

Chapter NR 256

METAL MOLDING AND CASTING

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NR 256.01 Purpose. The purpose of this chapter is to establish effluent limitations, standards of performance, and pretreatment standards for discharges of process wastes from the metal molding and casting category of point sources and its subcategories.

History: Cr. Register, June, 1989, No. 402, eff. 7-1-89.

NR 256.02 Applicability. This chapter applies to aluminum, copper, ferrous or zinc casting operations which discharge or may discharge pollutants to waters of the state or into a publicly owned treatment works.

History: Cr. Register, June, 1989, No. 402, eff. 7-1-89.

NR 256.03 General definitions. The following definitions are applicable to terms used in this chapter. Definitions of other terms and the meanings of other abbreviations are set forth in ss. NR 205.03, 205.04 and 211.03.

c1d XAluminum castingY means the remelting of aluminum or an aluminum alloy to form an intermediate or final cast product by pouring or forcing the molten metal into a mold.

c2d XCopper castingY means the remelting of copper or a copper alloy, to form an intermediate or final cast product by pouring or forcing the molten metal into a mold.

c3d XExisting sourceY means any point source, except a new source as defined in sub. c5d, from which pollutants may be discharged either into waters of the state or into a POTW.

c4d XFerrous castingY means the remelting of ferrous metals to form an intermediate or final cast product by pouring or forcing the molten metal into a mold.

c5d XNew sourceY, as defined for new source performance standards and pretreatment standards for new sources, means any point source from which pollutants are or may be discharged directly into the waters of the state or into a POTW, the construction of which commenced after November 15, 1982.

c6d XNoncontinuous dischargerY means a plant which does not discharge pollutants during periods of at least 24 hours in duration for reasons other than an upset, such as plants which routinely store wastewater for treatment on a batch basis.

c7d XTotal phenolsY means total phenolic compounds as measured by the test procedure for phenols, which is distillation followed by manual or automated colorimetric c4AAPd, as indicated in ch. NR 219, Table B, for parameter 48.

c8d XZinc castingY means the remelting of zinc or a zinc alloy to form an intermediate or final cast product by pouring or forcing the molten metal into a mold.

c9d Abbreviations to be used:

cad XSCFY means standard cubic feet.

cbd XSm³Y means standard cubic meters.

ccd XTTOY and Xtotal toxic organicsY mean the sum of the mass of each of the toxic organic compounds specified in the tables within this chapter which are found at a concentration greater than 0.010 mg{l.

History: Cr. Register, June, 1989, No. 402, eff. 7-1-89.

NR 256.04 Monitoring and reporting requirements.

c1d TOTAL TOXIC ORGANICS. An indirect discharger may elect to monitor for oil and grease as an alternate to TTO under PSES and PSNS regulatory values. Due to the high solubility of toxic organics in oil and grease, compliance with the oil and grease standard is considered equivalent to compliance with the TTO standard.

c2d NONCONTINUOUS DISCHARGERS. cad For noncontinuous direct dischargers, the department shall apply effluent limitations or standards in the form of mass-based annual average, concentration-based maximum day and concentration-based maximum monthly average as indicated in the tables within this chapter.

cbd For noncontinuous indirect dischargers, the control au-

thority may elect to establish concentration-based standards as outlined in sub. c3d.

c3d CONVERSION TO CONCENTRATION-BASED UNITS. cad The control authority may apply concentration-based standards which are exactly equivalent to PSNS and PSES mass-based standards. Concentration-based standards shall be derived by the following procedure:

cbd Multiply PSNS or PSES mass-based standards by ad average production ckg of metal pouredd, bd raw material usage ckg of sand reclaimedd, or cd air scrubber flow cSm³ of air scrubbedd, whichever applies, and divide by average discharge flow to the POTW. In calculating, use appropriate measurements and conversion factors to ensure that concentration-based units in mg{l result.

c4d MONTHLY DISCHARGE LIMIT. Compliance with the monthly discharge limits, as calculated from monthly average regulatory values from tables contained in this chapter, is required regardless of the number of samples analyzed and averaged.

History: Cr. Register, June, 1989, No. 402, eff. 7-1-89.

NR 256.05 Compliance dates. c1d Any existing source subject to this chapter which discharges to waters of the state shall achieve:

cad The effluent limitations representing BPT by July 1, 1977; and

cbd The effluent limitations representing BAT by July 1, 1984.

c2d Any new source subject to this chapter which discharges to waters of the state shall achieve NSPS at the commencement of discharge.

NR 256.12 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter, including noncontinuous direct dischargers, shall achieve the following BPT effluent limitations. Grinding scrubber operations may not discharge process wastewater pollutants to waters of the state.

