

# ENGINEERING TECHNICAL LETTERS (ETL)

Number	Title	Status	Publication Date
82-1	Energy Budget Figures	Superseded by ETLs 83-10, 86-1, 87-4	10 Nov 82
82-2	Energy Efficient Equipment	Superseded by AFEPPM 88-10	10 Nov 82
82-3	Computer Energy Analyses – New Facilities	Superseded by ETLs 83-5, 84-2	10 Nov 82
82-4	Energy Conservation Investment Program (ECIP)	Superseded by ETL 84-7	10 Nov 82
82-5	Solar Applications	Superseded by ETLs 84-1, 86-13, 86-14	10 Nov 82
82-6	Normal Passive Solar Applications	Canceled	30 Dec 82
82-7	Unique Passive Solar Applications	Canceled	30 Nov 82
83-1	Design of Control Systems for HVAC	Superseded by ETL 83-1 (Change 1)	16 Feb 83
83-1 (Chg 1)	U.S. Air Force Standardized Heating, Ventilating & Air Conditioning (HVAC) Control Systems	Superseded by UFC 3-410-02	22 Jul 87
83-2	Supplemental Design Guidance to AF Standards – Pressurized Hydrant Fueling Systems	Superseded by ETL 84-3	16 Feb 83
83-3	Interior Wiring Systems, AFM 88-15, Para 7-3	Canceled	2 Mar 83
83-4	EMCS Data Transmission Media Considerations	Canceled	3 Apr 83
83-5	Computer Energy Analyses	Superseded by ETL 84-2	5 May 83
83-6	Solar Applications in Medical Facilities	Canceled	24 May 83
83-7	Plumbing – AFM 83-8, Chapter 4	Canceled	30 Aug 83
83-8	Use of Air-to-Air Unitary Heat Pumps	Canceled	15 Sep 83
83-9	Insulation	Superseded by ETL 94-4	14 Nov 83
83-10	Energy Budget Figure (EBF)	Superseded by ETL 86-1	28 Nov 83
84-1	Solar Applications	Superseded by ETL 86-14	18 Jan 84
84-2	Computer Energy Analysis	Superseded by ETL 94-4	27 Mar 84
84-3	AF Petroleum Fuel Facility Criteria and Standards	Canceled	21 Mar 84
84-4	Meters in New Facilities	Superseded by ETLs 86-7, 86-15, 87-5	10 Apr 84

<b>Number</b>	<b>Title</b>	<b>Status</b>	<b>Publication Date</b>
84-5	Heat Distribution Systems Outside of Buildings	Superseded by ETLs 84-8, 86-11, 86-18, 88-6	7 May 84
84-7	MCP Energy Conservation Investment Program (ECIP)	Superseded by AFEPPM 96-4	13 Jun 84
84-8	Heat Distribution Systems Outside of Buildings	Superseded by ETL 86-11	19 Jun 84
84-9	TEMPEST/EMP Shielding for Facilities	Superseded by ETL 88-7	5 Jul 84
84-10	AF Building Construction and the Use of Termiticides	Canceled	1 Aug 84
86-1	Energy Budget Figures (EBFs) for Facilities in the Military Construction Program	Superseded by ETL 87-7	3 Feb 86
86-2	Energy Management and Control Systems (EMCS)	Canceled	5 Feb 86
86-3	Paints and Protective Coatings	Superseded by ETL 86-4	21 Feb 86
86-4	Coating Systems and Specifications for Exterior and Interior of Steel Tanks	Canceled	12 May 86
86-5	Fuels Use Criteria for Air Force Construction	Canceled 5 Apr 07	22 May 86
86-6	Heat Distribution Systems Outside of Buildings	Superseded by ETLs 86-11, 86-18, 88-6	3 Jun 86
86-7	Utility Meters in New and Renovated Facilities	Superseded by ETL 86-15	3 Jun 86
86-8	Aqueous Film Forming Foam Waste Discharge Retention and Disposal	Superseded by AFI 32-1067	4 Jun 86
86-9	Lodging Facility Design Guide	Superseded by AFCEE Temporary Lodging Facilities Design Guide	4 Jun 86
86-10	Antiterrorism Planning and Design Guidance	Superseded by AFCEE Design Guide, Installation Force Protection Guide	13 Jun 86
86-11	Heat Distribution Systems Outside of Buildings	Superseded by ETL 88-6	3 Jul 86
86-12	Prewired Workstations and Systems Furniture	Superseded by ETL 90-2	3 Jul 86
86-13	Solar Applications	Superseded by ETL 86-14	18 Aug 86
86-14	Solar Applications	Canceled	15 Oct 86
86-15	Utility Meters in New and Renovated Facilities	Superseded by ETL 87-5	13 Nov 86
86-16	Direct Digital Control of Heating, Ventilation, and Air Conditioning Systems	Superseded by UFC 3-410-02	9 Dec 86

