

CHAPTER 7010
MINNESOTA POLLUTION CONTROL AGENCY
AIR QUALITY DIVISION
NOISE POLLUTION CONTROL

7010.0010	INCORPORATION BY REFERENCE.		MOTOR VEHICLE NOISE LIMITS
7010.0020	DEFINITIONS.	7010.1000	DEFINITION.
7010.0030	NOISE CONTROL REQUIREMENT.	7010.1100	PROHIBITIONS.
7010.0040	NOISE STANDARDS.	7010.1200	SCOPE.
7010.0050	NOISE AREA CLASSIFICATION.	7010.1300	EXCEPTIONS.
7010.0060	MEASUREMENT METHODOLOGY.	7010.1400	NOISE LIMIT FOR VEHICLES OVER 10,000 POUNDS.
7010.0070	SOUND ATTENUATION	7010.1500	MOTOR VEHICLE NOISE LIMITS FOR MOTORCYCLES.
7010.0080	MEASUREMENT METHODOLOGY.	7010.1600	NOISE LIMITS FOR OTHER VEHICLES.
	VARIANCE.		

7010.0010 INCORPORATION BY REFERENCE.

For the purpose of chapter 7010, American National Standards Institute, Specification for Sound Level Meters, S1.4-1983 is incorporated by reference. This publication is available from the American National Standards Institute, 1430 Broadway, New York, N.Y. 10018 and can be found at: the offices of the Minnesota Pollution Control Agency, 1935 West County Road B-2, Roseville, Minnesota 55113; the Government Documents Section, Room 409, Wilson Library, University of Minnesota, 309 19th Avenue South, Minneapolis, Minnesota 55454; and the State of Minnesota Law Library, Ford Building, 117 University Avenue, Saint Paul, Minnesota 55155. This document is not subject to frequent change.

The Federal Highway Administration publication, Sound Procedures for Measuring Highway Noise: Final Report, FHWA-DP-45-1R (August 1981) is incorporated by reference. This publication is available from the United States Department of Transportation, Federal Highway Administration, 1000 North Globe Road, Arlington, Virginia 22201 and can be found at: the offices of the Minnesota Pollution Control Agency, 1935 West County Road B-2, Roseville, Minnesota 55113; the Government Documents Section, Room 409, Wilson Library, University of Minnesota, 309 19th Avenue South, Minneapolis, Minnesota 55454; and the State of Minnesota Law Library, Ford Building, 117 University Avenue, Saint Paul, Minnesota 55155. This document is not subject to frequent change.

Statutory Authority: *MS s 116.07 subds 2,4*

History: *11 SR 43*

7010.0020 DEFINITIONS.

Subpart 1. **Application.** The terms used in chapter 7010 have the meanings given them in this part.

Subp. 2. **A-weighted.** "A-weighted" means a specific weighting of the sound pressure level for the purpose of determining the human response to sound. The specific weighting characteristics and tolerances are those given in American National Standards Institute S1.4-1983, section 5.1.

Subp. 3. **Daytime.** "Daytime" means those hours from 7:00 a.m. to 10:00 p.m.

Subp. 4. **dB(A).** "dB(A)" means a unit of sound level expressed in decibels (dB) and A-weighted.

Subp. 5. **Decibel.** "Decibel" means a unit of sound pressure level, abbreviated as dB.

Subp. 6. **Impulsive noise.** "Impulsive noise" means either a single sound pressure peak (with either a rise time less than 200 milliseconds or total duration less than 200 milliseconds) or multiple sound pressure peaks (with either rise times less than 200 milliseconds or total duration less than 200 milliseconds) spaced at least by 200 millisecond pauses.

Subp. 7. **L₁₀.** "L₁₀" means the sound level, expressed in dB(A), which is exceeded ten percent of the time for a one hour survey, as measured by test procedures approved by the commissioner.

Subp. 8. **L₅₀.** "L₅₀" means the sound level, expressed in dB(A), which is exceeded 50 percent of the time for a one hour survey, as measured by test procedures approved by the commissioner.

Subp. 9. **Municipality.** "Municipality" means a county; a city; a town; a regional planning and development commission established under Minnesota Statutes, chapter 473; the metropolitan council; or other governmental subdivision of the state responsible by law for controlling or restricting land use within its jurisdiction.

Subp. 10. **Nighttime.** "Nighttime" means those hours from 10:00 p.m. to 7:00 a.m.

