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Chapter NR 247

GLASS MANUFACTURING

NR 247.01 Purpose. The purpose of this chapter is to establish effluent limitations, standards of performance, and pretreatment standards for discharges of process wastes from the glass manufacturing category of point sources and subcategories thereof.

Note: The authority for promulgation of this chapter is set forth in ch. NR 205.
History: Cr. Register, June, 1976, No. 246, eff. 7−1−76.

NR 247.02 Applicability. The effluent limitations, standards of performance, pretreatment standards, and other provisions in this chapter are applicable to pollutants or pollutant properties in discharges of process waste resulting from manufacture in any of the following subcategories.

(1) INSULATION FIBERGLASS. This subcategory covers the manufacture of insulation fiberglass by continuously fiberizing molten glass and chemically bonding it into a wool like material.

(2) SHEET GLASS. This subcategory covers the manufacture of sheet glass by mixing several mineral ingredients, melting the mixture in a furnace, and drawing the sheet vertically from a melting tank.

(3) ROLLED GLASS. This subcategory covers the manufacture of rolled glass by mixing several mineral ingredients, melting the mixture in a furnace, and cooling the melt with rollers.

(4) PLATE GLASS. This subcategory covers the manufacture of plate glass by mixing several mineral ingredients, melting the mixture in a furnace, pressing the melt between rollers, and grinding and polishing the surface.

(5) FLOAT GLASS. This subcategory covers the manufacture of float glass by mixing several mineral ingredients, melting the mixture in a furnace, and floating the melt on a molten tin oath.

(6) AUTOMOTIVE GLASS TEMPERING. This subcategory covers the processes in which glass is cut, the cut edges are ground and polished, and the glass is then bent and tempered to form automobile side and back windows.

(7) AUTOMOTIVE GLASS LAMINATING. This subcategory covers the processes in which glass is cut, bent, washed, and plastic sheet laminated to produce automobile windshields.

(8) GLASS CONTAINER MANUFACTURING. This subcategory covers the process in which raw materials are melted in a furnace and mechanically processed into glass containers.

(9) MACHINE PRESSED AND BLOWN GLASS. (This subcategory is reserved.)

(10) GLASS TUBING MANUFACTURING. This subcategory covers the process in which raw materials are melted in a furnace and glass tubing is mechanically drawn horizontally from the furnace by the Danner process which requires intermittent cullet quenching.

(11) TELEVISION PICTURE TUBE ENVELOPE MANUFACTURING. This subcategory covers the process in which raw materials are melted in a furnace and made into television picture tube envelopes.

(12) INCANDESCENT LAMP ENVELOPE MANUFACTURING. This subcategory covers the process in which;

(a) Raw materials are melted in a furnace and mechanically processed into incandescent lamp envelopes, or

(b) Such envelopes are made and then etched with hydrofluoric acid to produce frosted envelopes.

(13) HAND PRESSED AND BLOWN GLASS MANUFACTURING. This subcategory covers the process in which raw materials are melted in a furnace and hand pressed or blown to produce glassware. The subcategory is further subdivided to cover:

(a) The production of leaded glass using hydrofluoric acid finishing techniques,

(b) The production of non−leaded glass using hydrofluoric acid finishing techniques, and

(c) The production of leaded or non−leaded glass without the use of hydrofluoric acid finishing techniques.

History: Cr. Register, June, 1976, No. 246, eff. 7−1−76.

NR 247.03 Definitions. The following definitions are applicable to terms used in this chapter. Definitions of other terms and meanings of abbreviations are set forth in ch. NR 205.

(1) "Advanced air emission control devices" means air pollution control equipment such as electrostatic precipitators and high energy scrubbers used to treat air discharge after initial treatment such as by knock−out chambers and low energy scrubbers.

(2) "Cullet" means broken or excess glass generated in the process.

(3) "Cullet water" means water which is exclusively and directly applied to molten glass to solidify the glass.

(4) "Furnace pull" means the amount of glass drawn from the glass furnaces.

(5) "Mineral ingredients" means sand, soda ash, limestone, dolomite, cullet and other ingredients.

(6) "NL" means that there are no applicable limitations.

(7) "Oil" means those components of wastewater amenable to measurement by method number 209 of Standard Methods for the Examination of Water and Waste Water, 13th Edition, 1971. Copies of this publication are available for inspection at the office of the department of natural resources, the secretary of state's office, and the office of the legislative reference bureau, and may be obtained for personal use from the American Public Health Association, 1015 8th Street NW, Washington, D. C. 20036.

Note: Pursuant to s. 299.11 (4) (c), Stats., sub. (7) is repealed eff. 6−29−21 by CR 17−046.

(8) "Product frosted" means that portion of the total furnace pull for the manufacture of incandescent lamp envelopes used in the manufacture of frosted envelopes.

(9) "Tempering" means the process in which glass is heated nearly to the melting point and then rapidly cooled to improve its mechanical and thermal endurance.

History: Cr. Register, June, 1976, No. 246, eff. 7−1−76; correction in (7) made under s. 13.92 (4) (b) 6., Stats., Register April 2013 No. 688; **CR 17−046: r. (7) Register February 2021 No. 782, eff. 6−29−21.**

NR 247.04 Compliance with effluent limitations and standards. Discharge of pollutants from facilities subject to the provisions of this chapter may not exceed, as appropriate:

(1) By July 1, 1977 effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available;

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(2) By July 1, 1983 effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable;

(3) Pretreatment standards for discharges to publicly owned treatment works;

(4) Standards of performance for new sources.

History: Cr. Register, June, 1976, No. 246, eff. 7–1–76; r. and recr. Register, August, 1983, No. 332, eff. 9–1–83.