<b>Number</b>	<b>Title</b>	<b>Status</b>	<b>Publication Date</b>
86-17	Power Conditioning and Continuation Interfacing Equipment (PCCIE)	Superseded by ETL 89-6	17 Dec 86
86-18	Heat Distribution Systems Outside of Buildings	Superseded by ETL 88-6	18 Dec 86
87-1	Lead Ban Requirements of Drinking Water	Superseded by AFI 32-1067	15 Jan 87
87-2	Volatile Organic Compounds	Canceled	4 Mar 87
87-3	Cathodic Protection	Superseded by ETLs 87-6, 88-5	12 Mar 87
87-4	Energy Budget Figures (EBFs) for Facilities in the Military Construction Program	Superseded by ETL 94-4	13 Mar 87
87-5	Utility Meters in New and Renovated Facilities	Superseded by ETL 94-2	13 Jul 87
87-6	Cathodic Protection	Superseded by ETL 88-5	21 Aug 87
87-7	1987 Energy Prices and Discount Factors for Life-Cycle Cost Analysis	Superseded by ETL 89-1	14 Oct 87
87-8	Built-Up Roof Repair/Replacement Guide Specifications	Superseded by ETL 90-1	19 Oct 87
87-9	Prewiring	Superseded by ETL 02-12	21 Oct 87
88-1	Standard Guidelines for Submission of Facility Operating and Maintenance Manuals	Superseded by ETL 89-2	5 Jan 88
88-2	Photovoltaic Applications	Superseded by AFCESA Tech Data Bulletin, Photovoltaic Concept, Design, and Application	21 Jan 88
88-3	Design Standards for Critical Facilities	Superseded by AFMAN 32-1146(I)	15 Jun 88
88-4	Reliability & Maintainability (R&M) Design Checklist	Superseded by ETL 01-1	24 Jun 88
88-5	Cathodic Protection	Superseded by ETL 91-6	2 Aug 88
88-6	Heat Distribution Systems Outside of Buildings	Superseded by AFI 32-1068	1 Aug 88
88-7	TEMPEST and High-Altitude Electromagnetic Pulse (HEMP) Protection for Facilities	Superseded by ETLs 90-3, 91-2	24 Aug 88
88-8	Chlorofluorocarbon (CFC) Limitation in Heating, Ventilating, and Air-Conditioning (HVAC) Systems	Superseded by ETL 91-7	4 Oct 88
88-9	Radon Reduction in New Facility Construction	Canceled	7 Oct 88
88-10	Prewired Work Station Guide Specifications	Canceled	29 Dec 88

<b>Number</b>	<b>Title</b>	<b>Status</b>	<b>Publication Date</b>
89-1	1988 Energy Prices and Discount Factors for Life-Cycle Cost Analysis	Superseded by ETL 90-4	6 Feb 89
89-2	Standard Guidelines for Submission of Facility Operating and Maintenance Manuals	Canceled 7 Apr 15	23 May 89
89-3	Fire Protection Engineering Criteria for Electronic Equipment Installations	Superseded by ETL 93-5	9 Jun 89
89-4	Systems Furniture Guide Specification	Canceled	6 Jul 89
89-6	Power Conditioning and Continuation Interfacing Equipment (PCCIE) in the Military Construction Program (MCP)	Canceled	7 Sep 89
89-7	Design of Air Force Courtrooms	Superseded by Air Force Base Legal Facilities Design Guide	29 Sep 89
90-1	Built-Up Roof (BUR) Repair/Replacement Guide Specification	Superseded by UFGS 07 51 13, Built-up Asphalt Roofing	23 Jan 90
90-2	General Policy for Prewired Workstations and Systems Furniture	Canceled	26 Jan 90
90-3	TEMPEST Protection for Facilities	Canceled	
90-4	1990 Energy Prices and Discount Factors for Life-Cycle Cost Analysis	Canceled	24 May 90
90-5	Fuel and Lube Oil Bulk Storage Capacity for Emergency Generators	Superseded by AFI 32-1062, Electrical Power Plants and Generators	26 Jul 90
90-6	Electrical System Grounding, Static Grounding and Lightning Protection	Canceled 8 Jun 09	3 Oct 90
90-7	Air Force Interior Design Policy	Canceled	12 Oct 90
90-8	Guide Specifications for Ethylene Propylene Diene Monomer (EPDM) Roofing	Superseded by UFGS 07 53 23, Ethylene Propylene Diene Monomer Roofing	17 Oct 90
90-9	Fire Protection Engineering Criteria for Aircraft Maintenance, Servicing, and Storage Facilities	Superseded by ETL 96-1	2 Nov 90
90-10	Commissioning of Heating, Ventilating, and Air Conditioning (HVAC) Systems Guide Specification	Canceled 14 Jan 13	17 Oct 90
91-1	Fire Protection Engineering Criteria - Testing Halon Fire Suppression Systems	Superseded by UFC 3-601-02	2 Jan 91
91-2	High Altitude Electromagnetic Pulse (HEMP) Hardening in Facilities	Canceled 8 Jun 09	4 Mar 91
91-3	Water Supply for Fire Protection	Superseded by MIL-HDBK-1008B, Jan 94	14 Jun 91