Subp. 11. **Person.** "Person" means any human being, any municipality or other governmental or political subdivision or other public department or agency, any public or private corporation, any partnership, firm, association, or other organization, any receiver, trustee, assignee, agency, legal entity, other than a court of law, or any legal representative of any of the foregoing, but does not include the agency.

Subp. 12. **Sound pressure level.** "Sound pressure level", in decibels, means 20 times the logarithm to the base 10 of the ratio of the pressure to the reference pressure. The reference pressure shall be 20 micronewtons per square meter.

Statutory Authority: *MS s 116.07 subds 2,4*

History: *11 SR 43; L 1987 c 186 s 15*

7010.0030 NOISE CONTROL REQUIREMENT.

No person may violate the standards established in part 7010.0040, unless exempted by Minnesota Statutes, section 116.07, subdivision 2a. Any municipality having authority to regulate land use shall take all reasonable measures within its jurisdiction to prevent the establishment of land use activities listed in noise area classification (NAC) 1, 2, or 3 in any location where the standards established in part 7010.0040 will be violated immediately upon establishment of the land use.

Statutory Authority: *MS s 116.07 subds 2,4*

History: *11 SR 43*

7010.0040 NOISE STANDARDS.

Subpart 1. **Scope.** These standards describe the limiting levels of sound established on the basis of present knowledge for the preservation of public health and welfare. These standards are consistent with speech, sleep, annoyance, and hearing conservation requirements for receivers within areas grouped according to land activities by the noise area classification (NAC) system established in part 7010.0050. However, these standards do not, by themselves, identify the limiting levels of impulsive noise needed for the preservation of public health and welfare. Noise standards in subpart 2 apply to all sources.

MINNESOTA RULES 1991

7010.0040 NOISE POLLUTION CONTROL

6338

Subp. 2. Noise standards.

Noise Area Classification	Daytime		Nighttime	
	L ₅₀	L ₁₀	L ₅₀	L ₁₀
1	60	65	50	55
2	65	70	65	70
3	75	80	75	80

Statutory Authority: *MS s 116.07 subds 2,4*

History: *11 SR 43*

7010.0050 NOISE AREA CLASSIFICATION.

Subpart 1. **Applicability.** The noise area classification is based on the land use activity at the location of the receiver and determines the noise standards applicable to that land use activity unless an exception is applied under subpart 3.

Subp. 2. **Noise area classifications.** The noise area classifications and the activities included in each classification are listed below:

Noise Area Classification	Land Use Activities
1	Household Units (includes farm houses) Group quarters Residential hotels Mobile home parks or courts Transient lodging Other residential Motion picture production Medical and other health services Correctional institutions Educational services Religious activities Cultural activities and nature exhibitions Entertainment assembly Camping and picnicking areas (designated) Resorts and group camps Other cultural, entertainment, and recreational activities.
2	Railroad terminals (passenger) Railroad terminals (passenger and freight) Rapid rail transit and street railway passenger terminals Bus passenger terminals (intercity) Bus passenger terminals (local) Bus passenger terminals (intercity and local) Other motor vehicle transportation Airport and flying field terminals (passenger) Airport and flying field terminals (passenger and freight) Marine terminals (passenger)

MINNESOTA RULES 1991

6339

NOISE POLLUTION CONTROL 7010.0050

Marine terminals (passenger and freight)
Automobile parking
Telegraph message centers
Transportation services and arrangements
Wholesale trade
Retail trade — building materials, hardware, and farm equipment
Retail trade — general merchandise
Retail trade — food
Retail trade — automotive, marine craft, aircraft, and accessories
Retail trade — apparel and accessories
Retail trade — furniture, home furnishings, and equipment
Retail trade — eating and drinking
Other retail trade
Finance, insurance, and real estate services
Personal services
Business services
Repair services
Legal services
Other professional services
Contract construction services
Governmental services (except correctional institutions)
Miscellaneous services (except religious activities)
Public assembly (except entertainment assembly and race tracks)
Amusements (except fairgrounds and amusement parks)
Recreational activities (except designated camping and picnicking areas)
Parks.
Food and kindred products
—manufacturing
Textile mill products — manufacturing
Apparel and other finished products made from fabrics, leather, and similar materials — manufacturing
Lumber and wood products (except furniture) — manufacturing
Furniture and fixtures — manufacturing
Paper and allied products — manufacturing
Printing, publishing, and allied industries
Chemicals and allied products — manufacturing
Petroleum refining and related industries
Rubber and miscellaneous plastic products
— manufacturing