TABLE 1
ALUMINUM CASTING SUBCATEGORY
CASTING CLEANING OPERATIONS

BPT Effluent Limitations					
Pollutant or pollutant property	Maximum for any		Noncontinuous Direct Dischargers		
	1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
	kg{ 1,000 kkg cpounds per million poundsd of metal poured		mg{l ^{c1d}	mg{l ^{c1d}	c ^{2d}
Copper cTd	0.0771	0.0421	0.77	0.42	0.017
Lead cTd	0.0791	0.039	0.79	0.39	0.022
Zinc cTd	0.114	0.0431	1.14	0.43	0.027
Oil & grease	3.0	1.0	30	10	0.501
TSS	3.8	1.5	38	15	1.0
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c12{x where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of metal pouredd for a specific plant.

^{c2d} kg{ 1,000 kkg cpounds per million poundsd of metal poured.

^{c3d} Within the range of 7.0 to 10.0 to all times.

c3d Any existing source subject to this chapter which introduces process wastewater pollutants into a POTW shall achieve PSES by October 31, 1988.

c4d Any new source subject to this chapter which introduces process wastewater pollutants into a POTW shall achieve PSNS at the commencement of discharge.

History: Cr. Register, June, 1989, No. 402, eff. 7-1-89.

Subchapter I — Aluminum Casting Subcategory

NR 256.10 Applicability; description of the aluminum casting subcategory. c1d This subchapter applies to discharges to waters of the state and to introductions of pollutants into publicly owned treatment works from aluminum casting operations. It applies to a production process if the molten metal contains, on average, greater than 50% by weight of aluminum or if aluminum comprises the greatest percentage of the metal, measured by weight.

c2d This subchapter does not apply to the casting of ingots, pigs or other cast shapes following primary metal smelting, which is regulated by the nonferrous metals manufacturing point source category under 40 CFR Part 421. This subchapter does not apply to the casting of aluminum performed as an integral part of aluminum forming and conducted on-site at an aluminum forming plant, which is regulated by the aluminum forming point source category under 40 CFR Part 467.

c3d Processing operations following the cooling of castings, except for grinding scrubber operations, may be regulated by the aluminum forming point source category under 40 CFR Part 467, electroplating point source category under ch. NR 260, or metal finishing point source category under ch. NR 261.

History: Cr. Register, June, 1989, No. 402, eff. 7-1-89.

TABLE 2
ALUMINUM CASTING SUBCATEGORY
CASTING QUENCH OPERATIONS

BPT Effluent Limitations					
Pollutant or pollutant property	BPT Effluent Limitations		Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
	kg { 1,000 kkg cpounds per million poundsd of metal poured		mg {l ^{c1d}	mg {l ^{c1d}	c2d
Copper cTd	0.0093	0.0051	0.77	0.42	0.0021
Lead cTd	0.0096	0.0047	0.79	0.39	0.0027
Zinc cTd	0.0138	0.0052	1.14	0.43	0.0033
Oil & grease	0.363	0.121	30	10	0.0605
TSS	0.46	0.182	38	15	0.121
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c1.45{x}d where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of metal pouredd for a specific plant.

^{c2d} kg { 1,000 kkg cpounds per million poundsd of metal poured.

^{c3d} Within the range of 7.0 to 10.0 to all times.

TABLE 3
ALUMINUM CASTING SUBCATEGORY
DIE CASTING OPERATIONS

BPT Effluent Limitations					
Pollutant or pollutant property	BPT Effluent Limitations		Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
	kg { 1,000 kkg cpounds per million poundsd of metal poured		mg {l ^{c1d}	mg {l ^{c1d}	c2d
Copper cTd	0.0066	0.0036	0.77	0.42	0.0015
Lead cTd	0.0068	0.0034	0.79	0.39	0.0019
Zinc cTd	0.0098	0.0037	1.14	0.43	0.0023
Total phenols	0.0074	0.0026	0.86	0.3	0.0017
Oil & grease	0.259	0.0864	30	10	0.0432
TSS	0.33	0.13	38	15	0.0864
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c1.04{x}d where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of metal pouredd for a specific plant.

^{c2d} kg { 1,000 kkg cpounds per million poundsd of metal poured.

^{c3d} Within the range of 7.0 to 10.0 to all times.

TABLE 4
ALUMINUM CASTING SUBCATEGORY
DUST COLLECTION SCRUBBER OPERATIONS

BPT Effluent Limitations					
Pollutant or pollutant property	BPT Effluent Limitations		Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
	kg { 62.3 million Sm ³ cpounds per billion SCFd of air scrubbed		mg {l ^{c1d}	mg {l ^{c1d}	c2d
Copper cTd	0.231	0.126	0.77	0.42	0.0511
Lead cTd	0.237	0.117	0.79	0.39	0.0661
Zinc cTd	0.343	0.129	1.14	0.43	0.0811
Total phenols	0.258	0.09	0.86	0.3	0.0601
Oil & grease	9.01	3.0	30	10	1.5
TSS	11.4	4.51	38	15	3.0
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c0.036{x}d where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 SCF of air scrubbedd for a specific plant.

^{c2d} kg { 62.3 million Sm³ cpounds per billion SCFd of air scrubbed.

^{c3d} Within the range of 7.0 to 10.0 to all times.