<b>Number</b>	<b>Title</b>	<b>Status</b>	<b>Publication Date</b>
91-4	Site Selection Criteria for Fire Protection Training Areas	Superseded by T.O. 35E1-2-13-1	14 Jun 91
91-5	Fire Protection Engineering Criteria – Emergency Lighting and Marking of Exits	Superseded by ETL 94-5	
91-6	Cathodic Protection	Superseded by MIL-HDBK-1136 (now UFC 3-570-06) and MIL-HDBK-1004/10 (now UFC 3-570-02N)	3 Jul 91
91-7	Chlorofluorocarbon (CFC) Limitation in Heating, Ventilating, and Air-Conditioning (HVAC) Systems	Canceled	21 Aug 91
91-8	Facility Electrical Power for Aircraft Ground Support Equipment (Hangars, Aprons, and Ramps)	Canceled	24 Sep 91
93-1	Construction Signs	Superseded by ETL 02-9	11 Mar 93
93-2	Dormitory Criteria for Humid Areas	Superseded by ETL 03-2	13 Jul 93
93-3	Inventory, Screening, Prioritization, and Evaluation of Existing Buildings for Seismic Risk	Canceled	18 Aug 93
93-4	Fire Protection Engineering Criteria - Automatic Sprinkler Systems in Military Family Housing (MFH)	Superseded by UFC 3-600-01	11 Aug 93
93-5	Fire Protection Engineering Criteria - Electronic Equipment Installations	Superseded by ETL 01-18	
94-1	Standard Airfield Pavement Marking Schemes	Superseded by ETL 04-2	5 Apr 94
94-2	Utility Meters in New and Renovated Facilities	Superseded by UFC 3-400-01	10 Jun 94
94-3	Air Force Carpet Standard	Superseded by ETL 00-6	10 Jun 94
94-4	Energy Usage Criteria for Facilities in the Military Construction Program	Superseded by UFC 3-400-01	19 Aug 94
94-5	Fire Protection Engineering Criteria and Technical Guidance	Superseded by ETL 99-4	8 Nov 94
94-6	Fire Protection Engineering Criteria and Technical Guidance - Removal of Halogenated Agent Fire Suppression Systems	Superseded by UFC 3-601-02	5 Dec 94
94-7	EPA Guideline Items in Construction and Other Civil Engineering Specifications	Superseded by ETL 00-1	14 Dec 94
94-8	Design in Metric	Canceled 1 Sep 07	14 Dec 94
94-9	Silicone Joint Sealants for Pavements	Superseded by ETL 96-4	14 Dec 94

Number	Title	Status	Publication Date
95-1	Halon 1301 Management Planning Guidance	Canceled 9 Jul 19	12 May 95
95-2	Preparation of Requirements and Management Plan (RAMP) Packages for Military Construction (MILCON) Program Projects	Superseded by AFCEE <i>Project Managers Guide For Design And Construction</i>	26 Oct 95
95-3	Planning Guide for Installation of Ultra-High-Molecular-Weight (UHMW) Polyethylene Panels Under Aircraft Arresting System Cables (CONUS Installations)	Superseded by AFI 32-1043	26 Oct 95
95-4	Mandatory Energy/Water Performance Standards for Replaced or Modified Equipment	Superseded by UFC 3-400-01	31 Oct 95
96-1	Fire Protection Engineering Criteria - New Aircraft Facilities	Superseded by ETL 98-7	22 Jan 96
96-2	Elimination of Liquid Polychlorinated Biphenyls (PCBs) Prioritization Guidance	Canceled 6 Apr 07	2 May 96
96-3	Typical Statement of Work for Airfield Pavement Condition Survey	Canceled 9 Feb 09	26 Jun 96
96-4	Temporary Joint Sealing Details and Procedures for Pavements	Superseded by UFC 3-270-01	9 Jul 96
96-5	Hangar Concrete Floor Reflective Coating Criteria	Superseded by UFGS 03 53 14.00 20, UFGS 09 67 23.15, UFGS 09 67 23.16	26 Aug 96
97-1	National Primary Drinking Water Regulations: Lead and Copper Rule (LCR) Corrosion Control Desk-Top Report Statement of Work (SOW)	Canceled 23 Apr 04	29 Jan 97
97-2	Maintenance and Repair of Rigid Airfield Pavement Surfaces, Joints, and Cracks	Superseded by UFC 3-270-01	28 Jul 97
97-3	Base Course Proof Rolling Requirements	Superseded by UFC 3-260-02, UFGS 32 11 23, UFGS 32 11 16	25 Mar 97
97-4	Expedient Trim Pad Anchoring	Superseded by ETL 06-4	2 Jun 97
97-5	Proportioning Concrete Mixtures with Graded Aggregates for Rigid Airfield Pavements	Superseded by TSPWG M 3-250-04.97-05	25 Apr 97
97-8	Building Manager Energy Conservation Handbook	Superseded by ETL 98-4	9 Jun 97
97-9	Criteria and Guidance for C-17 Contingency Operations on Semi-Prepared Airfields	Superseded by UFC 3-260-01	25 Nov 97
97-10	Structural Evaluation of Existing Buildings for Seismic and Wind Loads	Superseded by ETL 00-5	30 Oct 97