3

Stone, clay, and glass products —
 manufacturing
 Primary metal industries
 Fabricated metal products —
 manufacturing
 Professional, scientific, and controlling
 instruments; photographic and optical
 goods; watches and clocks —
 manufacturing
 Miscellaneous manufacturing (except
 motion picture production)
 Railroad, rapid transit, and street
 railway transportation (except
 passenger terminals)
 Motor vehicle transportation (except
 passenger terminals)
 Aircraft transportation (except
 passenger terminals)
 Marine craft transportation (except
 passenger and freight terminals)
 Highway and street right-of-way
 Communication (except telegraph
 message centers)
 Utilities
 Other transportation, communication,
 and utilities (except transportation
 services and arrangements)
 Race tracks
 Fairgrounds and amusement parks
 Agricultural
 Agricultural and related activities
 Forestry activities and related services
 (including commercial forest land,
 timber production, and other related
 activities)
 Fishing activities and related services
 Mining activities and related services
 Other resource production and extraction
 All other activities not otherwise
 listed.
 Undeveloped and unused land area
 (excluding noncommercial forest
 development)
 Noncommercial forest development
 Water areas
 Vacant floor area
 Under construction
 Other undeveloped land and
 water areas.

4

Subp. 3. Exceptions. The noise area classification for a land use may be changed in the following ways if the applicable conditions are met.

A. The daytime standards for noise area classification 1 shall be applied to noise area classification 1 during the nighttime if the land use activity does not include overnight lodging.

B. The standards for a building in a noise area classification 2 shall be applied to a building in a noise area classification 1 if the following conditions are met:

MINNESOTA RULES 1991

6341

NOISE POLLUTION CONTROL 7010.0060

(1) the building is constructed in such a way that the exterior to interior sound level attenuation is at least 30 dB(A);

(2) the building has year-round climate control; and

(3) the building has no areas or accommodations that are intended for outdoor activities.

C. The standards for a building in a noise area classification 3 shall be applied to a building in a noise area classification 1 if the following conditions are met:

(1) the building is constructed in such a way that the exterior to interior sound level attenuation is at least 40 dB(A);

(2) the building has year-round climate control; and

(3) the building has no areas or accommodations that are intended for outdoor activities.

D. The standards for a building in a noise area classification 3 shall be applied to a building in a noise area classification 2 if the following conditions are met:

(1) the building is constructed in such a way that the exterior to interior sound level attenuation is at least 30 dB(A);

(2) the building has year-round climate control; and

(3) the building has no areas or accommodations that are intended for outdoor activities.

Statutory Authority: *MS s 116.07 subds 2,4*

History: *11 SR 43*

7010.0060 MEASUREMENT METHODOLOGY.

Subpart 1. Measurement location. Measurement of sound must be made at or within the applicable NAC at the point of human activity which is nearest to the noise source. All measurements shall be made outdoors.

Subp. 2. Equipment specifications. All sound level measuring devices must meet Type O, I, II, or S specifications under American National Standards Institute S1.4-1983.

Subp. 3. Calibration. All sound level measuring devices must, at a minimum, be externally field calibrated before and after monitoring using a calibration device of known frequency and sound pressure level.

Subp. 4. Measurement procedures. The following procedures must be used to obtain representative sound level measurements:

A. Measurements must be made at least three feet off the ground or surface and away from natural or man-made structures which would prevent an accurate measurement.

B. Measurements must be made using the A-weighting and fast response characteristics of the sound measuring device as specified in American National Standards Institute S1.4-1983.

C. Measurements must not be made in sustained winds or in precipitation which results in a difference of less than ten decibels between the background noise level and the noise source being measured.

D. Measurements must be made using a microphone which is protected from ambient conditions which would prevent an accurate measurement.

Subp. 5. Data documentation. A summary sheet for all sound level measurements shall be completed and signed by the person making the measurements. At a minimum, the summary sheet shall include:

A. date;

B. time;

7010.0060 NOISE POLLUTION CONTROL

6342

- C. location;
- D. noise source;
- E. wind speed and direction;
- F. temperature;
- G. humidity;
- H. make, model, and serial number of measuring equipment;
- I. field calibration results;
- J. monitored levels; and
- K. site sketch indicating noise source, measurement location, directions, distances, and obstructions.