TABLE 5
ALUMINUM CASTING SUBCATEGORY
INVESTMENT CASTING

BPT Effluent Limitations					
			Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg{1,000 kkg cpounds per million poundsd of metal poured		mg{l ^{c1d}	mg{l ^{c1d}	c ^{2d}
Copper cTd	8.48	4.63	0.77	0.42	1.87
Lead cTd	8.7	4.3	0.79	0.39	2.42
Zinc cTd	12.6	4.74	1.14	0.43	2.97
Oil & grease	330	110	30	10	55.1
TSS	419	165	38	15	110
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c1.320{xd where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of metal pouredd for a specific plant.

^{c2d} kg{1,000 kkg cpounds per million poundsd of metal poured.

^{c3d} Within the range of 7.0 to 10.0 to all times.

TABLE 6
ALUMINUM CASTING SUBCATEGORY
MELTING FURNACE SCRUBBER OPERATIONS

BPT Effluent Limitations					
			Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg{62.3 million Sm ³ cpounds per billion SCFd of air scrubbed		mg{l ^{c1d}	mg{l ^{c1d}	c ^{2d}
Copper cTd	3.01	1.64	0.77	0.42	0.664
Lead cTd	3.09	1.52	0.79	0.39	0.859
Zinc cTd	4.45	1.68	1.14	0.43	1.05
Total phenols	3.36	1.17	0.86	0.3	0.781
Oil & grease	117	39.1	30	10	19.5
TSS	148	58.6	38	15	39.1
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c0.468{xd where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 SCF of air scrubbedd for a specific plant.

^{c2d} kg{62.3 million Sm³ cpounds per billion SCFd of air scrubbed.

^{c3d} Within the range of 7.0 to 10.0 to all times.

TABLE 7
ALUMINUM CASTING SUBCATEGORY
MOLD COOLING OPERATIONS

BPT Effluent Limitations					
			Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg{1,000 kkg cpounds per million poundsd of metal poured		mg{l ^{c1d}	mg{l ^{c1d}	c ^{2d}
Copper cTd	0.297	0.162	0.77	0.42	0.0656
Lead cTd	0.305	0.151	0.79	0.39	0.0849
Zinc cTd	0.44	0.166	1.14	0.43	0.104
Oil & grease	11.6	3.86	30	10	1.93
TSS	14.7	5.79	38	15	3.86
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c46.3{xd where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of metal pouredd for a specific plant.

^{c2d} kg{1,000 kkg cpounds per million poundsd of metal poured.

^{c3d} Within the range of 7.0 to 10.0 to all times.

History: Cr. Register, June, 1989, No. 402, eff. 7-1-89.

NR 256.13 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter, including noncontin-

uous direct dischargers, shall achieve the copper, lead, zinc, and total phenols effluent limitations contained in s. NR 256.12. Grinding scrubber operations may not discharge process wastewater pollutants to waters of the state.

History: Cr. Register, June, 1989, No. 402, eff. 7-1-89.

NR 256.14 New source performance standards.

Any new source subject to this subchapter, including noncontinuous direct dischargers, shall achieve the effluent limitations contained in s. NR 256.12. Grinding scrubber operations may not discharge process wastewater pollutants to waters of the state.

History: Cr. Register, June, 1989, No. 402, eff. 7-1-89.

NR 256.15 Pretreatment standards for existing sources. Except as provided in ss. NR 211.13 and 211.14, any existing source subject to this subchapter which introduces pollutants into a publicly owned treatment works shall comply with ch. NR 211 and achieve the following pretreatment standards for existing sources. Grinding scrubber operations may not discharge process wastewater pollutants to a POTW.

TABLE 8
ALUMINUM CASTING SUBCATEGORY
CASTING CLEANING OPERATIONS

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	kg (1,000 kkg cpounds per million poundsd of metal poured	
Copper cTd	0.0771	0.0421
Lead cTd	0.0791	0.039
Zinc cTd	0.114	0.0431

TABLE 9
ALUMINUM CASTING SUBCATEGORY
CASTING QUENCH OPERATIONS

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	kg (1,000 kkg cpounds per million poundsd of metal poured	
Copper cTd	0.0093	0.0051
Lead cTd	0.0096	0.0047
Zinc cTd	0.0138	0.0052
TTO ^{c1d}	0.029	0.0095
Oil and grease ^{c2d}	0.363	0.121

^{c1d}TTO is comprised of the following toxic organic pollutants:

benzene
2,4,6-trichlorophenol
para-chloro meta-cresol
chloroform ctrichloromethaned
2,4-dimethylphenol
fluoranthene
methylene chloride cdichloromethaned
phenol
bisc2-ethylhexyldphthalate
butyl benzyl phthalate
pyrene
tetrachloroethylene
trichloroethylene

^{c2d} Use as alternative to monitoring for TTO.