<b>Number</b>	<b>Title</b>	<b>Status</b>	<b>Publication Date</b>
97-11	Mitigation of Non-Structural Seismic and High Wind Deficiencies for Existing Buildings	Superseded by ETL 00-5	30 Oct 97
97-12	Mitigation of Existing Building Structural Deficiencies for Seismic and High Wind Loads	Superseded by ETL 00-5	30 Oct 97
97-13	Dormitory Ventilation and Exhaust System Design Criteria	Superseded by ETL 03-2	7 Aug 97
97-14	Procedures for Airfield Pavement Condition Index Surveys	Superseded by UFCs 3-270-05/06	15 Sep 97
97-16	Pavement Marking Systems for Low Temperature Applications	Superseded by UFGS 32 17 23	25 Nov 97
97-17	Paint and Rubber Removal from Roadway and Airfield Pavements	Superseded by UFGS 32 01 11.51	1 Dec 97
97-18	Guide Specification for Airfield and Roadway Marking	Superseded by ETL 97-18 (Chg 1)	5 Dec 97
97-18 (Chg 1)	Guide Specification for Airfield and Roadway Marking	Superseded by ETL 97-18 (Chg 2) 2 Jun 16	5 Dec 97
97-18 (Chg 2)	Guide Specification for Airfield and Roadway Marking	Superseded by UFGS 32 17 23	5 Dec 97
97-22	Competing Facility Keying Systems	Canceled 17 Mar 15	5 Dec 97
98-1	Design Criteria for Aggregate Surfaced Helicopter Slide Areas and Heliports	Canceled 3 Apr 15	14 Jan 98
98-2	Clean Air Act Amendments Requirements for Electric Generators and Power Plants	Canceled 18 Mar 08	1 Jun 98
98-4	Building Manager Energy Conservation Handbook	Canceled 6 Dec 16	16 Jan 98
98-5	C-130 and C-17 Contingency and Training Airfield Dimensional Criteria	Superseded by ETL 04-7	19 Oct 98
98-7	Fire Protection Engineering Criteria - New Aircraft Facilities	Superseded by ETL 01-2	29 Apr 98
98-8	Fire Protection Engineering Criteria – Existing Aircraft Facilities	Superseded by UFC-4-211-01	25 Jun 98
98-10	Installation and Operation Guide for the Stanley Hydraulic Power Unit (HPU) (M (MAAS) Upgrade)	Superseded by Technical Orders	5 Nov 98
99-1	Treatment and Disposal of Aircraft Washwater Effluent	Canceled 2 Apr 15	7 Jan 99
99-4	Fire Protection Engineering Criteria - Emergency Lighting and Marking of Exits	Superseded by UFC 3-600-01	9 Nov 99
99-6	Programming Fuels Projects	Superseded by ETL 01-15	10 Dec 99

<b>Number</b>	<b>Title</b>	<b>Status</b>	<b>Publication Date</b>
99-7	Airfield Pavement Condition Index Survey	Superseded by ETL 02-13	27 Sep 99
00-1	EPA Guideline Items in Construction and Other Engineering Specifications	Canceled 16 Mar 15	5 Jan 00
00-2	Inspection and Testing of Trim Pad Anchoring Systems	Superseded by TSPWG M 3-260-03.00-2	1 Feb 00
00-5	Seismic Design for Buildings and Other Structures	Canceled 10 Nov 05	5 Jun 00
00-6	Air Force Carpet Standard	Superseded by ETL 03-3	11 May 00
00-7	Fire Protection Engineering Criteria — Correlation of US and Host Nation Codes and Criteria	Superseded by UFC 3-600-01	10 May 00
00-8	Airfield Pavement Design Criteria	Superseded by UFC 3-260-02	28 Apr 00
00-9	Airblast Protection Retrofit for Unreinforced Concrete Masonry Walls	Canceled 1 Oct 19	8 Aug 00
00-12	Fire Protection Engineering Criteria — Conversion of Fire Alarm Radio Systems to Narrowband Technology	Superseded by ETL 03-5	19 Dec 00
01-1	Reliability and Maintainability (R&M) Design Checklist	Canceled 22 Feb 17	11 Oct 01
01-2	Fire Protection Engineering Criteria - New Aircraft Facilities	Superseded by ETL 02-15	1 Apr 01
01-4	Fire Protection Engineering Criteria - Protective and Hardened Aircraft Shelters	Superseded by UFC-4-211-01	31 Dec 01
01-5	Jet Engine Thrust Standoff Requirements for Airfield Asphalt Edge Pavements	Superseded by ETL 07-3	24 May 01
01-6	Contingency Airfield Pavement Specifications	Superseded by ETL 09-2	12 Jun 01
01-7	Large Aggregate Asphalt Mixtures	Superseded by UFC 3-250-03	5 Jun 01
01-8	Resin Modified Pavement Design and Application Criteria	Superseded by TSPWG M 3-260-02.01-8	25 Sep 01
01-9	Procedures to Retard Reflective Cracking	Superseded by UFC 3-250-03	17 Jul 01
01-10	Design and Construction of High-Capacity Trim Pad Anchoring Systems	Superseded by UFC 3-260-01	24 Jul 02
01-13	Small Arms Range Design and Construction	Superseded by ETL 02-11	31 Dec 01
01-15	Programming Fuels Projects	Canceled 12 Apr 07	5 Jun 01
01-18	Fire Protection Engineering Criteria – Electronic Equipment Installations	Superseded by TSFPEWGG 3-600-01.01-18	24 Oct 01
01-20	Guidelines for Airfield Frangibility Zones	Superseded by UFC 3-260-01	17 Nov 08
02-1	Design of Drainage Structures for Heavy Aircraft Loading	Superseded by UFC 3-260-01	1 Aug 02