NR 247.06 Application of effluent limitations and standards. (1) The effluent limitations and standards set forth in this chapter shall be used in accordance with this section to establish the quantity or quality of pollutants or pollutant properties which may be discharged by a point source subject to the provisions of this chapter, except as;

(a) They may be modified in accordance with subch. IV of ch. NR 220,

(b) They may be superseded by more stringent limitations and standards necessary to achieve water quality standards or meet other legal requirements, or

(c) They may be supplemented or superseded by standards or prohibitions for toxic pollutants or by additional limitations for other pollutants required to achieve water quality.

(2) The production basis for application of the limitations and standards set forth in this chapter shall be the daily average of a maximum month in each subcategory subject to the provisions of this chapter.

History: Cr. Register, June, 1976, No. 246, eff. 7–1–76; correction in (1) (a) made under s. 13.92 (4) (b) 7, Stats., Register April 2018 No. 748.

NR 247.10 Effluent limitations, best practicable treatment. The following effluent limitations for all or specific subcategories establish, except as provided in subch. IV of ch. NR 220, the quantity or quality of pollutants or pollutant properties which may be discharged by a facility subject to the provisions of this chapter after application to process wastes of the best practicable control technology currently available.

(1) For subcategories (2) and (3) identified in s. NR 247.02 there shall be no discharge of process wastes to surface waters.

(2) The pH of all discharges shall be within the range of 6.0 to 9.0.

(3) The 30–day average limitations for suspended solids and other parameters are set forth in table 1;

(a) In lbs/ 1000 lbs. or kg/1000 kg. of product for subcategories (1), (4), and (5),

(b) In lbs/1000 sq. ft. for subcategories (6) and (7), which may be converted to g/sq m by multiplying by 4.9 and rounding off to 2 decimal places,

(c) In lbs/1000 lbs. or kg/1000 kg. of furnace pull for subcategories (8), (10), (11) and (12) (a), and of frosted product for subcategory (12) (b), and

(d) In mg/l for subcategory (13).

(4) Daily maximum limitations are;

(a) Twice the 30–day average limitations for subcategories (1), (4), (8), (10), (11), and (12), and

(b) The same as the 30–day average limitations for subcategories (5), (6), and (7) except for the suspended solids limitation for subcategory (6) where it is 1.6 times the 30–day average limitations.

TABLE 1
BPT EFFLUENT LIMITATIONS

Sub–category*	Susp. Solids	Oil	Fluoride	Other Parameters
(1)	.015			.012 BOD
				.165 COD
				.0003 phenol
(4)	1.38			
(5)	.002	.0014		.00005 phosphorus
(6)	.25	.13		
(7)	.90	.36		.22 phosphorus
(8)	.07	.03		
(9)	(reserved)			
(10)	.23			
(11)	.15	.13	.07	.0045 lead
(12) (a)	.115	.115		
(12) (b)	.23		.115	NL ammonia
(13) (a)	NL		NL	NL lead
(13) (b)	NL		NL	
(13) (c)	NL			

*Subcategories are identified in s. NR 247.02

History: Cr. Register, June, 1976, No. 246, eff. 7–1–76; correction in (intro.) made under s. 13.92 (4) (b) 7, Stats., Register April 2018 No. 748.

NR 247.11 Effluent limitations, best available treatment. The following effluent limitations for all or specific subcategories establish the quantity or quality of pollutants or pollutant properties which may be discharged by a facility subject to the provisions of this chapter after application to process wastes of the best available technology economically achievable.

(1) For subcategories (1), (2), and (3) identified in s. NR 247.02 there shall be no discharge of process wastes to surface waters.

(2) The pH of all discharges shall be within the range of 6.0 to 9.0.

(3) The 30–day average and daily maximum limitations for suspended solids and other parameters are set forth in table 2;

(a) In lbs/1000 lbs. or kg/1000 kg. of product for subcategories (4) and (5),

(b) In lbs/1000 sq. ft. for subcategories (6) and (7), which may be converted to g/sq m by multiplying by 4.9 and rounding off to 2 decimal places,

(c) In lbs/1000 lbs. or kg/1000 kg. of furnace pull for subcategories (8), (10), (11) and (12) (a), and of frosted product for subcategory (12) (b), and

(d) In mg/l for subcategory (13).

(4) Daily maximum limitations are:

(a) Twice the 30–day average limitations for subcategories (4), (8), (10), (11), and (12), and

(b) The same as the 30–day average limitations for subcategories (5), (6), and (7).

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TABLE 2
BAT EFFLUENT LIMITATIONS

Sub–category*	Susp. Solids	Oil	Fluoride	Other Parameters
(4)	.045			
(5)	.0007	.0014		.00005 phosphorus
(6)	.05	.10		
(7)	.18	.36		.06 phosphorus
(8)	.0008	.0008		
(9)	(reserved)			
(10)	.0002			
(11)	.13	.13	.06	.00045 lead
(12) (a)	.045	.045		
(12) (b)	.04		.052	.12 ammonia
(13) (a)	10	13		.10 lead
(13) (b)	10	13		
(13) (c)	10			

*Subcategories are identified in s. NR 247.02

History: Cr. Register, June, 1976, No. 246, eff. 7–1–76.

NR 247.12 Standards of performance. The effluent limitations for all or specific subcategories set forth in s. NR 247.11 establish the quantity or quality of pollutants or pollutant properties which may be discharged by a facility which is a new source subject to the provisions of this chapter.

History: Cr. Register, June, 1976, No. 246, eff. 7–1–76.

NR 247.13 Pretreatment standards. The pretreatment standards for discharges to publicly owned treatment works from sources subject to the provisions of this chapter shall be as set forth in ch. NR 211.

History: Cr. Register, June, 1976, No. 246, eff. 7–1–76; r. and recr. Register, August, 1983, No. 332, eff. 9–1–83