TABLE 10
ALUMINUM CASTING SUBCATEGORY
DIE CASTING OPERATIONS

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	kg (1,000 kkg cpounds per million poundsd of metal poured	
Copper cTd	0.0066	0.0036
Lead cTd	0.0068	0.0034
Zinc cTd	0.0098	0.0037
Total phenols	0.0074	0.0026
TTO ^{c1d}	0.0308	0.01
Oil and grease ^{c2d}	0.259	0.0864

^{c1d}TTO is comprised of the following toxic organic pollutants:

acenaphthene
benzene
chlorobenzene
1,1,1-trichloroethane
2,4,6-trichlorophenol
para-chloro meta-cresol
chloroform ctrichloromethaned
2,4-dimethylphenol
fluoranthene
methylene chloride cdichloromethaned
naphthalene
phenol
bisc2-ethylhexyldphthalate
butyl benzyl phthalate
di-n-butyl phthalate
diethyl phthalate
benzo cadanthracene c1,2-benzanthracened
benzo cadpyrene c3,4-benzopyrened
chrysene
anthracene
fluorene
phenanthrene
pyrene
tetrachloroethylene
toluene

^{c2d} Use as alternative to monitoring for TTO.

TABLE 11
ALUMINUM CASTING SUBCATEGORY
DUST COLLECTION SCRUBBER OPERATIONS

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	kg { 62.3 million Sm ³ cpounds per billion SCFd of air scrubbed	
Copper cTd	0.231	0.126
Lead cTd	0.237	0.117
Zinc cTd	0.343	0.129
Total phenols	0.258	0.09
TTO ^{c1d}	0.613	0.2
Oil and grease ^{c2d}	9.01	3.0

^{c1d} TTO is comprised of the following toxic organic pollutants:

acenaphthene
2,4,6-trichlorophenol
chloroform ctrichloromethaned
2,4-dimethylphenol
fluoranthene
methylene chloride cdichloromethaned
phenol
bis c2-ethylhexyld phthalate
di-n-butyl phthalate
diethyl phthalate
benzo cadpyrene c3,4-benzopyrened
pyrene

^{c2d} Use as alternative to monitoring for TTO.

TABLE 12
ALUMINUM CASTING SUBCATEGORY
INVESTMENT CASTING

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	kg { 1000 kkg cpounds per million poundsd of metal poured	
Copper cTd	8.48	4.63
Lead cTd	8.7	4.3
Zinc cTd	12.6	4.74
TTO ^{c1d}	18.1	5.91
Oil and grease ^{c2d}	330	110

^{c1d} TTO is comprised of the following toxic organic pollutants:

1,1,1-trichloroethane
chloroform ctrichloromethaned
methylene chloride cdichloromethaned
bis c2-ethylhexyld phthalate
pyrene
tetrachloroethylene
trichloroethylene

^{c2d} Use as alternative to monitoring for TTO.

TABLE 13
ALUMINUM CASTING SUBCATEGORY
MELTING FURNACE SCRUBBER OPERATIONS

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	kg { 62.3 million Sm ³ cpounds per billion SCFd of air scrubbed	
Copper cTd	3.01	1.64
Lead cTd	3.09	1.52
Zinc cTd	4.45	1.68
Total phenols	3.36	1.17
TTO ^{c1d}	7.97	2.6
Oil and grease ^{c2d}	117	39.1

^{c1d} TTO is comprised of the toxic organic pollutants listed in Table 11.

^{c2d} Use as alternative to monitoring for TTO.

TABLE 14
ALUMINUM CASTING SUBCATEGORY
MOLD COOLING OPERATIONS

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	kg { 1,000kkg cpounds per million poundsd of metal poured	
Copper cTd	0.297	0.162
Lead cTd	0.305	0.151
Zinc cTd	0.44	0.166
TTO ^{c1d}	0.935	0.304
Oil and grease ^{c2d}	11.6	3.86

^{c1d} TTO is comprised of the toxic organic pollutants listed in Table 9.

^{c2d} Use as alternative to monitoring for TTO.

History: Cr. Register, June, 1989, No. 402, eff. 7-1-89.

NR 256.16 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into publicly owned treatment works shall comply with ch. NR 211 and achieve the pretreatment standards contained in s. NR 256.15. Grinding scrubber operations may not discharge process wastewater pollutants to a POTW.

History: Cr. Register, June, 1989, No. 402, eff. 7-1-89.

Subchapter II — Copper Casting Subcategory

NR 256.20 Applicability; description of the copper casting subcategory. **c1d** This subchapter applies to discharges to waters of the state and to introductions of pollutants into publicly owned treatment works from copper casting operations. It applies to a production process if the molten metal contains, on average, greater than 50% by weight of copper or if copper comprises the greatest percentage of the metal, measured by weight.

c2d This subchapter does not apply to the casting of ingots, pigs or other cast shapes following primary metal smelting, which

is regulated by the nonferrous metals manufacturing point source category under [40 CFR Part 421](#). This subchapter does not apply to the casting of copper alloys containing either beryllium at 0.1% or greater by weight or precious metal at 30% or greater by weight.

c3d Processing operations following the cooling of castings, except for grinding scrubber operations, may be regulated by the electroplating point source category under ch. [NR 260](#) or metal finishing point source category under ch. [NR 261](#).

History: Cr. Register, June, 1989, No. 402, eff. 7-1-89.

