

## Chapter NR 484

### INCORPORATION BY REFERENCE

NR 484.01 Applicability; purpose.  
NR 484.02 Definitions.  
NR 484.03 Code of federal regulations.  
NR 484.04 Code of federal regulations appendices.

NR 484.05 National technical information service.  
NR 484.06 Other government organizations.  
NR 484.10 American society for testing and materials.  
NR 484.11 Other private organizations.

**NR 484.01 Applicability; purpose. (1) APPLICABILITY.** This chapter applies to all air contaminant sources governed by chs. NR 400 to 499 and to their owners and operators.

**(2) PURPOSE.** This chapter is adopted under ss. 227.21 (2) and 285.11, Stats., to incorporate by reference testing, monitoring and other technical standards, established by the federal government and technical societies and organizations, to which reference is made in chs. NR 400 to 439 and 445 to 499.

**Note:** Technical Standards to which reference is made in ch. NR 440 are incorporated by reference in s. NR 440.17.

**History:** Cr. Register, September, 1986, No. 369, eff. 10-1-86; am. Register, September, 1987, No. 381, eff. 10-1-87; am. Register, February, 1990, No. 410, eff. 3-1-90; am. Register, May, 1992, No. 437, eff. 6-1-92; am. (2), Register, February, 1995, No. 470, eff. 3-1-95; correction in (2) made under s. 13.93 (2m) (b) 7., Stats., Register, January, 1997, No. 493.

**NR 484.02 Definitions.** The definitions contained in ch. NR 400 apply to the terms used in this chapter.

**History:** Cr. Register, September, 1986, No. 369, eff. 10-1-86.

**NR 484.03 Code of federal regulations.** The federal regulations in effect on April 1, 2002 listed in the first column of Table 1 are incorporated by reference for the corresponding sections of chs. NR 400 to 439 and 445 to 499 in the third column of Table 1.

**Note:** Copies of these materials are available for inspection in the offices of the department of natural resources, secretary of state and revisor of statutes, Madison, Wisconsin and in some public libraries or may be purchased for personal use from:

Superintendent of Documents  
PO Box 371954  
Pittsburgh PA 15250-7954

**Table 1**  
**CFR References**

CFR Reference	Title	Incorporated by Reference For
(1) 29 CFR part 1910 subpart Z	Toxic and Hazardous Substances	NR 465
(2) 29 CFR 1910.145(d)(4)		NR 447.12 (4) (a) 2. NR 447.14 (2) (a) 2. NR 447.17 (2) (a) 2.
(3) 29 CFR 1910.1001(j)(4)(ii)		NR 447.13 (1) (a) 4.
(4) 29 CFR 1926.1101(k)(8)(iii)		NR 447.13 (1) (a) 4.
(5) 40 CFR part 53	Ambient Air Monitoring Reference and Equivalent Methods	NR 404.02 (4m) NR 404.06 (3) (b)
(6) 40 CFR 63.457	Test methods and procedures	NR 464

**History:** Cr. Register, December, 1988, No. 396, eff. 1-1-89; am. (3), Register, September, 1989, No. 405, eff. 10-1-89; renum. from NR 484.06, Register, February, 1990, No. 410, eff. 3-1-90; am. (intro.) and (3), cr. (6), Register, August, 1991, No. 428, eff. 9-1-91; am. (intro.), r. (2) and (4), renum. (1), (3), (5) and (6) to be (3), (1), (2) and (5) and am. (1) and (5), (3) renum. from NR 484.04 (3) and am. Register, May, 1992, No. 437, eff. 6-1-92; renum. (5) to be (6) and am., cr. (5), Register, May, 1993, No. 449, eff. 6-1-93; am. (intro.) and (5), Register, June, 1994, No. 462, eff. 7-1-94; r. and recr. Register, February, 1995, No. 470, eff. 3-1-95; r. (5) and (6), Register, December, 1995, No. 480, eff. 1-1-96; am. (intro.), Register, March, 1997, No. 495, eff. 4-1-97; am. (intro.) and (4), Register, November, 1999, No. 527, eff. 12-1-99; CR 00-160: am. Table 1, Register August 2001, No. 548, eff. 9-1-01; CR 00-175: am. (intro.) and Table 1 Register March 2002 No. 555, eff. 4-1-02; **CR 02-146: am. (3) and (4) Register October 2003 No. 574, eff. 11-1-03.**

**NR 484.04 Code of federal regulations appendices.** The appendices to federal regulations in effect on April 1, 2002 listed in the first column of Table 2 are incorporated by reference for the corresponding sections of chs. NR 400 to 439 and 445 to 499 or code of federal regulations appendix method listed in the third column of Table 2. Since some of these materials are incorporated by reference for another appendix of the code of federal regulations and the other appendix is also incorporated by refer-

ence in this section, the materials listed in this section which are incorporated by reference for the other appendix are hereby also incorporated by reference and made a part of this chapter.

**Note:** Copies of these materials are available for inspection in the offices of the department of natural resources, secretary of state and revisor of statutes, Madison, Wisconsin and in some public libraries or may be purchased for personal use from:

Superintendent of Documents  
PO Box 371954  
Pittsburgh PA 15250-7954

**Table 2**  
**CFR Appendix References**

	<b>CFR Appendix Referenced</b>	<b>Title</b>	<b>Incorporated by Reference For</b>
(1)	29 CFR 1926.58 Appendix G	Work Practices and Engineering Controls for Small–Scale, Short–Duration Asbestos Renovation and Maintenance Activities—Non–Mandatory	NR 447.02 (18) Note
(2)	40 CFR part 50 Appendices A to K		NR 404.02 (8) NR 404.06 (2)
(3)	40 CFR part 50 Appendix B	Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere (High–Volume Method)	NR 404.02 (11)
(4)	40 CFR part 50 Appendix H	Interpretation of the National Ambient Air Quality Standards for Ozone	NR 404.04 (5)
(5)	40 CFR part 50 Appendix J	Reference Method for the Determination of Particulate Matter as PM <sub>10</sub> in the Atmosphere	NR 404.02 (4m)
(6)	40 CFR part 50 Appendix K	Interpretation of the National Ambient Air Quality Standards for Particulate Matter	NR 404.04 (8) (b) 3.
(7)	40 CFR part 51 Subpart S Appendix B	Test Procedures	NR 485.02 (18)
(8)	40 CFR part 51 Subpart S Appendix E	Transient Test Driving Cycle	NR 485.02 (22)
(9)	40 CFR part 51 Appendix M	Recommended Test Methods for State Implementation Plans	NR 439 NR 460.06 (4) (b) (intro.) NR 465.09 (4) (b) 1. and 2. NR 466.09 (5)
(10)	40 CFR part 51 Appendix S, Section IV	Sources That Would Locate in a Designated Nonattainment Area	NR 405.11 (1) (e)
(11)	40 CFR part 51 Appendix W	Guideline on Air Quality Models (Revised)	NR 405.10 NR 489.09 (3) (intro.)
(12)	40 CFR part 58 Appendix B	Quality Assurance Requirements for Prevention of Significant Deterioration (PSD) Air Monitoring	NR 405.11 (3)
(13)	40 CFR part 60 Appendix A	Test Methods	NR 400.02 (131) NR 439 NR 460 to 469
(14)	40 CFR part 60 Appendix A, Method 3	Gas Analysis for the Determination of Dry Molecular Weight	NR 449.09 (6) (a) 3.
(15)	40 CFR part 60 Appendix A, Method 5	Determination of Particulate Emissions from Stationary Sources	40 CFR part 61 Appendix B, Method 101
(16)	40 CFR part 60 Appendix A, Method 18	Measurement of Gaseous Organic Compound Emissions by Gas Chromatography	NR 400.02 (77) NR 422.142 (5) (a)
(17)	40 CFR part 60 Appendix A, Method 21	Determination of Volatile Organic Compounds Leaks	NR 420.02 (39m) NR 421.02 (21) NR 421.05 (2) (e) NR 421.06 (2) (e)
(18)	40 CFR part 60 Appendix A, Method 22	Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares	NR 415.075 (3) (c)
(19)	40 CFR part 60 Appendix A, Method 25	Determination of Total Gaseous Nonmethane Organic Emissions as Carbon	NR 422.42 (5) (a)
(20)	40 CFR part 60 Appendix A, Method 25A	Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer	NR 422.142 (5) (a)
(21)	40 CFR part 60 Appendix B	Performance Specifications	NR 428 NR 439 NR 460 to 469
(21m)	40 CFR part 60 Appendix F	Quality Assurance Procedures	NR 466.10 (2)
(21s)	40 CFR part 61 Subpart M, Appendix A	Interpretive Rule Governing Root Removal Operations	NR 447.08 (1) (am)

**Table 2 (Continued)**  
**CFR Appendix References**

	<b>CFR Appendix Referenced</b>	<b>Title</b>	<b>Incorporated by Reference For</b>
(22)	40 CFR part 61 Appendix A	National Emission Standards for Hazardous Air Pollutants: Compliance Status Information	NR 447.16 (2)
(23)	40 CFR part 61 Appendix B	Test Methods	NR 400.02 (131) NR 439 NR 445.02 (9m) NR 446 to NR 469
(24)	40 CFR part 63, Subpart KK, Appendix A	Data Quality Objective and Lower Confidence Limit Approaches for Alternative Capture Efficiency Protocols and Test Methods	NR 439.06 (3) (am) NR 465.09 (4) (b) 3. NR 466.09 (6)
(25)	40 CFR part 63 Appendix A	Test Methods	NR 400.02 (131) NR 439 NR 460 to 469
(25g)	40 CFR part 63 Appendix C	Determination of the Fraction Biodegraded ( $F_{bio}$ ) in a Biological Treatment Unit	40 CFR 63.457(1) NR 464.09 (10) (b)
(25r)	40 CFR part 63 Appendix E	Monitoring Procedure for Nonthoroughly Mixed Open Biological Treatment Systems at Kraft Pulp Mills under Unsafe Sampling Conditions	NR 464.09 (16) (c)
(26)	40 CFR part 72 Appendix D	Calculation of Potential Electric Output Capacity	NR 409.02 (57)
(27)	40 CFR part 75 Appendices A to I		NR 428 NR 439
(28)	40 CFR part 763 Subpart E Appendix E, Section 1	Polarized Light Microscopy	NR 447.02 (1) NR 447.02 (16) NR 447.02 (27) NR 447.02 (36) NR 447.09 (1)

**History:** Cr. Register, August, 1991, No. 428, eff. 9-1-91; am. (intro.), (5) and (6), renum. (3) to be NR 484.03 (4) and am., renum. (4) and (7) to be (3) and (4) and am. (4), Register, May, 1992, No. 437, eff. 6-1-92; renum. (2), (3) (intro.) (a) to (c) to be (2) (d), (intro.), (c), (a) and (b) and am. (2) (d), Register, May, 1993, No. 449, eff. 6-1-93; am. (intro.), (2) (d), cr. (7), Register, December, 1993, No. 456, eff. 1-1-94; cr. (1) (c), Register, June, 1994, No. 462, eff. 7-1-94; r. and recr. Register, February, 1995, No. 470, eff. 3-1-95; cr. (9), (19), Register, April, 1995, No. 472, eff. 5-1-95; cr. (13m), (15e) and (15m), Register, June, 1995, No. 474, eff. 7-1-95; am. (9), Register, September, 1995, No. 477, eff. 10-1-95; am. (18), cr. (18m), renum. (7) to (21) to be (9) to (27), cr. (7) and (8), Register, December, 1995, No. 480, eff. 1-1-96; am. (27), Register, January, 1997, No. 493, eff. 2-1-97; am. (intro.), (13), (16), (21) and (24), Register, March, 1997, No. 495, eff. 4-1-97; am. (intro.), (11), (13), (16), (23) and (24), Register, November, 1999, No. 527, eff. 12-1-99; am. (9), rn. (24) to (27) to be (25) to (28), cr. (21m) and (24) and am. (24), Register, March, 2000, No. 531, eff. 4-1-00; am. (21) and (27), Register, January, 2001, No. 541, eff. 2-1-01; CR 00-160: am. (9) and (24) of Table 2, Register August 2001 No. 548, eff. 9-1-01; CR 00-175: am. (intro.) and Table 2 Register March 2002 No. 555, eff. 4-1-02; **CR 02-146: cr. (21s) Register October 2003 No. 574, eff. 11-1-03.**

**NR 484.05 National technical information service.**  
The National Technical Information Service (NTIS) documents listed in the first column of Table 3 are incorporated by reference for the corresponding sections of chs. NR 400 to 439 and 445 to 499 in the third column of Table 3.

