	1976	ESDU	0
1645	73025 A	Stresses in the core of a sandwich panel under local normal loading.	1976	ESDU	0
1646	75006 A	Design for maximum structural efficiency. Isotropic sandwich panels under uniaxial compression.	1976	ESDU	0
1647	76034	Estimation of take-off thrust using generalised data for turbo-jet and turbo-fan engines.	1976	ESDU	0
1648	75005 A	Performance data for the critical operation of nominally two-dimensional double-ramp supersonic intakes.	1976	ESDU	0
1649	70003 A	Local buckling of compression panels with unflanged integral stiffeners.	1976	ESDU	0
1650	STRUCT 01.01.24 A	The compressive instability of hydraulic jacks.	1976	ESDU	0
1651	70007 A	Design for minimum weight. Compression panels with unflanged integral stiffeners having dimensional restrictions.	1976	ESDU	0
1652	76032	Fatigue strength of longitudinal flange-to-web welds in steel I-beams and T-sections	1976	ESDU	0
1653	76023	Buckling of struts. Lipped and unlipped channel sections.	1976	ESDU	0
1654	71014	Local buckling of compression panels with flanged stringers.	1976	ESDU	0
1655	74022	Buckling of corrugated shear webs.	1976	ESDU	0
1656	76013	Elastic stresses and deflections under uniform pressure of flat rectangular sandwich panels; all edges simply-supported (isotropic face plates and orthotropic cores of zero flexural stiffness).	1976	ESDU	0
1657	76007	Fatigue strength of longitudinal fillet welded attachments and joints in steels under axial loading	1976	ESDU	0
1658	75006	Design for maximum structural efficiency. Isotropic sandwich panels under uniaxial compression.	1976	ESDU	0
1659	70003	Local buckling of compression panels with unflanged integral stiffeners.	1976	ESDU	0
1660	66006	Design for minimum weight. Struts of uniform section. Thin-walled square tubes.	1976	ESDU	0
1661	STRUCT 02.04.01	Buckling stress ratios for plates under uniform compression and shear.	1976	ESDU	0
1662	STRUCT 02.01.09	Inter-riquet buckling curves for specific materials.	1976	ESDU	0
1663	STRUCT 01.01.24	The compressive instability of hydraulic jacks.	1976	ESDU	0
1664	69015	Solar heating. Total direct irradiance within the Earths atmosphere.	1975	ESDU	0
1665	75007	Geometric stress concentration factors: two adjacent unreinforced circular holes in infinite flat plates.	1975	ESDU	0
1666	75016	Fatigue strength of transverse fillet and cruciform butt welds in steels	1975	ESDU	0
1667	75034	Initial buckling stress, maximum direct stress and shear strain of square plates in shear with central circular holes.	1975	ESDU	0
1668	75035	Initial buckling of square plates in shear with central flanged circular holes.	1975	ESDU	0
1669	75034	Initial buckling stress, maximum direct stress and shear strain of square plates in shear with central circular holes.	1975	ESDU	0
1670	75007	Geometric stress concentration factors: two adjacent unreinforced circular holes in infinite flat plates.	1975	ESDU	0
1671	75033	Elastic stress concentration factors. Double radius fillets in shouldered shafts in torsion.	1975	ESDU	0
1672	AERO S.00.03.13 B	Inviscid supersonic flow past cones at zero incidence: (ii) surface pressure coefficient and shock angle for circular cones.	1975	ESDU	0
1673	AERO A.S.02.03.01 B	Explanatory notes on transonic and supersonic area rules.	1975	ESDU	0
1674	75014	Flexibilities of and stresses in thin pipe bends under in-plane bending: influence of bend angle and tangent pipe ends.	1975	ESDU	0
1675	75035	Initial buckling of square plates in shear with central flanged circular holes.	1975	ESDU	0
1676	69015 A	Solar heating. Total direct irradiance within the Earths atmosphere.	1975	ESDU	0

1677	75018	Estimation of cruise range: propeller-driven aircraft.	1975	ESDU	0
1678	66024 A	Approximate data on the viscosity of some common liquids.	1975	ESDU	0
1679	75004	Wave drag of wings at zero lift in inviscid airflow.	1975	ESDU	0