NR 256.22 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. Except as provided in [40 CFR 125.30](#) to [125.32](#), any existing point source subject to this subchapter, including noncontinuous direct dischargers, shall achieve the following BPT effluent limitations. Grinding scrubber operations may not discharge process wastewater pollutants to waters of the state.

TABLE 15
COPPER CASTING SUBCATEGORY
CASTING QUENCH OPERATIONS

BPT Effluent Limitations					
Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	Noncontinuous Direct Dischargers		
			Maximum for any 1 day	Maximum for monthly average	Annual average
	kg { 1,000 kkg cpounds per million poundsd of metal poured		mg {l ^{c1d}	mg {l ^{c1d}	c ^{2d}
Copper cTd	0.0307	0.0168	0.77	0.42	0.0068
Lead cTd	0.0315	0.0156	0.79	0.39	0.0066
Zinc cTd	0.0455	0.0171	1.14	0.43	0.0108
Oil & grease	1.2	0.399	30	10	0.199
TSS	1.52	0.598	38	15	0.399
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c4.8{x where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of metal pouredd for a specific plant.

^{c2d} kg { 1,000 kkg cpounds per million poundsd of metal poured.

^{c3d} Within the range of 7.0 to 10.0 to all times.

TABLE 16
COPPER CASTING SUBCATEGORY
DIRECT CHILL CASTING OPERATIONS

BPT Effluent Limitations					
Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	Noncontinuous Direct Dischargers		
			Maximum for any 1 day	Maximum for monthly average	Annual average
	kg { 1,000 kkg cpounds per million poundsd of metal poured		mg {l ^{c1d}	mg {l ^{c1d}	c ^{2d}
Copper cTd	0.928	0.506	0.77	0.42	0.205
Lead cTd	0.952	0.47	0.79	0.39	0.265
Zinc cTd	1.37	0.518	1.14	0.43	0.326
Oil & grease	36.2	12.1	30	10	6.03
TSS	45.8	18.1	38	15	12.1
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c145{x where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of metal pouredd for a specific plant.

^{c2d} kg { 1,000 kkg cpounds per million poundsd of metal poured.

^{c3d} Within the range of 7.0 to 10.0 to all times.

TABLE 17
COPPER CASTING SUBCATEGORY
DUST COLLECTION SCRUBBER OPERATIONS

BPT Effluent Limitations					
Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	Noncontinuous Direct Dischargers		
			Maximum for any 1 day	Maximum for monthly average	Annual average
	kg{62.3 million Sm ³ billion SCFd of air scrubbed	cpounds per	mg{l ^{c1d}	mg{l ^{c1d}	c2d
Copper cTd	0.553	0.301	0.77	0.42	0.122
Lead cTd	0.567	0.28	0.79	0.39	0.158
Zinc cTd	0.818	0.309	1.14	0.43	0.194
Total phenols	0.617	0.215	0.86	0.3	0.144
Oil & grease	21.5	7.18	30	10	3.59
TSS	27.3	10.8	38	15	7.18
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c0.086{x where x is the actual normalized process wastewater discharge flow in gallons per 1,000 SCF of air scrubbed for a specific plant.

^{c2d} kg{62.3 million Sm³ cpounds per billion SCFd of air scrubbed.

^{c3d} Within the range of 7.0 to 10.0 at all times.

TABLE 18
COPPER CASTING SUBCATEGORY
INVESTMENT CASTING

BPT Effluent Limitations					
Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	Noncontinuous Direct Dischargers		
			Maximum for any 1 day	Maximum for monthly average	Annual average
	kg{1,000 kkg poundsd of metal poured	cpounds per million	mg{l ^{c1d}	mg{l ^{c1d}	c2d
Copper cTd	8.48	4.63	0.77	0.42	1.87
Lead cTd	8.7	4.3	0.79	0.39	2.42
Zinc cTd	12.6	4.74	1.14	0.43	2.97
Oil & grease	330	110	30	10	55.1
TSS	419	165	38	15	110
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c1.320{x where x is the actual normalized process wastewater discharge flow in gallons per 1,000 pounds of metal poured for a specific plant.

^{c2d} kg{1,000 kkg cpounds per million poundsd of metal poured.

^{c3d} Within the range of 7.0 to 10.0 at all times.

TABLE 19
COPPER CASTING SUBCATEGORY
MELTING FURNACE SCRUBBER OPERATIONS

BPT Effluent Limitations					
Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	Noncontinuous Direct Dischargers		
			Maximum for any 1 day	Maximum for monthly average	Annual average
	kg{62.3 million Sm ³ billion SCFd of air scrubbed	cpounds per	mg{l ^{c1d}	mg{l ^{c1d}	c2d
Copper cTd	1.81	0.988	0.77	0.42	0.4
Lead cTd	1.86	0.918	0.79	0.39	0.158
Zinc cTd	2.68	1.01	1.14	0.43	0.635
Total phenols	2.02	0.706	0.86	0.3	0.467
Oil & grease	70.6	23.5	30	10	11.8
TSS	89.4	35.3	38	15	23.5
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c0.282{x where x is the actual normalized process wastewater discharge flow in gallons per 1,000 SCF of air scrubbed for a specific plant.