**Note:** Copies of these materials are available for inspection in the offices of the department of natural resources, secretary of state and revisor of statutes, Madison, Wisconsin or may be purchased for personal use from:  
National Technical Information Service  
5285 Port Royal Road  
Springfield VA 22161

**Table 3**  
**NTIS Document References**

Document Reference	Document Title	Incorporated by Reference For
(1) NTIS Order No. PB 87-100012	Standard Industrial Classification Manual, 1987	NR 400.02 (74) NR 400.02 (86) NR 400.02 (91) NR 400.02 (149) NR 405.02 (8) NR 407.02 (4) (intro.) NR 407.05 (4) (b) NR 408.02 (5) NR 410.02 (4) NR 421.02 (3) NR 421.02 (17) NR 422.02 (112) NR 422.095 (1) NR 422.15 (1) (intro.) NR 437.07 (2) (a) 4. NR 438.02 (1) NR 465.02 (51)
(2) NTIS Order No. PB-266 227	Recommended Industrial Ventilation Guidelines, U.S. Department of Health, Education, and Welfare, National Institute of Occupational Safety and Health, 1976	NR 421.04 (3) (c) 2.
(3) NTIS Order No. PB 93-192664	Metropolitan Areas, 1993	NR 400.02 (96)
(4) San Diego Air Pollution Control District Test Procedure TP-91-1	Pressure Decay/Leak Test Procedure, Phase I and Phase II Vapor Recovery Installations	NR 439.06 (3) (i)
(5) San Diego Air Pollution Control District Test Procedure TP-91-2	Pressure Drop vs. Flow/Liquid Blockage Test Procedure, Phase II Balance System Installations	NR 439.06 (3) (i)
(8) EPA, OAQPS, AP-42	Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources, Fifth Edition, January 1995, as revised by Supplement A (February 1996), Supplement B (November 1996), Supplement C (November 1997), Supplement D (July 1998), Supplement E (November 1999), Supplement F (October 2000) and Update 2001 (December 2001)	NR 437.04 (2) (a) 6. NR 438.03 (5) (a) NR 489.09 (2) (b)
(8g) EPA, OAQPS, AP-42	Compilation of Air Pollutant Emission Factors, Volume II: Mobile Sources, Fourth Edition, September 1985, as revised by Supplement A (1991)	NR 437.04 (2) (a) 7.
(8r) EPA, OAQPS, AP-42	Compilation of Air Pollutant Emission Factors, Volume II: Mobile Sources, Fifth Edition, Appendix G (1998), Appendix H (1995), Appendix I (1998), Appendix J (1998), and Appendix K (1998)	NR 437.04 (2) (a) 8.
(9) EPA-450/3-84-014, December 1984	Review of National Emission Standards for Mercury	NR 446.04 (3) (d) Note
(14) NTIS Order No. DE95003295INZ	Voluntary reporting of greenhouse gases under Section 1605(b) of the Energy Policy Act of 1992 - General Guidelines, October 1994	NR 437.04 (2) (a) 17.
(15) NTIS Order No. DE95003296INZ	Sector-Specific Issues and Reporting Methodologies Supporting the General Guidelines for the Voluntary Reporting of Greenhouse Gases under Section 1605(b) of the Energy Policy Act of 1992, Volume I, Electricity Supply Sector, Residential and Commercial Buildings Sector, and Industrial Sector, October 1994.	NR 437.04 (2) (a) 18.
(16) NTIS Order No. DE95003297INZ	Sector-Specific Issues and Reporting Methodologies Supporting the General Guidelines for the Voluntary Reporting of Greenhouse Gases under Section 1605(b) of the Energy Policy Act of 1992, Volume II, Transportation Sector, Forestry Sector, and Agricultural Sector, October 1994.	NR 437.04 (2) (a) 19.

**History:** Cr. (intro.) and (1), (2) renum. from NR 484.03 (2) and am. Register, February, 1990, No. 410, eff. 3-1-90; cr. (2) to (4), (6) and (7), renum. (2) to be (5), Register, August, 1991, No. 428, eff. 9-1-91; am. (1), (4) to (6), renum (7) (a) to (c) to be (7) (c) to (e) and am., cr. (7) (a) and (b), Register, May, 1992, No. 437, eff. 6-1-92; am. (1), Register, January, 1993, No. 445, eff. 2-1-93; am. (3), cr. (3) (b) to (e) and (8), Register, May, 1993, No. 449, eff. 6-1-93; cr. (1m), am. (3) (b), Register, December, 1993,

No. 456, eff. 1-1-94; renum. (2) to be (9) and am. Register, August, 1994, No. 464, eff. 9-1-94; r. and recr. Register, February, 1995, No. 470, eff. 3-1-95; r. (6), (7), Register, April, 1995, No. 472, eff. 5-1-95; am. (3), Register, June, 1995, No. 474, eff. 7-1-95; am. (1), Register, August, 1995, No. 476, eff. 9-1-95; am. (8), Register, September, 1995, No. 477, eff. 10-1-95; am. (3), Register, December, 1995, No. 480, eff. 1-1-96; am. (1), (8), Register, January, 1997, No. 493, eff. 2-1-97; am. (1), (3), (8), r. and recr. (9), r. (10), Register, November, 1999, No. 527, eff. 12-1-99; CR 00-160; am. (1) of Table 3, Register August 2001 No. 548, eff. 9-1-01; CR 02-012; am. (1) and (8) of Table 3, cr. (8g), (8r), (14), (15) and (16) of Table 3, Register October 2002 No. 562, eff. 11-1-02.

**NR 484.06 Other government organizations.** The following materials from other government organizations listed in the first column of Tables 4A to 4G are incorporated by reference for the corresponding sections of chs. NR 400 to 439 and 445 to 499 in the third column of Tables 4A to 4G.