1680	75028	Drag due to grooves in a flat plate with a turbulent boundary layer, at subsonic and supersonic speeds.	1975	ESDU	0
1681	AERO 00.01.09 A	A simple model of a thermally perfect, calorically imperfect diatomic gas. Comparison with real gases.	1975	ESDU	0
1682	75027	Critical pressure coefficient and component of local Mach number normal to the surface isobar for a swept wing.	1975	ESDU	0
1683	74008 A	Estimation of critical Mach number for an aerofoil from its low-speed pressure distribution.	1975	ESDU	0
1684	73015 A	Estimation of the local buckling stress under biaxial compression of an isotropic skin with fibre reinforced integral unflanged stiffeners.	1975	ESDU	0
1685	FAT A.00.01 A	The effect of mean stress on fatigue strength (plain test piece).	1975	ESDU	0
1686	AERO S.00.03.16 B	Conditions for shock wave detachment and for subsonic flow behind nose shock waves on cones at zero incidence and on wedges.	1975	ESDU	0
1687	75022	Design against fatigue. Basic design calculations.	1975	ESDU	0
1688	AERO W.01.01.04 A	Effect of cut-out on lift-curve slope.	1974	ESDU	0
1689	74041	Example of the use of Data Items on range performance.	1974	ESDU	0
1690	74042	Non-dimensional methods for the measurement of level-flight performance of turbine-engined helicopters.	1974	ESDU	0
1691	TM 58	Comparison of surface pressure fluctuations in a turbulent boundary layer as measured on various flight vehicles	1974	ESDU	0
1692	AERO W.02.04.11 B	Limit of surface waviness for laminar flow over wings.	1974	ESDU	0
1693	74043	Flexibilities of and stresses in unrestrained pressurised thin pipe bends subjected to in-plane bending.	1974	ESDU	0
1694	STRUCT 03.06.15 A	Flexible circular frames supporting a shell. Displacements due to concentrated loads and couples.	1974	ESDU	0
1695	74010 A	Low-speed drag coefficient increment at zero lift due to full-span split flaps.	1974	ESDU	0
1696	74027	The effect of surface roughness on the fatigue limit of steels (at zero mean stress).	1974	ESDU	0
1697	73011 A	Damping in acoustically excited structures.	1974	ESDU	0
1698	67034 A	Effect of inclined nut seatings on the fatigue strength of steel screw threads.	1974	ESDU	0
1699	STRUCT 02.01.35 B	Estimation of the initial buckling stress under uniaxial compression of a skin with Z-section stringers.	1974	ESDU	0
1700	STRUCT 07.03.01 A	Sandwich panels with corrugated core and equal face plates. Transverse shear stiffness.	1974	ESDU	0
1701	STRUCT 02.01.37 B	Estimation of the initial buckling stress under uniaxial compression of a corrugated sandwich panel.	1974	ESDU	0
1702	STRUCT 02.01.36 B	Estimation of the initial buckling stress under uniaxial compression of a skin with top hat section stringers.	1974	ESDU	0
1703	74013	A method for estimating drag-rise Mach number at zero incidence of smooth or bumpy non-ducted axisymmetric bodies without or with fins.	1974	ESDU	0
1704	STRUCT 02.01.34 B	Estimation of the initial buckling stress under uniaxial compression of a skin with integral unflanged stiffeners.	1974	ESDU	0
1705	STRUCT 02.01.34	Estimation of the initial buckling stress under uniaxial compression of a skin with integral unflanged stiffeners.	1974	ESDU	0
1706	STRUCT 02.01.35	Estimation of the initial buckling stress under uniaxial compression of a skin with Z-section stringers.	1974	ESDU	0
1707	STRUCT 02.01.36	Estimation of the initial buckling stress under uniaxial compression of a skin with top hat section stringers.	1974	ESDU	0

1708	STRUCT 02.01.37	Estimation of the initial buckling stress under uniaxial compression of a corrugated sandwich panel.	1974	ESDU	0
1709	STRUCT 02.01.28	Information on the use of Item No. 73007.	1973	ESDU	0
1710	STRUCT 02.04.02	Average and edge stresses for flat plates under shear and compression.	1973	ESDU	0
1711	STRUCT 02.04.05	Initial buckling of flat plates under compression, bending and shear.	1973	ESDU	0
1712	67011 A	Profile drag at the drag-rise condition of aerofoils having a specified form of upper-surface pressure distribution at this condition.	1973	ESDU	0