Number	Title	Status	Publication Date
02-4	Airblast Protection Polymer Retrofit of Unreinforced Concrete Masonry Walls	Canceled 1 Oct 19	12 Jun 02
02-5	Guidance for Energy Savings Performance Contracts	Superseded by ETL 04-12	31 Oct 02
02-7	Preventing Concrete Deterioration Under B-1 Aircraft	Superseded by UFC 3-270-01	7 Aug 02
02-8	Silicone Joint Sealant Specification for Airfield Pavements	Superseded by UFC 3-270-01	5 Sep 02
02-9	Construction Signs	Canceled 17 Mar 15	15 May 02
02-10	Airblast Protection Retrofit of Lightweight Manufactured Structures	Canceled 1 Oct 19	12 Jun 02
02-11	Small Arms Range Design and Construction	Superseded by ETL 05-5	22 Nov 02
02-12	Communications and Information System Criteria for Air Force Facilities	Superseded by UFC 3-580-01	27 Jun 02
02-13	Pavement Engineering Assessment Standards	Superseded by ETL 04-9	5 Sep 02
02-14	Determining the Need for Runway Rubber Removal	Superseded by ETL 04-10	4 Sep 02
02-15	Fire Protection Engineering Criteria – New Aircraft Facilities	Superseded by UFC-4-211-01	3 Dec 02
02-16	Design, Construction, Maintenance, and Evaluation of the Pegasus Glacial Ice Runway for Heavy Wheeled Aircraft Operations	Superseded by FC 3-260-06F	16 Oct 02
02-17	Use of Non-Potable Water to Replace Potable Water	Superseded by ETL 08-10	25 Oct 02
02-19	Airfield Pavement Evaluation Standards and Procedures	Superseded by TSPWG M 3-260-03.02-19	12 Nov 02
03-1	Storm Water Construction Standards	Superseded by ETL 14-1	24 Mar 03
03-2	Design Criteria for Prevention of Mold in Air Force Facilities	Superseded by ETL 04-3	12 Aug 03
03-3	Air Force Carpet Standard	Superseded by ETL 07-4	16 Apr 03
03-4	Alternate Fuels E85 and B20	Superseded by UFC 3-460-03	21 Oct 03
03-5	Converting Civil Engineering Radio Frequency Devices to Narrowband Technology	Canceled 2 Apr 15	21 Oct 03
03-8	Rejuvenation of Hot-Mix Asphalt (HMA) Pavements	Superseded by UFGS 32 01 22	19 Dec 03
04-2	Standard Airfield Pavement Marking Schemes	Superseded by ETL 97-18 (Chg 1)	19 Jul 04

Number	Title	Status	Publication Date
04-2 (Chg 1)	Standard Airfield Pavement Marking Schemes	Superseded by ETL 97-18 (Chg 2) 24 Jun 16	19 Jul 04
04-2 (Chg 2)	Standard Airfield Pavement Marking Schemes	Superseded by UFC 3-260-04	19 Jul 04
04-3	Design Criteria for Prevention of Mold in Air Force Facilities	Superseded by UFC 3-101-01 and UFC 3-410-01	6 Apr 04
04-4	Trenchless Technology (TT) for Crossing Air Force Pavements	Superseded by TSPWG M 3-260-02.04-4	31 Mar 04
04-5	Design Recommendations for Potable Water System Security (FOUO)	Superseded by UFC 4-020-02, UFC 4-020-03	20 Aug 04
04-6	Inspection of Drainage Systems	Superseded by TSPWG M 3-260-03.04-6	8 Jan 04
04-7	C-130 and C-17 Landing Zone (LZ) Dimensional, Marking, and Lighting Criteria	Superseded by ETL 09-6	29 Mar 04
04-8	Stone Matrix Asphalt (SMA) for Air Force Pavements	Superseded by UFGS 32 13 17	9 Jan 04
04-9	Pavement Engineering Assessment (EA) Standards	Superseded by AFI 32-1041	29 Apr 04
04-10	Determining the Need for Runway Rubber Removal	Superseded by TSPWG M 3-270-01.04-10	12 May 04
04-11	Recommendations for Incorporating Water System Emergency Response Plan (ERP) Requirements (FOUO)	Superseded by ETL 12-1	18 Oct 04
04-12	Energy Savings Performance Contracts (ESPC)	Superseded by ETL 06-8	13 Oct 04
04-15	Electrical Safety Guidance	Superseded by UFC 3-560-01	30 Sep 04
05-1	Use of Acrylic Diffusers with Metal Halide Fixtures	Canceled 4 Feb 15	5 Feb 05
05-2	Design, Construction, Maintenance, and Evaluation of the McMurdo Sound Sea Ice Runway for Heavy Wheeled Aircraft Operations	Superseded by ETL 06-7	6 Jun 05
05-5	Small Arms Range Design and Construction	Superseded by ETL 06-11	8 Nov 05
05-8	Use of Off-the-Shelf Concrete Admixtures as Cold Weather Admixture Systems (CWAS)	Superseded by TSPWG M 3-250-04.05-8	4 Nov 05
06-1	Arc Flash Personal Protective Equipment (PPE) Requirements for High-Voltage Overhead Line Work at 69 kV (nominal) or Less	Superseded by ETL 06-9	5 Jan 06
06-2	Alkali-Aggregate Reaction in Portland Cement Concrete (PCC) Airfield Pavements	Superseded by TSPWG M 3-250-04.06-2	9 Feb 06