**Note:** Copies of these materials are available for inspection in the offices of the

department of natural resources, secretary of state and revisor of statutes, Madison, Wisconsin or may be purchased for personal use by writing to the organizations listed in the individual subsections.

(1) The following is a document published in the federal register.

**Note:** Copies can be made for personal use from the federal register on microfiche, which is available at the department of natural resources library.

**Table 4A  
Federal Register Document Reference**

Citation	Title	Incorporated by Reference For
51 FR 43814, Dec. 4, 1986	Emissions Trading Policy Statement; General Principles for Creation, Banking, and Use of Emission Reduction Credits	NR 408.06 (1) (d) Note NR 425.05 (1) (b) 2.

(2) The following is a document from the U.S. bureau of mines.

**Note:** Copies may be purchased for personal use from:  
Bureau of Mines  
U.S. Department of the Interior  
Washington DC 20240

**Table 4B  
U.S. Bureau Of Mines Document Reference**

Document Number	Title	Incorporated by Reference For
Information Circular 7588	Fundamentals of Smoke Abatement, December, 1950, Ringlemann Chart	NR 400.02 (137) Note

(3) The following document is from the federal highway administration.

**Note:** Copies may be purchased for personal use from:  
Superintendent of Documents  
PO Box 371954  
Pittsburgh PA 15250-7954

**Table 4C  
Federal Highway Administration Document Reference**

Document Number	Title	Incorporated by Reference For
FP-92, 1992	Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, Section 401	NR 447.04 (2) (c)

(4) The following are from the U.S. environmental protection agency.

**Note:** Paragraph (a) lists a database document. Electronic copies may be downloaded for personal use from the following internet address:  
<http://www.epa.gov/ttn/chief/software/fire/index.html>

Those without access to a computer can obtain printed copies of all or of specific parts of FIRE from:

Department of Natural Resources  
Bureau of Air Management  
Box 7921  
101 South Webster Street  
Madison WI 53707-7921

**Note:** Copies of the documents listed in par. (b) may be downloaded for personal use from the following internet address: <http://www.epa.gov/ttn/chief/eiip/techreport/index.html>.

Those without access to a computer can obtain printed copies from:

Info CHIEF  
Emission Factor And Inventory Group (MD-D205-01)  
Office of Air Quality Planning and Standards  
U. S. Environmental Protection Agency  
Research Triangle Park NC 27711  
Phone: (919) 541-1000  
Fax: (919) 541-5680

**Table 4D  
U.S. Environmental Protection Agency Document References**

Document Number	Title	Incorporated by Reference For
(a) EPA, OAQPS, FIRE 6.23	Factor Information Retrieval Data System, Version 6.23	NR 437.04 (2) (a) 22. NR 438.02 (2) NR 438.03 (5) (a)
(b) EPA, EIIP Technical Report Series		
1. EPA-454/R-97-004a	EIIP Volume I, Introduction and Use of EIIP Guidance for Emission Inventory Development, July 1997	NR 437.04 (2) (a) 9.
2. Volume II	Point Sources, May 2002	NR 437.04 (2) (a) 10.

**Table 4D (Continued)**  
**U.S. Environmental Protection Agency Document References**

Document Number	Title	Incorporated by Reference For
3. Volume III	Area Sources and Area Source Method Abstracts, June 2001	NR 437.04 (2) (a) 11.
4. Volume IV	Mobile Sources, September 1997	NR 437.04 (2) (a) 12.
5. Volume VI	Quality Assurance Procedures and DARS Software, September 1997	NR 437.04 (2) (a) 13.
6. Volume VII	Data Management Procedures, January 1999	NR 437.04 (2) (a) 14.
7. Volume VIII	Estimating Greenhouse Gas Emissions, October 1999	NR 437.04 (2) (a) 15.
8. Volume IX	Particulate Emissions, September 1999	NR 437.04 (2) (a) 16.

(5) The following are documents from the State of California, Department of Consumer Affairs, Bureau of Home Furnishings and Thermal Insulation.

State of California  
Department of Consumer Affairs  
Bureau of Home Furnishings and Thermal Insulation  
3485 Orange Grove Avenue  
North Highlands CA 95660-5595  
(916) 920-6951

**Note:** Copies may be downloaded for personal use from the following Internet address: <http://www.dca.ca.gov/bhfti/bulletin.htm>.

Those without access to a computer can obtain printed copies from:

**Table 4E**

**State of California Document Reference**

Document Number	Title	Incorporated by Reference For
(a) Technical Bulletin 116	Requirements, Test Procedure and Apparatus for Testing the Flame Retardance of Upholstered Furniture	NR 465.04 (1) (b) 1.
(b) Technical Bulletin 117	Requirements, Test Procedure and Apparatus for Testing the Flame Retardance of Resilient Filling Materials Used in Upholstered Furniture	NR 465.04 (1) (b) 1.
(c) Technical Bulletin 133	Flammability Test Procedure for Seating Furniture for Use in Public Occupancies	NR 465.04 (1) (b) 1.

(6) The following document is from the intergovernmental panel on climate change.

C/O World Meteorological Organization  
7bis Avenue de la Paix  
C.P. 2300  
CH- 1211 Geneva 2, Switzerland  
Phone: +41-22-730-8208  
Fax: +41-22-730-8025  
e-mail: [ipcc\\_sec@gateway.wmo.ch](mailto:ipcc_sec@gateway.wmo.ch)

**Note:** Copies may be downloaded for personal use from the following internet address: <http://www.ipcc-nggip.iges.or.jp/public/gl/invs1.htm>.

Those without access to a computer can obtain printed copies from:  
IPCC Secretariat

**Table 4F**

**IPCC Document Reference**

Publishing Organization	Title	Incorporated by Reference For
Intergovernmental Panel on Climate Change (IPCC)	Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories, Volumes 1-3	NR 437.04 (2) (a) 4.

(7) The following document is from the U.S. department of energy.

NCI, 8260 Greensboro Dr., Suite 400  
McLean VA 22102  
Phone: (703) 287-8385  
Fax: (703) 893-0400  
or  
Phone: 1-800-DOE-EREC

**Note:** Copies may be downloaded for personal use from the following internet address: <http://www.ipmvp.org/info/Vol1book.pdf>.