1713	68019 B	The compressible two-dimensional laminar boundary layer, both with and without heat transfer, on a smooth flat plate, with application to wedges, cylinders, and cones.	1973	ESDU	0
1714	70002	Buckling stress ratios for flat plates under shear and non-uniform compression.	1973	ESDU	0
1715	72025	Second-order method for estimating the subcritical pressure distribution on a two-dimensional aerofoil in compressible inviscid flow.	1973	ESDU	0
1716	69012 B	Effects of kinetic heating on equilibrium temperature of flight vehicles.	1973	ESDU	0
1717	STRUCT 02.01.28 B	Information on the use of Item No. 73007.	1973	ESDU	0
1718	AERO 00.03.26 A	Wall and average gas temperatures for subsonic turbulent flow with heat transfer in ducts of constant circular cross section.	1973	ESDU	0
1719	STRUCT 03.06.17 A	Flexible circular frames supporting a shell. The effect of adjacent frames and the longitudinal flexibility of the shell.	1973	ESDU	0
1720	70002 A	Buckling stress ratios for flat plates under shear and non-uniform compression.	1973	ESDU	0
1721	70022 A	Non-dimensional graphical method for the analysis of measurements of steady level speed, range and endurance: aircraft with turbo-jet and turbo-fan engines.	1973	ESDU	0
1722	FAT A.05.02 B	Estimation of endurance of pin joints.	1973	ESDU	0
1723	71020 A	Aerofoils having a specified form of upper-surface pressure distribution: details and comments on design.	1973	ESDU	0
1724	STRUCT 02.04.02 A	Average and edge stresses for flat plates under shear and compression.	1973	ESDU	0
1725	AERO A.06.01.03 B	Stability derivative ($L_{\dot{\nu}}$) sub gamma. Contribution of full-span dihedral to rolling moment due to sideslip.	1973	ESDU	0
1726	73031	Convective heat transfer during crossflow of fluids over plain tube banks.	1973	ESDU	0
1727	AERO W.02.04.01 B	Drag of a smooth flat plate at zero incidence.	1973	ESDU	0
1728	STRUCT 02.04.05 A	Initial buckling of flat plates under compression, bending and shear.	1973	ESDU	0
1729	AERO F.05.01.01 A	Normal force on flaps and controls.	1973	ESDU	0
1730	73016	The mean skin friction coefficient for a rough flat plate with a turbulent two-dimensional boundary layer in compressible adiabatic flow, with application to wedges, cylinders and cones.	1973	ESDU	0
1731	69010 B	Heat transfer by forced convection between a two-dimensional laminar boundary layer and a smooth flat plate, with application to wedges, cylinders and cones.	1973	ESDU	0
1732	FAT A.00.02 A	The effect of mean stress on fatigue strength (test piece with stress concentration).	1973	ESDU	0
1733	AERO W.02.04.09 B	Limit of grain size for laminar flow over wings or bodies.	1973	ESDU	0
1734	73012	Method for predicting the pressure distribution on swept wings with subsonic attached flow.	1973	ESDU	0
1735	70015 B	Fluid forces and moments on flat plates.	1972	ESDU	0

1736	72018	Atmospheric data for performance calculations. Addendum: height in feet, data in SI units.	1972	ESDU	0
1737	AERO 00.01.07 A	Approximate transport properties of high-temperature air in dissociation equilibrium.	1972	ESDU	0
1738	72002	The estimation of near-field sound pressure levels due to jet noise.	1972	ESDU	0
1739	72013	Principal stresses and strains in a two-dimensional stress field.	1972	ESDU	0
1740	PD1	The evaluation of Chebyshev series used for the representation of vapour pressures.	1972	ESDU	0
1741	72014	Determination of the principal stresses and strains in a plane stress field from strain gauge data.	1972	ESDU	0
1742	TM 4	Correlations for some aerodynamic characteristics of aerofoils in incompressible inviscid flow	1972	ESDU	0
1743	72006	Normal melting points, boiling points and critical points of monobasic alkanolic acids.	1972	ESDU	0
1744	67028 A	Estimation of the r.m.s. stress in skin panels subjected to random acoustic loading.	1972	ESDU	0