<b>Number</b>	<b>Title</b>	<b>Status</b>	<b>Publication Date</b>
06-4	Expedient Trim Pad Anchoring Systems	Superseded by TSPWG M 3-260-01.06-4	8 May 06
06-6	Interim Swaged End Inspection Criteria for Aircraft Arresting System (AAS) Pendants	Superseded by AFI 32-1043	16 Jun 06
06-7	Design, Construction, Maintenance, and Evaluation of the McMurdo Sound Sea Ice Runway for Heavy Wheeled Aircraft Operations	Superseded by ETL 07-12	19 Jul 06
06-8	Energy Savings Performance Contracts (ESPC)	Superseded by ETL 08-5	19 Sep 06
06-9	Arc Flash Personal Protective Equipment (PPE) Requirements for High-Voltage Overhead Line Work at 69 kV (nominal) or Less	Superseded by UFC 3-560-01	15 Aug 06
06-11	Small Arms Range Design and Construction	Superseded by ETL 08-11	28 Nov 06
07-1	Design Criteria for Underground Electrical Distribution Systems Using Directional Boring (DB) Installation Methods for Installing High Density Polyethylene Electrical (HDPE) Conduit	Superseded by UFC 3-550-01	9 Feb 07
07-2	Anchoring a Fiberglass Mat Assembly in Asphalt Concrete (AC) Pavement	Superseded by TSPWG M 3-32-17.07-2	19 Dec 07
07-3	Jet Engine Thrust Standoff Requirements for Airfield Asphalt Edge Pavements	Superseded by UFC 3-260-01	14 Feb 07
07-4	Air Force Carpet Standard	Superseded by UFGS 09 68 00	28 Mar 07
07-5	Bridge Inspections	Superseded by UFC 3-310-08	18 Apr 07
07-6	Risk Assessment Procedure for Recycling Portland Cement Concrete (PCC) Suffering from Alkali-Silica Reaction (ASR) in Airfield Pavement Structures	Superseded by TSPWG M 3-250-07.07-6	14 Aug 07
07-7	Compact Fluorescent Lamp (CFL) Applications (FOUO)	Canceled 1 Apr 15	6 Nov 07
07-8	Spall Repair of Portland Cement Concrete (PCC) Airfield Pavements in Expeditionary Environments	Superseded by AFTTP 3-32.16	27 Jul 07
07-10	Evaluation and Restoration of Folded Fiberglass Mats (FFM)	Superseded by TSPWG M 3-32-17.07-10	19 Dec 07
07-11	Evaluation of Aged Asphalt Concrete Surfaces	Superseded by ETL 08-1	25 Sep 07
07-12	Design, Construction, Maintenance, and Evaluation of the McMurdo Sound Sea Ice Runway for Heavy Wheeled Aircraft Operations	Superseded by FC 3-260-06F	24 Sep 07

<b>Number</b>	<b>Title</b>	<b>Status</b>	<b>Publication Date</b>
08-1	Evaluation Criteria for Aged Asphalt Concrete (AC) Surfaces	Superseded by UFC 3-260-03 (publication pending)	8 Feb 08
08-2	Testing Protocol for Rigid Spall Repair Materials	Superseded by TSPWG M 3-270-01.08-2	30 Jan 08
08-3	Crater Repair Methods Using Rapid-Setting (RS) Materials (FOUO)	Superseded by AFTTP 3-32.17 (publication pending)	4 Apr 08
08-4	Testing Protocol for Polymeric Spall Repair Materials	Superseded by TSPWG M 3-270-01.08-4	10 Apr 08
08-5	Energy Savings Performance Contracts (ESPC)	Superseded by ETL 11-24	14 Apr 08
08-6	Design of Surface Drainage Facilities	Superseded by UFC 3-201-01	5 Feb 08
08-10	Alternative Water Sources - Use of Non-Potable Water	Canceled	10 Jul 08
08-11	Small Arms Range Design and Construction	Superseded by ETL 11-18	20 Oct 08
08-13	Incorporating Sustainable Design and Development (SDD) and Facility Energy Attributes in the Air Force Construction Program	Superseded by UFC 1-200-02	14 Sep 08
08-14	Structural Evaluation Procedure for Stabilized Soil-Surfaced Airfields	Superseded by UFC 3-260-03 (publication pending)	28 Aug 08
08-15	Utilities Privatization (UP) Service Contract Post-Award Management	Superseded by Air Force Utilities Privatization Playbook	14 Sep 08
09-1	Airfield Planning and Design Criteria for Unmanned Aircraft Systems (UAS)	Superseded by UFC 3-260-01	28 Sep 09
09-2	Contingency Airfield Pavement Specifications	Superseded by TSPWG M 3-260-02.09-2	11 Mar 09
09-3	Chemical Dust Control for Contingency Roads, Base Camps, Helipads, and Airfields	Superseded by AFTTP 3-32.16 and UFC 3-260-17	3 Mar 09
09-4	Fire Protection Engineering Criteria – Expeditionary and Force Projection Operational Theaters	Superseded by UFC 1-201-01	9 Feb 09
09-6	C-130 and C-17 Landing Zone (LZ) Dimensional, Marking, and Lighting Criteria (FOUO)	Superseded by UFC 3-260-01	17 Aug 09
09-8	Resource Efficiency Manager (REM) Tracking and Results Verification	Canceled 17 Aug 12	3 Mar 09
09-9	Connection Methods For Standby Generators - 600 Volts or Less	Superseded by ETL 10-7	18 May 09
09-10	Aurora Electrical System Vulnerability Assessment and Mitigation Actions (FOUO)	Superseded by UFC 3-550-07	16 Apr 09