Statutory Authority: *MS s 116.07 subds 2,4*

History: *11 SR 43*

7010.0070 SOUND ATTENUATION MEASUREMENT METHODOLOGY.

Subpart 1. **Purpose.** Sound level measurements made for assessing sound attenuation as specified in part 7010.0050, subpart 3, item B, C, or D, shall be made according to the requirements of this part.

Subp. 2. **Equipment.** The equipment shall meet the requirements specified in part 7010.0060, subpart 2.

Subp. 3. **Calibration.** The equipment must meet the calibration requirements specified in part 7010.0060, subpart 3.

Subp. 4. **Measurement procedure.** The measurement procedure described in FHWA-DP-45-1R, section 8 must be used for determination of the sound attenuation.

Subp. 5. **Equivalent methods.** Methods equivalent to those described in subpart 4 may be used provided they are approved by the commissioner of the Minnesota Pollution Control Agency. The commissioner shall approve an alternative method if the commissioner finds that the method will produce representative data and results which are as reliable as the methods specified in subpart 4.

Statutory Authority: *MS s 116.07 subds 2,4*

History: *11 SR 43; L 1987 c 186 s 15*

7010.0080 VARIANCE.

If, upon written application of the responsible person, the agency finds that by reason of exceptional circumstances strict conformity with any provisions of any noise rule would cause undue hardship, would be unreasonable, impractical, or not feasible under the circumstances, the agency may permit a variance upon the conditions and within the time limitations as it may prescribe for the prevention, control, or abatement of noise pollution in harmony with the intent of the state and any applicable federal laws.

Statutory Authority: *MS s 116.07 subds 2,4*

History: *11 SR 43*

7010.0100 [Repealed, 11 SR 43]

7010.0200 [Repealed, 11 SR 43]

7010.0300 [Repealed, 11 SR 43]

7010.0400 [Repealed, 11 SR 43]

7010.0500 [Repealed, 11 SR 43]

7010.0600 [Repealed, 11 SR 43]

7010.0700 [Repealed, 11 SR 43]

MOTOR VEHICLE NOISE LIMITS**7010.1000 DEFINITION.**

"Motor vehicle" means any self-propelled vehicle not operated exclusively upon railroad tracks and any vehicle propelled or drawn by a self-propelled vehicle and includes vehicles known as trackless trolleys which are propelled by electric power obtained from overhead trolley wires but not operated upon rails, except snowmobiles.

Statutory Authority: *MS s 116.07 subd 4*

7010.1100 PROHIBITIONS.

Subpart 1. Operation of vehicle. No person shall operate either a motor vehicle or combination of vehicles of a type subject to registration pursuant to Minnesota Statutes, chapter 168 at any time or under any condition of grade, load, acceleration, or deceleration in such a manner as to exceed the noise limits contained herein for the category of motor vehicle and speed limits specified, when tested with a measurement procedure approved by the commissioner.

Subp. 2. Sale of vehicle. No person shall sell or offer for sale a new motor vehicle or combination of vehicles of a type subject to registration pursuant to Minnesota Statutes, chapter 168 which when maintained according to the manufacturer's specifications would exceed the noise limits contained herein for the category of motor vehicle and speed limits specified, when tested with a measurement procedure approved by the commissioner.

Subp. 3. Modification of vehicle. No person shall modify a motor vehicle or combination of vehicles of a type subject to registration pursuant to Minnesota Statutes, chapter 168 in a manner which will amplify or increase the noise emitted by the vehicle, above the noise limits contained herein for the category of motor vehicle and speed limits specified, when tested with a measurement procedure approved by the commissioner. No person shall operate a motor vehicle so modified.

Subp. 4. Sale of parts. No person shall sell or offer for sale replacement or additional parts for a motor vehicle or combination of vehicles of a type subject to registration pursuant to Minnesota Statutes, chapter 168 which when installed in the vehicle will amplify or increase the noise emitted by the vehicle, above the noise limits contained herein for the category of motor vehicle and speed limits specified, when tested with a measurement procedure approved by the commissioner. No person shall operate a motor vehicle incorporating such parts.

Statutory Authority: *MS s 116.07 subd 4*

History: *L 1987 c 186 s 15*

7010.1200 SCOPE.

This chapter applies to the total noise from a vehicle or combination of vehicles of a type subject to registration pursuant to Minnesota Statutes, chapter 168 and shall not be construed as limiting or precluding the enforcement of any other provision of law relating to motor vehicle exhaust noise.