1745	68040 B	Design of parallel axis straight spur and helical gears - choice of materials and preliminary estimate of major dimensions.	1972	ESDU	0
1746	67029 A	The effect of edge reinforcement on the stresses in skin panels under uniform pressure.	1972	ESDU	0
1747	72008	Frictional and retarding forces on aircraft tyres. Part III: planing.	1972	ESDU	0
1748	72013	Principal stresses and strains in a two-dimensional stress field.	1972	ESDU	0
1749	72014	Determination of the principal stresses and strains in a plane stress field from strain gauge data.	1972	ESDU	0
1750	72027	Adaptation of drag-rise charts in T.D. Memor. 71019 to the mid-semi-span portion of swept and tapered planforms.	1972	ESDU	0
1751	71018	Approximate wave drag of rectangular planform fairings at zero incidence in supersonic flow.	1971	ESDU	0
1752	71001	Normal melting points, boiling points and critical points of n-alkyl esters of monobasic n-alkanoic acids.	1971	ESDU	0
1753	71011	Stresses due to interference-fit pins and bushes in plates, strips or lugs	1971	ESDU	0
1754	71017	Aero-normalised stability derivatives: effect of wing on yawing moment due to yawing.	1971	ESDU	0
1755	71007	Low-speed normal force and pitching moment of slender wings in ground effect.	1971	ESDU	0
1756	71021	Normal melting points, boiling points and critical points of branched chain esters of monobasic alkanolic acids.	1971	ESDU	0
1757	71006	Low-speed longitudinal aerodynamic characteristics of slender wings.	1971	ESDU	0
1758	71003	A guide to the viscosity of liquid petroleum products.	1971	ESDU	0
1759	71012	Fluid forces on non-streamline bodies - background notes and description of the flow phenomena.	1971	ESDU	0
1760	AERO S.00.01.10 A	One-dimensional isentropic flow of a thermally perfect, calorically imperfect diatomic gas.	1971	ESDU	0
1761	70018	General principles of design in relation to fatigue.	1970	ESDU	0
1762	69025	Solution of ordinary linear differential equations by the Laplace transform method.	1970	ESDU	0
1763	70021	Graphical method for the analysis of measured performance data using drag determination: aircraft with turbo-jet and turbo-fan engines.	1970	ESDU	0
1764	70020	Non-dimensional approach to engine thrust and airframe drag for the analysis of measured performance data: aircraft with turbo-jet and turbo-fan engines.	1970	ESDU	0
1765	70008	Inviscid supersonic flow past cones at zero incidence: (i) shock angle.	1970	ESDU	0
1766	70009	Inviscid supersonic flow past cones at zero incidence: (iii) flow deflection in the conical flow field.	1970	ESDU	0
1767	69004 A	Convective heat transfer during forced crossflow of fluids over a circular cylinder including free convection effects.	1970	ESDU	0
1768	69003 A	The buckling of flat plates under non-uniform compression. Symmetric distributions due to initial or thermal stress.	1970	ESDU	0
1769	70010	Inviscid supersonic flow past cones at zero incidence: (iv) Mach number in the conical flow field.	1970	ESDU	0
1770	69003	The buckling of flat plates under non-uniform compression. Symmetric distributions due to initial or thermal stress.	1970	ESDU	0
1771	67020	Fatigue strength of steel screw threads with large root radii under axial loading.	1969	ESDU	0
1772	69017	The deflections and slopes of shafts or beams of constant or stepped section.	1969	ESDU	0
1773	69020	Elastic stress concentration factors. Geometric discontinuities in flat bars or strips of isotropic material.	1969	ESDU	0

1774	69013	A method for estimating the pressure distribution on the surface of a two-dimensional aerofoil in a sonic stream.	1969	ESDU	0
1775	STRUCT 02.00.00 A	Criteria of yielding and failure.	1969	ESDU	0
1776	69011	Heat transfer by forced convection between a two-dimensional turbulent boundary layer and a smooth flat plate, with application to wedges, cylinders and cones.	1969	ESDU	0
1777	STRUCT 02.00.00	Criteria of yielding and failure.	1969	ESDU	0