<b>Number</b>	<b>Title</b>	<b>Status</b>	<b>Publication Date</b>
09-11	Civil Engineering Industrial Control System Information Assurance Compliance	Superseded by ETL 11-1	26 Oct 09
09-12	Use of Light-Emitting Diode (LED) Fixtures in Airfield Lighting Systems on Air Force Installations and Expeditionary Locations	Superseded by ETL 10-15	18 Aug 09
09-13	Irrigation of Installation Turfgrass and Landscaping	Superseded by UFC 3-201-02	23 Oct 09
09-15	External Foam Insulation of Temporary Structures	Superseded by ETL 09-18	19 Oct 09
09-18	External Foam Insulation of Temporary Structures	Superseded by ETL 10-6	18 Nov 09
10-2	Light-Emitting Diode (LED) Fixture Design and Installation Criteria for Interior and Exterior Lighting Applications	Superseded by ETL 10-18	18 Mar 10
10-3	Procedures and Acceptance Criteria for Protective Materials Resistant to 155 mm and Smaller Fragmenting Munitions	Canceled 1 Oct 19	1 Mar 10
10-4	Joint Strike Fighter (JSF) F-35B Vertical Landing (VL) Pad Design (FOUO)	Canceled 2 Nov 12	8 Jul 10
10-5	Self-Help Pest and Vegetation Management Program	Superseded by 21 Oct 20 AFCEC/COSP Memorandum	30 Aug 10
10-6	External Foam Insulation of Temporary Structures	Canceled 16 Jul 15	22 Feb 10
10-7	Connection Methods For Standby Generators - 600 Volts or Less	Superseded by UFC 3-540-01	3 Mar 10
10-15	Use of Light-Emitting Diode (LED) Fixtures in Airfield Lighting Systems on Air Force Installations and Expeditionary Locations	Superseded by ETL 11-13	24 Sep 10
10-18	Light-Emitting Diode (LED) Fixture Design and Installation Criteria for Interior and Exterior Lighting Applications	Superseded by ETL 12-4	13 Dec 10
11-1	Civil Engineer Industrial Control System Information Assurance Compliance	Superseded by AFGM 2017-32-01	30 Mar 11
11-3	Warm Mix Asphalt (WMA)	Superseded by TSPWG M 3-250-03.11-3	8 Aug 11
11-4	Airfield Pavement Drainage Layers	Superseded by TSPWG M 3-260-02.11-4	13 Dec 11
11-6	Utilities Reporting for Air Force Facilities	Superseded by Utilities Reporting for Department of the Air Force Facilities (on CE DASH)	21 Jun 11
11-7	Nuclear Weapons-Capable Maintenance and Storage Facilities	Superseded by FC 4-420-07F	1 Sep 11

<b>Number</b>	<b>Title</b>	<b>Status</b>	<b>Publication Date</b>
11-8	Decision Criteria for Installing Vegetative Green Roofs at CONUS Installations	Superseded by UFC 3-110-03	13 Jan 11
11-9	Electrical Manhole Entry and Work Procedures	Superseded by AFI 32-1064	19 Jan 11
11-10	Electrical Manhole Design Considerations	Superseded by UFC 3-550-01	19 Jan 11
11-12	Grounding, Bonding, Testing, and Recordkeeping for Communications Facilities	Superseded by AFI 32-1065	24 Feb 11
11-13	Use of Light-Emitting Diode (LED) Fixtures in Airfield Lighting Systems on Air Force Installations and Expeditionary Locations	Superseded by ETL 11-29	14 Apr 11
11-15	Repairing and Backfilling Earthen Structures with Flowable Fill	Superseded by TSPWG M 3-270-01.11-5	1 Aug 11
11-18	Small Arms Range Design and Construction	Superseded by UFC 4-179-02	19 Apr 11
11-21	Emergency and Standby Generator Design, Maintenance, and Testing Criteria	Superseded by ETL 11-21 (Chg 1)	31 Oct 11
11-21 (Chg 1)	Emergency and Standby Generator Design, Maintenance, and Testing Criteria	Superseded by ETL 11-21 (Chg 2)	16 Feb 12
11-21 (Chg 2)	Emergency and Standby Generator Design, Maintenance, and Testing Criteria	Superseded by ETL 13-4	16 Mar 12
11-22	Water Distribution Lines Leak Detection	Superseded by UFC 3-230-02	21 Jun 11
11-24	Energy Savings Performance Contracts (ESPC)	Superseded by ETL 13-13	18 Jul 11
11-25	Implementation of Major and Area Source Rules as Applied to Boiler Tune-ups and Energy Assessments for the Boiler MACT Rule	Superseded by AFI 32-1068	8 Aug 11
11-26	Using Asphalt Surface Treatments as Preventive Maintenance on Asphalt Airfield Pavements	Superseded by UFC 3-270-01	21 Dec 11
11-27	Solar Lighting for Airfields	Superseded by UFC 3-535-01 (publication pending)	7 Dec 11
11-28	Mandatory Review and Update of Record Drawings for Nuclear-Capable Weapons and Munitions Storage and Maintenance Facilities	Superseded by UFC 3-575-01	7 Dec 11
11-29	Use of Light-Emitting Diode (LED) Fixtures in Airfield Lighting Systems on Air Force Installations and Enduring/Contingency Locations	Superseded by UFC 3-535-01 (publication pending)	22 Dec 11
12-1	Recommendations for Incorporating Water System Emergency Response Plan Requirements (FOUO)	Canceled 27 Sep 19	13 Jan 12