Those without access to a computer can obtain printed copies from:  
Energy Efficiency and Renewable Energy Clearinghouse (EREC)

Table 4G

## U.S. Department of Energy Document Reference

Publishing Organization	Title	Incorporated by Reference For
U.S. Department of Energy, OEERE	International Performance Measurement and Verification Protocol, Volume 1 – Concepts and Options for Determining Energy Savings, January 2001	NR 437.04 (2) (a) 5.

**History:** Cr. Register, February, 1995, No. 470, eff. 3-1-95; am. (1), Register, December, 1996, No. 492, eff. 1-1-97; am. (2), cr. (4), Register, November, 1999, No. 527, eff. 12-1-99; CR 00-160: am. (intro.), cr. (5), Register August 2001 No. 548, eff. 9-1-01; CR 02-012: am. (intro.), (4) and (a) and (b) of Table 4, cr. (6) and Table 4F, (7) and Table 4G Register October 2002 No. 562, eff. 11-1-02.

**NR 484.10 American society for testing and materials.** The American society for testing and materials (ASTM) standards listed in the first column of Table 5 are incorporated by reference for the corresponding sections of chs. NR 400 to 439 and 445 to 499 in the third column of Table 5. Some of the standards are also incorporated for Appendix A or B of 40 CFR part 60, Appendix B of 40 CFR part 61 or Appendix A, D, E, F or G of 40 CFR part 75 as in effect on April 1, 2002. Since these Appendices are incorporated by reference in s. NR 484.04, standards listed in this section which are incorporated by reference for the Appendices are hereby also incorporated by reference and made a part of this chapter and chs. NR 400 to 439 and 445 to 499.

**Note:** These materials are available for inspection in the offices of the department of natural resources, secretary of state and revisor of statutes, Madison, Wisconsin or may be purchased for personal use at one of the following addresses:

American Society for Testing and Materials (ASTM)

100 Barr Harbor Drive  
W Conshohocken PA 19428-2959  
(610) 832-9500

or from:

UMI  
300 North Zeeb Road  
PO Box 1346  
Ann Arbor MI 48106-1346

Table 5

## ASTM Standard References

Standard Number	Standard Title	Incorporated by Reference For
(1) ASTM C136-01	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates	NR 415.02 (9)
(2) ASTM D97-02	Standard Test Methods for Pour Point of Petroleum Products	NR 420.02 (41)
(3) ASTM D129-00	Standard Test Method for Sulfur in Petroleum Products (General Bomb Method)	40 CFR part 60 Appendix A, Method 19 40 CFR part 75 Appendices A and D NR 439.08 (2) (b)
(4) ASTM D240-02	Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter	40 CFR part 60 Appendix A, Method 19 40 CFR part 75 Appendices A, D, E and F NR 400.02 (79) NR 439.08 (2) (c)
(5) ASTM D287-92 (2000)	Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method)	40 CFR part 75 Appendix D
(6) ASTM D323-99a	Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method)	NR 420.02 (31)
(7) ASTM D388-99e1	Standard Classification of Coals by Rank	40 CFR part 75 Appendix F NR 400.02 (40)
(8) ASTM D396-02	Standard Specification for Fuel Oils	NR 400.02 (70) NR 400.02 (135) NR 420.03 (1) (a)
(9) ASTM D523-89 (1999)	Standard Test Method for Specular Gloss	ANSI/AHA A135.5-1988 NR 422.02 (49m)
(10) ASTM D737-96	Standard Test Method for Air Permeability of Textile Fabrics	NR 447.15 (1) (a) 1.

**Table 5 (Continued)**  
**ASTM Standard References**

Standard Number	Standard Title	Incorporated by Reference For
<b>(12)</b> ASTM D968-93 (2001)	Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive	ANSI/AHA A135.5-1988
<b>(13)</b> ASTM D975-02	Standard Specification for Diesel Fuel Oils	NR 409.02 (34) NR 420.03 (1) (a)
<b>(14)</b> ASTM D1037-99	Standard Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials	ANSI/AHA A135.5-1988
<b>(15)</b> ASTM D1072-90 (1999)	Standard Test Method for Total Sulfur in Fuel Gases	40 CFR part 75 Appendix D
<b>(16)</b> ASTM D1193-99	Standard Specification for Reagent Water	40 CFR part 60 Appendix A: Method 5, par. 7.1.3 Method 5E, par. 7.2.1 Method 5F, par. 7.2.1 Method 6, par. 7.1.1 Method 7, par. 7.1.1 Method 7C, par. 7.1.1 Method 7D, par. 7.1.1 Method 10A, par. 7.1.1 Method 11, par. 7.1.3 Method 12, par. 7.1.3 Method 13A, par. 7.1.2 Method 14A, par. 7.1 Method 25D, par. 7.2.2.4 Method 26, par. 7.1.2 Method 26A, par. 7.1.2 Method 29, pars. 7.2.2, 7.4.2 and 7.5.6 40 CFR part 61 Appendix B, Method 101, par. 6.1.1
<b>(17)</b> ASTM D1217-93 (1998)	Standard Test Method for Density and Relative Density (Specific Gravity) of Liquids by Bingham Pycnometer	40 CFR part 75 Appendix D
<b>(18)</b> ASTM D1250-80 (1997)	Standard Guide for Petroleum Measurement Tables	40 CFR part 75 Appendix D
<b>(20)</b> ASTM D1298-99	Standard Practice for Density, Relative Density (Specific Gravity), or API Gravity of Crude Petroleum and Liquid Petroleum Products by Hydrometer Method	40 CFR part 75 Appendix D
<b>(21)</b> ASTM D1308-02	Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes	ANSI/AHA A135.5-1988
<b>(22)</b> ASTM D1475-98	Standard Test Method for Density of Liquid Coatings, Inks, and Related Products	40 CFR part 60 Appendix A: Method 24, par. 6.1 Method 24A, pars. 6.5 and 7.1
<b>(23)</b> ASTM D1480-93 (1997)	Standard Test Method for Density and Relative Density (Specific Gravity) of Viscous Materials by Bingham Pycnometer	40 CFR part 75 Appendix D
<b>(24)</b> ASTM D1481-93 (1997)	Standard Test Method for Density and Relative Density (Specific Gravity) of Viscous Materials by Lipkin Bicapillary Pycnometer	40 CFR part 75 Appendix D
<b>(25)</b> ASTM D1552-01	Standard Test Method for Sulfur in Petroleum Products (High-Temperature Method)	40 CFR part 75 Appendices A and D NR 439.08 (2) (b)
<b>(25m)</b> ASTM D1613-02	Standard Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products	NR 422.02 (67m)

