Tax Deduction Qualified Software for buildings placed in service on or after January 1, 2016.
(TRACE 3D Plus Version 3.01.25)

On this page you'll find information about the (TRACE 3D Plus Version 3.01.25) Qualified Software for Calculating Commercial Building Tax Deductions | Department of Energy http://energy.gov/eere/buildings/qualified-software-calculating-commercial-building-tax-deductions, which calculates energy and power cost savings that meet federal tax incentive requirements for commercial buildings.

Date Documentation Received by DOE:

Statements and information in the right hand column of this table are from the software developer.

Internal Revenue Code §179D (c)(1) and (d) Regulations Notice 2006-52, Section 6 requirements as amplified by Notice 2008-40, Section 4 requirements.	
(1) The name, address, and (if applicable) web site of the software developer;	Trane 3600 Pammel Creek Road La Crosse, WI 54601 www.trane.com/trace
(2) The name, email address, and telephone number of the person to contact for further information regarding the software;	CDS Help cdshelp@trane.com 608-787-3926
(3) The name, version, or other identifier of the software as it will appear on the list;	*TRACE® 3D Plus version 3.01.25*
(4) All test results, input files, output files, weather data, modeler reports, and the executable version of the software with which the tests were conducted; and	The TRACE® 3D Plus software program has been tested in accordance with ANSI/ASHRAE Standard 140-2014. All of the information and results are posted at www.trane.com/TRACE3DPlus. See submitted disk for the executable version of the software as well as the input files used for the testing.
(5) A declaration by the manager in charge of software development, made under penalties of perjury, that all statements and information in the right hand column of this table are true and correct.	On behalf of the *TRACE® 3D Plus* development team I certify the following:
(a) The software has been tested according to ANSI/ASHRAE Standard 140-2014 Standard Method of Test for the Evaluation of Building Energy Analysis Computer Programs (except for sections 5.2.4, 7, and 8);	*TRACE® 3D Plus* has been tested according to the American National Standards Institute/American Society of Heating, Refrigerating and Air-Conditioning Engineers (ANSI/ASHRAE) Standard 140-2014 Standard Method of Test for Evaluation of Building Energy Analysis Computer Programs.
(b) The software can model explicitly[1]—	*TRACE® 3D Plus* is fully compliant with ASHRAE 90.1-2007 and meets all of the below requirements.

(i) 8,760 hours per year;	The *TRACE® 3D Plus* software complies.
(ii) Calculation methodologies for the building components being modeled;	The *TRACE®3D Plus* software complies.
(iii) Hourly variations in occupancy, lighting power, miscellaneous equipment power, thermostat setpoints, and HVAC system operation, defined separately for each day of the week and holidays;	The *TRACE® 3D Plus* software complies.
(iv) Thermal mass effects;	The *TRACE® 3D Plus* software complies.
(v) Ten or more thermal zones;	The *TRACE® 3D Plus* software complies.
(vi) Part-load performance curves for mechanical equipment;	The *TRACE® 3D Plus* software complies.
(vii) Capacity and efficiency correction curves for mechanical heating and cooling equipment; and	The *TRACE® 3D Plus* software complies.
(viii) Air-side and water-side economizers with integrated control.	The *TRACE® 3D Plus* software complies.

(c)[2] The software can explicitly model each of the following HVAC systems listed in Appendix G of Standard 90.1-2007[1]:

(i) Packaged Terminal Air Conditioner (PTAC), constant volume (CV) fan, DX coil cooling, hot-water fossil fuel boiler.	The *TRACE® 3D Plus* software models this system.
(ii) Packaged Terminal Heat Pump (PTHP), CV fan, DX coil cooling, electric heat pump heating.	The *TRACE® 3D Plus* software models this system.
(iii) Packaged Rooftop Air Conditioner (PSZ-AC), CV fan, DX coil cooling, fossil fuel furnace heating.	The *TRACE® 3D Plus* software models this system.
(iv) Packaged Rooftop Heat Pump (PSZ-HP), CV fan, DX coil cooling, electric heat pump heating.	The *TRACE® 3D Plus* software models this system.
(v) Packaged Rooftop Variable-Air-Volume (PVAV) with reheat, Variable-Air-Volume (VAV) fans, DX coil cooling, hot-water fossil fuel boiler.	The *TRACE® 3D Plus* software models this system.
(vi) Packaged VAV with parallel fan-powered boxes (PVAV with PFP boxes) with reheat, VAV fans, DX coil cooling, electric resistance heating.	The *TRACE® 3D Plus* software models this system.