<b>Number</b>	<b>Title</b>	<b>Status</b>	<b>Publication Date</b>
12-4	LED Fixture Design and Installation Criteria for Interior and Exterior Lighting Applications	Superseded by ETL 12-4 (Chg 1)	9 Jan 12
12-4 (Chg 1)	LED Fixture Design and Installation Criteria for Interior and Exterior Lighting Applications	Superseded by ETL 12-15	17 Feb 12
12-7	Repair of Cement-Stabilized Soil (CSS) Surfaces	Superseded by AFTTP 3-32.16	7 Feb 12
12-8	Contingency Aircraft Mooring Points in Portland Cement Concrete Pavements	Superseded by TSPWG M 3-260-01.12-8	18 Jan 12
12-9	Personnel Certification Requirements for Inspection of Lightning Protection Systems (LPS) on Nuclear Weapons Maintenance, Handling, and Storage Facilities	Superseded by AFI 32-1065	13 Apr 12
12-10	Utility Energy Service Contracts (UESC)	Superseded by UESC Playbook	3 Apr 12
12-12	Solar-Powered Light-Emitting Diode (LED) Fixture Design and Installation Criteria for Exterior Lighting Applications in Contingency Environments	Superseded by UFC 3-530-01	27 Jul 12
12-15	LED Fixture Design and Installation Criteria for Interior and Exterior Lighting Applications	Superseded by ETL 12-15 (Chg 1)	22 Aug 12
12-15 (Chg 1)	LED Fixture Design and Installation Criteria for Interior and Exterior Lighting Applications	Superseded by UFC 3-530-01	22 Oct 12
13-2	Design, Construction, Operations, and Maintenance of Semi-permanent Wastewater Treatment Plants at Contingency Locations	Canceled 27 Sep 19	20 May 13
13-3	Minimum Airfield Operating Surface Selection and Repair Quality Criteria	Superseded by AFTTP 3-32.12	18 Jan 13
13-4	Standby Generator Design, Maintenance, and Testing Criteria	Superseded by ETL 13-4 (Chg 1)	18 Nov 13
13-4 (Chg 1)	Standby Generator Design, Maintenance, and Testing Criteria	Superseded by UFC 3-540-07	15 May 14
13-6	Energy-Efficient Motors and Adjustable-Speed Drives	Superseded by UFC 3-520-01	18 Sep 13
13-13	Energy Savings Performance Contracts (ESPC)	Superseded by ESPC Playbook	15 Aug 13
14-1	Construction and Operation and Maintenance Guidance for Storm Water Systems	Canceled 27 Sep 19	7 Aug 14

<b>Number</b>	<b>Title</b>	<b>Status</b>	<b>Publication Date</b>
14-2	Preventing and Repairing Concrete Deterioration Under MV-22 and CV-22 Aircraft	Superseded by ETL 14-2 (Chg1)	2 Apr 14
14-2 (Chg 1)	Preventing and Repairing Concrete Deterioration Under MV-22 and CV-22 Aircraft	Superseded by UFC 3-270-01	21 Nov 14
14-3	Preventive Maintenance Plan (PMP) for Airfield Pavements	Superseded by TSPWG M 3-270-08.14-3	18 Aug 14
14-4	Vertical Landing Zone (VLZ) and Other Airfield Pavement Design and Construction Using High Temperature Concrete	Superseded by UFC 3-260-01 and UFGS 32 13 13.43	18 Aug 14
14-5	Requirements for Wear of Military Uniforms with Arc Thermal Performance Value- (ATPV-) Rated Personal Protective Equipment (PPE)	Superseded by AFI 32-1064	28 May 14
14-10	Sustainment Pavement Repair (SuPR) Kit	Superseded by AFTTP 3-32.16	7 Aug 14

**(Construction Technical Letters [CTL] On Next Page)**



# CONSTRUCTION TECHNICAL LETTERS (CTL)

Number	Title	Status
87-1	[Construction Signs]	Superseded by CTL 88-3
88-1	[Management of the MILCON Planning and Execution Process]	Superseded by CTL 90-1
88-2	DD Form 1354 Checklist	Canceled
88-3	[Construction Signs]	Superseded by ETL 93-1
88-4		Replaced by Electronic Data File and Documentation in PDC/WIMS
88-5	[Definitions for Design Milestones]	Superseded by CTL 90-2
88-6		Canceled
88-7	Constructibility Review Checklist	Superseded by AFPAM 32-1005
89-1	Thirty-Percent Design Submittal	Canceled
89-2	MAJCOM Construction Management	Superseded by AFPAM 32-1005
89-3	Warranty and Guarantee Program	Superseded by AFPAM 32-1005
90-1	Management of the MILCON Planning and Execution Process	Superseded by ETL 95-2 and USAF Project Manager's Guide for Design and Construction
90-2	Definitions for Design Milestones	Canceled