**Table 5 (Continued)**  
**ASTM Standard References**

Standard Number	Standard Title	Incorporated by Reference For
(26)	ASTM D1826-94 (1998) Standard Test Method for Calorific Value of Gases in Natural Gas Range by Continuous Recording Calorimeter	40 CFR part 60 Appendix A, Method 19 40 CFR part 75 Appendices E and F NR 400.02 (79)
(27)	ASTM D1945-96(2001) Standard Test Method for Analysis of Natural Gas by Gas Chromatography	40 CFR part 75 Appendices F and G
(28)	ASTM D1946-90 (2000) Standard Practice for Analysis of Reformed Gas by Gas Chromatography	40 CFR part 75 Appendices F and G NR 460.10 (2) (f) 1. a.
(30)	ASTM D2013-01 Standard Method of Preparing Coal Samples for Analysis	40 CFR part 60 Appendix A, Method 19 40 CFR part 75 Appendix F NR 439.08 (1) (b)
(31)	ASTM D2015-96 Standard Test Method for Gross Calorific Value of Coal and Coke by the Adiabatic Bomb Calorimeter	40 CFR part 60 Appendix A, Method 19 40 CFR part 75 Appendices A, D, E and F
(32)	ASTM D2197-98 (2002) Standard Test Method for Adhesion of Organic Coatings by Scrape Adhesion	ANSI/AHA A135.5-1988
(33)	ASTM D2234-02 Standard Practice for Collection of a Gross Sample of Coal	40 CFR part 60 Appendix A, Method 19 40 CFR part 75 Appendix F NR 439.08 (1) (a) NR 439.085 (2) (a) 1. NR 439.085 (2) (b) 1. NR 439.085 (2) (c) 1.
(34)	ASTM D2369-01e1 Standard Test Method for Volatile Content of Coatings	40 CFR part 60 Appendix A, Method 24, par. 6.2
Note: ASTM D2382 was discontinued in 1994, and replaced by ASTM D4809.		
(36)	ASTM D2486-00 Standard Test Method for Scrub Resistance of Wall Paints	ANSI/AHA A135.5-1988
(37)	ASTM D2502-92 (1996) Standard Test Method for Estimation of Molecular Weight (Relative Molecular Mass) of Petroleum Oils from Viscosity Measurements	40 CFR part 75 Appendix G
(38)	ASTM D2503-92 (1997) Standard Test Method for Relative Molecular Mass (Molecular Weight) of Hydrocarbons by Thermoelectric Measurement of Vapor Pressure	40 CFR part 75 Appendix G
(39)	ASTM D2622-98 Standard Test Method for Sulfur in Petroleum Products by Wavelength Dispersive X-ray Fluorescence Spectrometry	40 CFR part 75 Appendices A and D
(39m)	ASTM D2879-97 Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope	NR 422.142 (5) (d)
(40)	ASTM D2880-00 Standard Specification for Gas Turbine Fuel Oils	NR 420.03 (1) (a)
(41)	ASTM D2986-95a (1999) Standard Practice for Evaluation of Air Assay Media by the Monodisperse DOP (Dioctyl Phthalate) Smoke Test	40 CFR part 60 Appendix A: Method 5, par. 7.1.1 Method 12, par. 7.1.1 Method 13A, par. 7.1.1.2
(41m)	ASTM D3172-89 (2002) Standard Practice for Proximate Analysis of Coal and Coke	NR 439.098 (1) (b)
(42)	ASTM D3173-00 Standard Test Method for Moisture in the Analysis Sample of Coal and Coke	40 CFR part 60 Appendix A, Method 19 NR 439.08 (1) (f)

Table 5 (Continued)

## ASTM Standard References

Standard Number	Standard Title	Incorporated by Reference For	
(43)	ASTM D3174-00	Standard Test Method for Ash in the Analysis Sample of Coal and Coke from Coal	40 CFR part 75 Appendix G NR 439.08 (1) (e)
(44)	ASTM D3176-89 (2002)	Standard Practice for Ultimate Analysis of Coal and Coke	40 CFR part 75 Appendices A and F NR 439.08 (1) (g) NR 439.098 (1) (a)
(45)	ASTM D3177-89 (2002)	Standard Test Methods for Total Sulfur in the Analysis Sample of Coal and Coke	40 CFR part 60 Appendix A, Method 19 40 CFR part 75 Appendix A NR 439.08 (1) (c)
(46)	ASTM D3178-89 (1997)	Standard Test Methods for Carbon and Hydrogen in the Analysis Sample of Coal and Coke	40 CFR part 75 Appendix G
(47)	ASTM D3238-95 (2000)	Standard Test Method for Calculation of Carbon Distribution and Structural Group Analysis of Petroleum Oils by the n-d-M Method	40 CFR part 75 Appendix G
(48)	ASTM D3792-99	Standard Test Method for Water Content of Water-Reducible Paints by Direct Injection into a Gas Chromatograph	40 CFR part 60 Appendix A, Method 24, par. 6.3
(49)	ASTM D4017-02	Standard Test Method for Water in Paints and Paint Materials by Karl Fischer Method	40 CFR part 60 Appendix A, Method 24, par. 6.4
(50)	ASTM D4052-96 (2002)	Standard Test Method for Density and Relative Density of Liquids by Digital Density Meter	40 CFR part 75 Appendix D
(51)	ASTM D4057-95 (2000)	Standard Practice for Manual Sampling of Petroleum and Petroleum Products	40 CFR part 75 Appendix D NR 439.08 (2) (a)
(52)	ASTM D4177-95 (2000)	Standard Practice for Automatic Sampling of Petroleum and Petroleum Products	40 CFR part 75 Appendix D NR 439.08 (2) (a)
(53)	ASTM D4239-02	Standard Test Methods for Sulfur in the Analysis Sample of Coal and Coke Using High Temperature Tube Furnace Combustion Methods	40 CFR part 60 Appendix A, Method 19 40 CFR part 75 Appendix A NR 439.08 (1) (c)
(54)	ASTM D4294-02	Standard Test Method for Sulfur in Petroleum and Petroleum Products by Energy-Dispersive X-Ray Fluorescence Spectrometry	40 CFR part 75 Appendices A and D NR 439.08 (2) (b)
(55)	ASTM D4809-00	Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter (Precision Method)	40 CFR part 75 Appendices D, E and F NR 460.10 (2) (f) 2.
(55g)	ASTM D5865-02	Standard Test Method for Gross Calorific Value of Coal and Coke	NR 400.02 (79) NR 439.08 (1) (d)
(56)	ASTM E84-01	Standard Test Method for Surface Burning Characteristics of Building Materials	ANSI/AHA A135.5-1988
(57)	ASTM G23-96	Standard Practice for Operating Light-Exposure Apparatus (Carbon-Arc Type) With and Without Water for Exposure of Nonmetallic Materials	ANSI/AHA A135.5-1988