^{c2d} kg{62.3 million Sm³ cpounds per billion SCFd of air scrubbed.

^{c3d} Within the range of 7.0 to 10.0 at all times.

TABLE 20
COPPER CASTING SUBCATEGORY
MOLD COOLING OPERATIONS

BPT Effluent Limitations					
Pollutant or pollutant property	BAT Effluent Limitations		Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
	kg{ 1,000 kkg cpounds per million poundsd of metal poured		mg{l ^{c1d}	mg{l ^{c1d}	c ^{c2d}
Copper cTd	0.392	0.214	0.77	0.42	0.0865
Lead cTd	0.402	0.199	0.79	0.39	0.112
Zinc cTd	0.58	0.219	1.14	0.43	0.137
Oil & grease	15.3	5.09	30	10	2.54
TSS	19.3	7.63	38	15	5.09
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c61{x}d where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of metal pouredd for a specific plant.

^{c2d} kg{ 1,000 kkg cpounds per million poundsd of metal poured.

^{c3d} Within the range of 7.0 to 10.0 to all times.

History: Cr. Register, June, 1989, No. 402, eff. 7-1-89.

NR 256.23 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter, including noncontinuous direct dischargers, shall achieve the following BAT effluent limitations. Grinding scrubber operations may not discharge process wastewater pollutants to waters of the state.

TABLE 21
COPPER CASTING SUBCATEGORY
CASTING QUENCH OPERATIONS

BAT Effluent Limitations					
Pollutant or pollutant property	BAT Effluent Limitations		Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
	kg{ 1,000 kkg cpounds per million poundsd of metal poured		mg{l ^{c1d}	mg{l ^{c1d}	c ^{c2d}
Copper cTd	0.0307	0.0168	0.77	0.42	0.0068
Lead cTd	0.0211	0.0104	0.53	0.26	0.006
Zinc cTd	0.0303	0.0116	0.76	0.29	0.0072

^{c1d} These concentrations shall be multiplied by the ratio of c4.8{x}d where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of metal pouredd for a specific plant.

^{c2d} kg{ 1,000 kkg cpounds per million poundsd of metal poured.

TABLE 22
COPPER CASTING SUBCATEGORY
DIRECT CHILL CASTING OPERATIONS

BAT Effluent Limitations					
Pollutant or pollutant property	BAT Effluent Limitations		Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
	kg{ 1,000 kkg cpounds per million poundsd of metal poured		mg{l ^{c1d}	mg{l ^{c1d}	c ^{c2d}
Copper cTd	0.928	0.506	0.77	0.42	0.205
Lead cTd	0.639	0.314	0.53	0.26	0.181
Zinc cTd	0.916	0.35	0.76	0.29	0.217

^{c1d} These concentrations shall be multiplied by the ratio of c145{x}d where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of metal pouredd for a specific plant.

^{c2d} kg{ 1,000 kkg cpounds per million poundsd of metal poured.

TABLE 23
COPPER CASTING SUBCATEGORY
DUST COLLECTION SCRUBBER OPERATIONS

BAT Effluent Limitations					
			Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg{62.3 million Sm ³ SCFd of air scrubbed	cpounds per billion	mg{l ^{c1d}	mg{l ^{c1d}	c ^{2d}
Copper cTd	0.553	0.301	0.77	0.42	0.122
Lead cTd	0.38	0.187	0.53	0.26	0.108
Zinc cTd	0.545	0.208	0.76	0.29	0.129
Total phenols	0.617	0.215	0.86	0.3	0.144

^{c1d} These concentrations shall be multiplied by the ratio of c0.086{x where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 SCF of air scrubbedd for a specific plant.
^{c2d} kg{62.3 million Sm³ cpounds per billion SCFd of air scrubbed.

TABLE 24
COPPER CASTING SUBCATEGORY
INVESTMENT CASTING

BAT Effluent Limitations					
			Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg{1,000 kkg poundsd of metal poured	cpounds per million	mg{l ^{c1d}	mg{l ^{c1d}	c ^{2d}
Copper cTd	8.48	4.63	0.77	0.42	1.87
Lead cTd	5.84	2.86	0.53	0.26	1.65
Zinc cTd	8.37	3.19	0.76	0.29	1.98

^{c1d} These concentrations shall be multiplied by the ratio of c1,320{x where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of metal pouredd for a specific plant.
^{c2d} kg{1,000 kkg cpounds per million poundsd of metal poured.

TABLE 25
COPPER CASTING SUBCATEGORY
MELTING FURNACE SCRUBBER OPERATIONS

BAT Effluent Limitations					
			Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg{62.3 million Sm ³ billion SCFd of air scrubbed	cpounds per	mg{l ^{c1d}	mg{l ^{c1d}	c ^{2d}
Copper cTd	1.81	0.988	0.77	0.42	0.4
Lead cTd	1.25	0.612	0.53	0.26	0.353
Zinc cTd	1.79	0.673	0.76	0.29	0.424
Total phenols	2.02	0.706	0.86	0.3	0.471

^{c1d} These concentrations shall be multiplied by the ratio of c0.282{x where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 SCF of air scrubbedd for a specific plant.
^{c2d} kg{62.3 million Sm³ cpounds per billion SCFd of air scrubbed.