Statutory Authority: *MS s 116.07 subd 4*

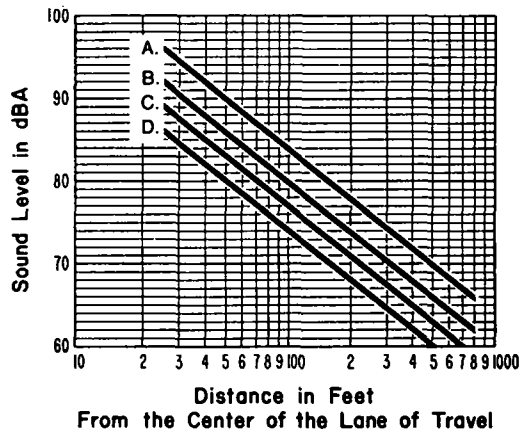
7010.1300 EXCEPTIONS.

Vehicles under parts 7010.1500 and 7010.1600 are allowed to exceed the noise limits contained herein when performing acceleration maneuvers for safety purposes.

Statutory Authority: *MS s 116.07 subd 4*

7010.1400 NOISE LIMIT FOR VEHICLES OVER 10,000 POUNDS.

Motor vehicle noise limits for vehicles with a manufacturer's gross vehicle weight rating of more than 10,000 pounds and any combination of vehicles towed by such motor vehicle.



A. Speed limits greater than 35 mph.

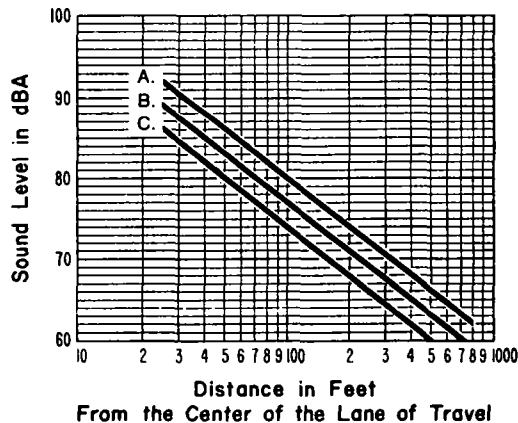
B. Speed limits equal to or less than 35 mph and stationary run-up tests (for vehicles with governed engines). For stationary run-up tests on all-paved surfaces, add 2 dBA.

C. Speed limits equal to or less than 35 mph and stationary run-up tests (for vehicles with governed engines), for vehicles manufactured on or after January 1, 1978. For stationary run-up tests on all-paved surfaces, add 2 dBA.

D. Speed limits equal to or less than 35 mph and stationary run-up tests (for vehicles with governed engines), for vehicles manufactured on or after January 1, 1982. For stationary run-up tests on all-paved surfaces, add 2 dBA.

Statutory Authority: *MS s 116.07 subd 4*

7010.1500 MOTOR VEHICLE NOISE LIMITS FOR MOTORCYCLES.



A. For vehicles manufactured before January 1, 1975.

B. Speed limits greater than 35 mph for vehicles manufactured on or after January 1, 1975.

C. Speed limits equal to or less than 35 mph for vehicles manufactured on or after January 1, 1975.

Statutory Authority: *MS s 116.07 subd 4*

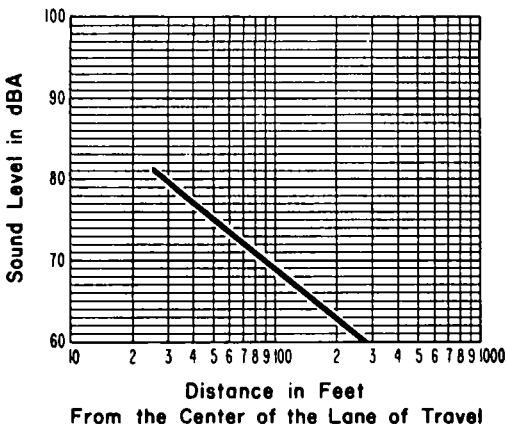
MINNESOTA RULES 1991

6345

NOISE POLLUTION CONTROL 7010.1600

7010.1600 NOISE LIMITS FOR OTHER VEHICLES.

Motor vehicle noise limits for any other motor vehicle not included under parts 7010.1400 and 7010.1500 and any combination of vehicles towed by such motor vehicle.



Statutory Authority: *MS s 116.07 subd 4*