(vii) Packaged Rooftop VAV with reheat, VAV fans, chilled water cooling, hot-water fossil fuel boiler.	The *TRACE® 3D Plus* software models this system.
(viii) VAV with PFP boxes with reheat, VAV fans, chilled water cooling, electric resistance heating.	The *TRACE® 3D Plus* software models this system.
(d) The software can—	
(i) Either directly determine energy and power costs or produce hourly reports of energy use by energy source suitable for determining energy and power costs separately; and	The *TRACE® 3D Plus* software complies.
(ii) Design load calculations to determine required HVAC equipment capacities and air and water flow rates.	The *TRACE® 3D Plus* software complies.
(e)[2] The software can explicitly model:	
(i) Natural ventilation.	The *TRACE® 3D Plus* software does not explicitly model this feature and shall not be used for projects with this technology.
(ii) Mixed mode (natural and mechanical) ventilation.	The *TRACE 3D® Plus* software does not explicitly model this feature and shall not be used for projects with this technology.
(iii) Earth tempering of outdoor air.	The *TRACE® 3D Plus* software does not explicitly model this feature and shall not be used for projects with this technology.
(iv) Displacement ventilation.	The *TRACE® 3D Plus* software models displacement ventilation
(v) Evaporative cooling.	The *TRACE® 3D Plus* software models evaporative cooling.
(vi) Water use by occupants for cooking, cleaning or other domestic uses.	The *TRACE® 3D Plus* software models water use by occupants
(vii) Water use by heating, cooling, or other equipment, or for on-site landscaping.	The *TRACE® 3D Plus* software does not explicitly model this feature and shall not be used for projects with this technology.
(viii) Automatic interior or exterior lighting controls (such as occupancy, photocells, or time-clocks).	The *TRACE® 3D Plus* software models automatic interior and exterior lighting controls.
(ix) Daylighting (sidelighting, skylights, or tubular daylight devices).	The *TRACE® 3D Plus* software does not explicitly model this feature and shall not be used for projects with this technology.
(x) Improved fan system efficiency through static pressure reset.	The *TRACE® 3D Plus software* models improved fan system efficiency through static pressure reset.

(xi) Radiant heating or cooling (low or high temperature).	The *TRACE® 3D Plus* software models radiant heating and cooling.
(xii) Multiple or variable-speed control for fans, cooling equipment, or cooling towers.	The *TRACE® 3D Plus* software models multiple and variable-speed control for fans, cooling equipment, and cooling towers.
(xiii) On-site energy systems (such as combined heat and power systems, fuel cells, solar photovoltaic, solar thermal, or wind).	The *TRACE® 3D Plus* software models on-site energy systems including combined heat and power, photovoltaic systems, and solar water and air systems.

Date Posted:

1) 90.1-2007 is defined by the PATH Act of 2015 as "Standard 90.1–2007 of ASHRAE and IESNA (as in effect on the day before the date of the adoption of Standard 90.1–2010 of such Societies)." This definition includes 90.1-2007 and the addenda supplement package (Addenda a, b, c, g, h, i, j, k, l, m, n, p, q, s, t, u, w, y, ad, and aw) and addendum r, plus all published errata.
2) Software that cannot explicitly model one or more of the HVAC systems or features in sections 5.c and 5.e of the table can still be listed as qualified software. It cannot, however, be used for 179D analyses of projects that need to model such systems or features. When this is the case, the statement used for the particular requirements shall be as follows: The *AAA EnergySoftware* cannot model *system or feature X* and shall not be used for projects with this technology.

Tax Deduction Qualified Software — http://energy.gov/eere/buildings/qualified-software-calculating-commercial-building-tax-deductions

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