TABLE 26
COPPER CASTING SUBCATEGORY
MOLD COOLING OPERATIONS

BAT Effluent Limitations					
			Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg{1,000 kkg poundsd of metal poured	cpounds per million	mg{l ^{c1d}	mg{l ^{c1d}	c ^{2d}
Copper cTd	0.392	0.214	0.77	0.42	0.0865
Lead cTd	0.27	0.132	0.53	0.26	0.0763
Zinc cTd	0.387	0.148	0.76	0.29	0.0916

^{c1d} These concentrations shall be multiplied by the ratio of c61{x where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of metal pouredd for a specific plant.
^{c2d} kg{1,000 kkg cpounds per million poundsd of metal poured.

History: Cr. Register, June 1989, No. 402, eff. 7-1-89.

NR 256.24 New source performance standards. Any new source subject to this subchapter, including noncontinuous direct dischargers, shall achieve the following standards. Grinding scrubber operations may not discharge process wastewater pollutants to waters of the state.

TABLE 27
COPPER CASTING SUBCATEGORY
CASTING QUENCH OPERATIONS

NSPS					
Pollutant or pollutant property	NSPS		Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
	kg{ 1,000 kkg cpounds per million poundsd of metal poured		mg{l ^{c1d}	mg{l ^{c1d}	c2d
Copper cTd	0.0307	0.0168	0.77	0.42	0.0068
Lead cTd	0.0211	0.0104	0.53	0.26	0.006
Zinc cTd	0.0303	0.0116	0.76	0.29	0.0072
Oil & grease	1.2	0.399	30	10	0.199
TSS	0.598	0.479	15	12	0.104
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of $\frac{c_{145}x}{c_{145}}$ where x is the actual normalized process wastewater discharge flow in gallons per 1,000 pounds of metal poured for a specific plant.

^{c2d} kg{ 1,000 kkg cpounds per million poundsd of metal poured.

^{c3d} Within the range of 7.0 to 10.0 to all times.

TABLE 28
COPPER CASTING SUBCATEGORY
DIRECT CHILL CASTING OPERATIONS

NSPS					
Pollutant or pollutant property	NSPS		Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
	kg{ 1,000 kkg cpounds per million poundsd of metal poured		mg{l ^{c1d}	mg{l ^{c1d}	c2d
Copper cTd	0.928	0.506	0.77	0.42	0.205
Lead cTd	0.639	0.314	0.53	0.26	0.181
Zinc cTd	0.916	0.35	0.76	0.29	0.217
Oil & grease	36.2	12.1	30	10	6.03
TSS	18.1	14.5	15	12	3.13
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of $\frac{c_{145}x}{c_{145}}$ where x is the actual normalized process wastewater discharge flow in gallons per 1,000 pounds of metal poured for a specific plant.

^{c2d} kg{ 1,000 kkg cpounds per million poundsd of metal poured.

^{c3d} Within the range of 7.0 to 10.0 to all times.

TABLE 29
COPPER CASTING SUBCATEGORY
DUST COLLECTION SCRUBBER OPERATIONS

NSPS					
Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	Noncontinuous Direct Dischargers		
			Maximum for any 1 day	Maximum for monthly average	Annual average
	kg{62.3 million Sm ³ billion SCFd of air scrubbed	cpounds per	mg{l ^{c1d}	mg{l ^{c1d}	c2d
Copper cTd	0.553	0.301	0.77	0.42	0.122
Lead cTd	0.38	0.187	0.53	0.26	0.108
Zinc cTd	0.545	0.208	0.76	0.29	0.129
Total phenols	0.617	0.215	0.86	0.3	0.144
Oil & grease	21.5	7.18	30	10	3.59
TSS	10.8	8.61	15	12	1.87
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c0.086{x where x is the actual normalized process wastewater discharge flow in gallons per 1,000 SCF of air scrubbed for a specific plant.

^{c2d} kg{62.3 million Sm³ cpounds per billion SCFd of air scrubbed.

^{c3d} Within the range of 7.0 to 10.0 to all times.

TABLE 30
COPPER CASTING SUBCATEGORY
INVESTMENT CASTING

NSPS					
Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	Noncontinuous Direct Dischargers		
			Maximum for any 1 day	Maximum for monthly average	Annual average
	kg{1,000 kkg poundsd of metal poured	cpounds per million	mg{l ^{c1d}	mg{l ^{c1d}	c2d
Copper cTd	8.48	4.63	0.77	0.42	1.87
Lead cTd	5.84	2.86	0.53	0.26	1.65
Zinc cTd	8.37	3.19	0.76	0.29	1.98
Oil & grease	330	110	30	10	55.1
TSS	165	132	15	12	28.6
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c1.320{x where x is the actual normalized process wastewater discharge flow in gallons per 1,000 pounds of metal poured for a specific plant.