1778	67020 A	Fatigue strength of steel screw threads with large root radii under axial loading.	1969	ESDU	0
1779	69019	Elastic stresses and deflections for long rectangular plates with small initial curvature under uniformly distributed normal pressure on the concave face.	1969	ESDU	0
1780	69017	The deflections and slopes of shafts or beams of constant or stepped section.	1969	ESDU	0
1781	69009	Heat balance for flight vehicles.	1969	ESDU	0
1782	69024	The cumulative damage of aluminium alloy specimens under variable amplitude fatigue loading.	1969	ESDU	0
1783	69008	Curves for use in the determination of gross thrust and mass flow in flight. (Air breathing ducted-flow engines with convergent nozzles.)	1969	ESDU	0
1784	TD MEMO 6511 A	A method for estimating the pressure distribution between the crest and the trailing edge on the surface of an aerofoil section in a sonic stream.	1969	ESDU	0
1785	66025 A	Experimental determination of the shear and flexural stiffnesses of a sandwich panel.	1969	ESDU	0
1786	67023 A	Geometric stress concentrations. Two equal unreinforced circular holes in infinite flat plates.	1969	ESDU	0
1787	68036	Introductory memorandum on the viscosity of liquids and the classification of lubricating oils.	1968	ESDU	0
1788	68005	Shafts with interference-fit collars. Part IV: fatigue strength of plain shafts.	1968	ESDU	0
1789	68048	Straight pipes under internal pressure. Effect of initial non-circularity on maximum stress.	1968	ESDU	0
1790	68047	Straight pipes under internal pressure. Effect of bore eccentricity on maximum stress.	1968	ESDU	0
1791	68039	Guide to the design of tanks for forced-circulation oil-lubrication systems.	1968	ESDU	0
1792	68045	Fatigue strength of large steel screw threads under axial loading.	1968	ESDU	0
1793	67023	Geometric stress concentrations. Two equal unreinforced circular holes in infinite flat plates.	1967	ESDU	0
1794	67008	Elastic stresses in single lap joints under tension or compression	1967	ESDU	0
1795	67008	Elastic stresses in single lap joints under tension or compression	1967	ESDU	0
1796	67021	The design of crossed flexure-pivots.	1967	ESDU	0
1797	67017	Elastic stresses in the torispherical head of a pressure vessel of uniform thickness.	1967	ESDU	0
1798	TD MEMO 6309 A	Graphical method for estimating the spanwise distribution of aerodynamic centre on wings in subsonic flow.	1967	ESDU	0
1799	67022	Modulus of rigidity of sandwich panels with hexagonal cell cores.	1967	ESDU	0
1800	67041	Drag of fighter-type canopies at subcritical Mach numbers.	1967	ESDU	0
1801	66010	Elastic stresses in a long circular cylindrical shell with a flat head closure under uniform pressure.	1966	ESDU	0
1802	66034	The low-speed stalling characteristics of aerodynamically smooth aerofoils.	1966	ESDU	0
1803	66008	Design for minimum weight. Struts of uniform section. Minimum weights for various sections.	1966	ESDU	0
1804	FAT E.07.03	The effect of mean stress on the endurance of aluminium alloys.	1965	ESDU	0
1805	AERO 00.03.31	Solutions to the Prandtl-Meyer expansion relations for a range of specific heat ratios: pressure coefficient and maximum flow deflection angle.	1965	ESDU	0
1806	AERO W.S.02.03.07	Base pressure on aerofoil sections with a blunt trailing edge in supersonic flow.	1965	ESDU	0
1807	65002	Elastic stresses and deflections for flat circular plates with D/t greater than or equal to 4 under uniform pressure.	1965	ESDU	0
1808	65002	Elastic stresses and deflections for flat circular plates with D/t greater than or equal to 4 under uniform pressure.	1965	ESDU	0

1809	65003	Elastic stresses and deflections for flat circular plates with D/t greater than or equal to 20 under uniform pressure.	1965	ESDU	0
1810	FAT E.07.02	Notes supplementary to E.07.01 on the fatigue strength of aluminium alloys.	1965	ESDU	0
1811	65008	Viscosity of liquid benzene.	1965	ESDU	0