**History:** Renum. from NR 484.06 (4) and am., Register, February, 1995, No. 470, eff. 3-1-95; am. (1), (3), (7), (8), (15), (39), (51), (54), cr. (12m), (19), Register, April, 1995, No. 472, eff. 5-1-95; cr. (39m), Register, June, 1995, No. 474, eff. 7-1-95; am. (12), (17), (23), (24), (26), (29) to (31), (34), (40), (43) to (46), (53), (55) and (56), r. (11), Register, January, 1997, No. 493, eff. 2-1-97; am. (intro.), (28) and (35), Register, March, 1997, No. 495, eff. 4-1-97; am. (intro.), (1) to (10), (13) to (16), (18), (19), (21), (22), (24), (25) to (29), (31), (32), (33), (34), (36), (37), (39) to (42), (44), (47) to (52), (54), r. (12m), (35), renum. and am. (55) and (56) to be (56) and (57) and cr. (41m) and (55), Register, November, 1999, No. 527, eff. 12-1-99; am. (9), cr. (25m), Register, January, 2001, No. 541, eff. 2-1-01; CR 00-175: am. (intro.) and Table 5 Register March 2002 No. 555, eff. 4-1-02; **CR 02-146: am. (1), (2), (4), (6) to (8), (12), (13), (21), (25), (25m), (27) to (34), (40), (41m), (44), (45), (49) to (51), (53), (54) and (55g) Register October 2003 No. 574, eff. 11-1-03.**

**NR 484.11 Other private organizations.** The following materials from other private organizations listed in the first column of Tables 6A to 6K are incorporated by reference for the corresponding sections of chs. NR 400 to 439 and 445 to 499 listed in the third column of Tables 6A to 6K. A test method is also incorporated for 40 CFR 63.457 as in effect on April 1, 2002. Since that CFR section is incorporated by reference in s. NR 484.03 (6), the test method listed in this section which is incorporated by reference for it is hereby also incorporated by reference and made part of this chapter and chs. NR 400 to 439 and 445 to 499.

**Note:** Copies of these materials are available for inspection in the offices of the department of natural resources, secretary of state and revisor of statutes, Madison, Wisconsin or may be purchased for personal use by writing to the organizations listed in the individual subsections.

**(1)** The following is a document from the American architectural manufacturers association (AAMA).

**Note:** Copies may be purchased for personal use from:  
American Architectural Manufacturers Association  
1827 Walden Office Square Suite 104  
Schaumburg IL 60173-4628

**Table 6A**  
**AAMA Document Reference**

Document Number	Title	Incorporated by Reference For
AAMA 2604-98	Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings On Aluminum Extrusions and Panels	NR 422.02 (42)

**(2)** The following are documents from the American conference of governmental industrial hygienists (ACGIH).

**Note:** Copies may be purchased for personal use from:  
American Conference of Governmental Industrial Hygienists  
Technical Information Office  
1330 Kemper Meadow Dr  
Cincinnati OH 45240

**Table 6B**  
**ACGIH Document References**

Document Number	Title	Incorporated by Reference For
(a) ISBN:0-936712-72-4	Threshold Limit Values and Biological Exposure Indexes for 1987-1988	NR 445.04 (1) (a) 1. NR 445.04 (1) (a) 2. NR 445.04 (1) (b) NR 445.04 (2) (a) NR 445.04 (2) (b) NR 445.04 (3) (c) 6. NR 445.05 (1) (a) 1. NR 445.05 (1) (a) 2. NR 445.05 (1) (b) NR 445.05 (2) (a) NR 445.05 (2) (b) NR 445.05 (3) (c) 7.
(b) ISBN:0-936712-86-4	1990-1991 Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indexes	NR 445.04 (4) (a) 1. NR 445.04 (4) (a) 2. NR 445.04 (4) (b) NR 445.04 (4r) (b) 4. NR 445.05 (4) (a) 1. NR 445.05 (4) (a) 2. NR 445.05 (4) (b) NR 445.05 (4r) (b) 4. NR 445.06 (4)
(d)	Industrial Ventilation: A Manual of Recommended Practice, 20th ed., 1988	NR 421.04 (3) (c) 1.

**(3)** The following is a document from the American gas association (AGA) laboratories.

**Note:** Copies may be purchased for personal use from:  
American Gas Association Laboratories  
8501 East Pleasant Valley Road  
Cleveland OH 44131

**Table 6C**  
**AGA Laboratories Document Reference**

Document Number	Title	Incorporated by Reference For
Standard Z21.6 - 1973 with addenda: Z21.6a - 1975, Z21.6b - 1978	American National Standard for Domestic Gas-Fired Incinerators	NR 415.07 (1) (b) 2. NR 415.07 (2) (a) 4.

**(4)** The following are documents from the American hard-board association (AHA).

**Note:** Copies may be purchased for personal use from:  
American Hardboard Association  
1210 W Northwest Highway  
Palatine IL 60067

**Table 6D**  
**AHA Document References**

Document Number	Title	Incorporated by Reference For
(a) ANSI/AHA A135.4-1982	Basic Hardboard	ANSI/AHA A135.5-1988
(b) ANSI/AHA A135.5-1988	Prefinished Hardboard Paneling	NR 422.02 (13)

(5) The following is a document from the American petroleum institute (API).