1812	STRUCT 02.01.50	Initial buckling of slightly curved plates under combined longitudinal and circumferential direct stress. (All edges simply-supported.)	1964	ESDU	0
1813	STRUCT 02.01.50	Initial buckling of slightly curved plates under combined longitudinal and circumferential direct stress. (All edges simply-supported.)	1964	ESDU	0
1814	STRUCT 02.01.48	Buckling stress coefficients for flat plates tapered in plan, under compression.	1963	ESDU	0
1815	STRUCT 02.01.48	Buckling stress coefficients for flat plates tapered in plan, under compression.	1963	ESDU	0
1816	STRUCT 03.06.00	Information on the use of data sheets 03.06.	1962	ESDU	0
1817	STRUCT 03.06.16	Flexible circular frames supporting a shell. Shear flow from shell to frame due to concentrated loads and couples.	1962	ESDU	0
1818	STRUCT 01.01.23	The buckling of a composite strut.	1962	ESDU	0
1819	STRUCT 01.01.23	The buckling of a composite strut.	1962	ESDU	0
1820	STRUCT 01.01.19	Local buckling and crippling of rectangular tube section struts.	1960	ESDU	0
1821	STRUCT 02.01.46	Buckling stress coefficients for flat parallelogram plates under uniform compression. (All edges fixed against rotation.)	1957	ESDU	0
1822	STRUCT 02.04.06	Initial buckling of flat isosceles triangular plates under combined compression and shear.	1957	ESDU	0
1823	STRUCT 02.04.06	Initial buckling of flat isosceles triangular plates under combined compression and shear.	1957	ESDU	0
1824	STRUCT 02.01.46	Buckling stress coefficients for flat parallelogram plates under uniform compression. (All edges fixed against rotation.)	1957	ESDU	0
1825	STRUCT 01.06.01	Form factors for circular sections under combined bending and axial load.	1956	ESDU	0
1826	STRUCT 01.06.00	Information on the use of data sheets 01.06.	1956	ESDU	0
1827	STRUCT 01.06.03	Form factors for angle, tee and channel sections under combined bending and axial load.	1956	ESDU	0
1828	STRUCT 01.06.02	Form factors for flanged sections under combined bending and axial load.	1956	ESDU	0
1829	STRUCT 01.06.00	Information on the use of data sheets 01.06.	1956	ESDU	0
1830	STRUCT 01.06.01	Form factors for circular sections under combined bending and axial load.	1956	ESDU	0
1831	STRUCT 01.06.02	Form factors for flanged sections under combined bending and axial load.	1956	ESDU	0
1832	STRUCT 01.06.03	Form factors for angle, tee and channel sections under combined bending and axial load.	1956	ESDU	0
1833	AERO W.S.02.03.09	Transonic drag rise of rectangular symmetrical section wings at zero lift. NACA 65 series sections.	1955	ESDU	0

1834	STRUCT 03.06.12	Flexible circular frames supported by a shell. Shear forces in a frame due to concentrated couples.	1952	ESDU	0
1835	STRUCT 03.06.13	Flexible circular frames supported by a shell. Shear forces in a frame due to tangential loads.	1952	ESDU	0
1836	STRUCT 03.06.14	Flexible circular frames supported by a shell. Shear forces in a frame due to concentrated radial loads.	1952	ESDU	0
1837	STRUCT 03.06.10	Flexible circular frames supported by a shell. Direct forces in a frame due to concentrated tangential loads.	1952	ESDU	0
1838	STRUCT 03.06.11	Flexible circular frames supported by a shell. Direct forces in a frame due to concentrated radial loads.	1952	ESDU	0
1839	STRUCT 03.06.07	Flexible circular frames supported by a shell. Moments in a frame due to concentrated tangential loads.	1952	ESDU	0
1840	STRUCT 03.06.08	Flexible circular frames supported by a shell. Moments in a frame due to concentrated radial loads.	1952	ESDU	0
1841	STRUCT 03.06.09	Flexible circular frames supported by a shell. Direct forces in a frame due to concentrated couples.	1952	ESDU	0
1842	STRUCT 03.06.06	Flexible circular frames supported by a shell. Moments in a frame due to concentrated couples.	1952	ESDU	0
1843	AERO 00.03.05	Isentropic expansion of air from rest.	1948	ESDU	0

Hercules Ebooks Institute

www.herculesebooks.com info@herculesebooks.com +989141908737