**Note:** Copies may be purchased for personal use from:  
American Petroleum Institute  
1220 L Street NW  
Washington DC 20005

**Table 6E**  
**API Document Reference**

Document Number	Title	Incorporated by Reference For
Publication 2517	Evaporative Loss from External Floating Roof Tanks, 3rd edition, February 1989	NR 420.02 (33) NR 420.03 (3) (c)

(6) The following is a document from the American society of mechanical engineers (ASME):

**Note:** Copies may be purchased for personal use from:  
The American Society of Mechanical Engineers  
22 Law Drive  
Fairfield NJ 07004

**Table 6F**  
**ASME Document Reference**

Document Number	Title	Incorporated by Reference For
PTC 4.2-1969 (1997)	Test Code for Coal Pulverizers	NR 439.098 (1) (c)

(7) The following is a document from The Business and Institutional Furniture Manufacturer's Association (BIFMA).

**Note:** Copies may be purchased for personal use from:  
BIFMA International  
2680 Horizon Drive SE, Suite A-1  
Grand Rapids MI 49546-7500  
E-mail: [email@bifma.org](mailto:email@bifma.org)  
Phone: (616) 285-3963  
Fax: (616) 285-3765

**Table 6G**  
**BIFMA Document Reference**

Document Number	Title	Incorporated by Reference For
BIFMA X5.7-1991	Voluntary Upholstered Furniture Flammability Standard for Non-residential, Non-live-in Occupancies	NR 465.04 (1) (b) 1.

(8) The following is a document from the international organization for standardization (ISO):

**Note:** Copies may be purchased for personal use from:  
American National Standards Institute  
11 West 42nd Street  
13th floor  
New York NY 10036

**Table 6H**  
**ISO Document Reference**

Document Number	Title	Incorporated by Reference For
ISO 9931 (1991)	Coal - Sampling of Pulverized Coal Conveyed by Gases in Direct Fired Coal Systems	NR 439.098 (1) (c)

(9) The following is a document from the National Council of the Paper Industry for Air and Stream Improvement, Inc. (NCASI):

**Note:** Copies may be obtained for personal use from:  
National Council of the Paper Industry for Air and Stream Improvement, Inc.  
PO Box 13318  
Research Triangle Park NC 27709-3318  
<http://www.ncasi.org>  
(919) 558-1987

**Table 6I**  
**NCASI Document Reference**

Document Number	Title	Incorporated by Reference For
NCASI Method DI/MEOH-94.02	Methanol in Process Liquids by GC/FID, August 1998, Methods Manual	40 CFR 63.457(c)(3)(ii)

(10) The following are documents from the Upholstered Furniture Action Council (UFAC).

**Note:** Copies may be purchased for personal use from:  
Upholstered Furniture Action Council  
Box 2436  
High Point, NC 27261  
Phone: (336) 885-5065  
Fax: (336) 885-5072

**Table 6J**  
**UFAC Document Reference**

Document Number	Title	Incorporated by Reference For
(a) DMTM--1990	Decking Materials Test Method--1990	NR 465.04 (1) (b) 1.
(b) WCTM--1990	Welt Cord Test Method--1990	NR 465.04 (1) (b) 1.
(c) IFTM--1990	Interior Fabrics Test Method--1990	NR 465.04 (1) (b) 1.
(d) F/PCTM--1990, PT A	Filling/Padding Component Test Method--1990 Part A - For Slab or Garnetted Materials	NR 465.04 (1) (b) 1.
(e) F/PCTM--1990, PT B	Filling/Padding Component Test Method--1990 Part B - For Fibrous or Particulate Materials	NR 465.04 (1) (b) 1.
(f) PTM--1990	Barrier Test Method--1990	NR 465.04 (1) (b) 1.
(g) FCTM--1990	Fabric Classification Test Method--1990	NR 465.04 (1) (b) 1.
(h) DTTM--1993	Standard Test Methods for Decorative Trims, Edging, and Brush Fringes--1993	NR 465.04 (1) (b) 1.

(11) The following documents are from the World Resources Institute and World Business Council for Sustainable Development.

**Note:** Copies of the document listed in par. (a) may be downloaded for personal use from the following internet address: <http://ghgprotocol.org/standard/ghg.pdf>  
Printed copies may be purchased from:  
World Resources Institute Publications  
PO Box 4852  
Hampden Station  
Baltimore MD 21211

Phone: 1-800-822-0504  
Fax: (410) 516-6998

**Note:** Copies of the software documents listed in par. (b) may be downloaded for personal use from the following internet address: <http://ghgprotocol.org/standard/tools.htm>

To obtain the software by mail contact:  
WRI  
10 G Street NE  
Washington DC 20002  
Phone: (202) 729-7600  
Fax: (202) 729-7637

**Table 6K**  
**WRI/WBCSD Document Reference**

Document Number	Title	Incorporated by Reference For
(a) ISBN 2-940240-18-3	The Greenhouse Gas Protocol - a corporate accounting and reporting standard, first edition, September 2001	NR 437.04 (2) (a) 20.
(b) N/A	GHG Calculation Tools	NR 437.04 (2) (a) 21.

**History:** Cr. Register, February, 1995, No. 470, eff. 3-1-95; am. (1) (b), Register, April, 1995, No. 472, eff. 5-1-95; r. (1) (c), am. (1) (a), Register, December, 1995, No. 480, eff. 1-1-96; am. (5), Register, January, 1997, No. 493, eff. 2-1-97; am. (5), renum. (1) to (5) to be (2), (3), (4), (5) and (1), cr. (6) and (7), Register, November, 1999, No. 527, eff. 12-1-99; CR 00-160: renum. (7) and Table 6G to be (8) and Table 6H, cr. (7) and (10), Register August 2001 No. 548, eff. 9-1-01; CR 00-175: am. (intro.), cr. (9) and Table 6I Register March 2002 No. 555, eff. 4-1-02; CR 02-012: am. (intro.), cr. (11) and Table 6K Register October 2002 No. 562, eff. 11-1-02.