^{c2d} kg{1,000 kkg cpounds per million poundsd of metal poured.

^{c3d} Within the range of 7.0 to 10.0 to all times.

TABLE 31
COPPER CASTING SUBCATEGORY
MELTING FURNACE SCRUBBER OPERATIONS

NSPS					
Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	Noncontinuous Direct Dischargers		
			Maximum for any 1 day	Maximum for monthly average	Annual average
	kg{62.3 million Sm ³ billion SCFd of air scrubbed	cpounds per	mg{l ^{c1d}	mg{l ^{c1d}	c2d
Copper cTd	1.81	0.988	0.77	0.42	0.4
Lead cTd	1.25	0.612	0.53	0.26	0.353
Zinc cTd	1.79	0.673	0.76	0.29	0.424
Total phenols	2.02	0.706	0.86	0.3	0.471
Oil & grease	70.6	23.5	30	10	11.8
TSS	35.3	28.2	15	12	6.12
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c0.282{x where x is the actual normalized process wastewater discharge flow in gallons per 1,000 SCF of air scrubbed for a specific plant.

^{c2d} kg{62.3 million Sm³ cpounds per billion SCFd of air scrubbed.

^{c3d} Within the range of 7.0 to 10.0 to all times.

TABLE 32
COPPER CASTING SUBCATEGORY
MOLD COOLING OPERATIONS

NSPS					
Pollutant or pollutant property	NSPS		Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
	kg{1,000 kkg cpounds per million poundsd of metal poured		mg{l ^{c1d}	mg{l ^{c1d}	c ^{2d}
Copper cTd	0.392	0.214	0.77	0.42	0.0865
Lead cTd	0.27	0.132	0.53	0.26	0.0763
Zinc cTd	0.387	0.148	0.76	0.29	0.0916
Oil & grease	15.3	5.09	30	10	2.54
TSS	7.63	6.11	15	12	1.32
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c61{xd where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of metal pouredd for a specific plant.

^{c2d} kg{1,000 kkg cpounds per million poundsd of metal poured.

^{c3d} Within the range of 7.0 to 10.0 to all times.

History: Cr. Register, June, 1989, No. 402, eff. 7-1-89.

NR 256.25 Pretreatment standards for existing sources. Except as provided in ss. NR 211.13 and 211.14, any existing source subject to this subchapter which introduces pollutants into a publicly owned treatment works shall comply with ch. NR 211 and achieve the following pretreatment standards for existing sources. Grinding scrubber operations may not discharge process wastewater pollutants to a POTW.

TABLE 33
COPPER CASTING SUBCATEGORY
CASTING QUENCH OPERATIONS

PSES		
Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg{1,000 kkg cpounds per million poundsd of metal poured	
Copper cTd	0.0307	0.0168
Lead cTd	0.0211	0.0104
Zinc cTd	0.0303	0.0116
TTO ^{c1d}	0.0335	0.0109
Oil and grease ^{c2d}	1.2	0.399

^{c1d} TTO is comprised of the following toxic organic pollutants:

chloroform ctrichloromethaned
pentachlorophenol
bis c2-ethylhexyldphtalate
dimethyl phtalate

^{c2d} Use as alternative to monitoring for TTO.

TABLE 34
COPPER CASTING SUBCATEGORY
DIRECT CHILL CASTING OPERATIONS

PSES		
Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg{1,000 kkg cpounds per million poundsd of metal poured	
Copper cTd	0.928	0.506
Lead cTd	0.639	0.314
Zinc cTd	0.916	0.35

TABLE 35
COPPER CASTING SUBCATEGORY
DUST COLLECTION SCRUBBER OPERATIONS

PSES		
Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg{62.3 million Sm ³ cpounds per billion SCFd of air scrubbed	
Copper cTd	0.552	0.301
Lead cTd	0.38	0.187
Zinc cTd	0.545	0.208
Total phenols	0.617	0.215
TTO ^{c1d}	1.65	0.54
Oil and grease ^{c2d}	21.5	7.18

^{c1d} TTO is comprised of the following toxic organic pollutants:

acenaphthene
para-chloro meta-cresol
chloroform ctrichloromethaned
2,4-dimethylphenol
naphthalene
4-nitrophenol
pentachlorophenol
phenol
bis c2-ethylehexyld phtalate
butyl benzyl phtalate
di-n-butyl phtalate
diethyl phtalate
dimethyl phtalate
benzocadanthracene c1,2-bezanthracened
3,4-benzofluoranthene
benzockd fluoranthene
chrysene
acenaphthylene
anthracene
phenanthrene
pyrene

^{c2d} Use as alternative to monitoring for TTO.

TABLE 36
COPPER CASTING SUBCATEGORY
SUBCATEGORY INVESTMENT CASTING

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	kg [1,000 kkg] pounds per million pounds of metal poured	
Copper cTd	8.48	4.63
Lead cTd	5.84	2.86
Zinc cTd	8.37	3.19
TTO ^{c1d}	25.4	8.29
Oil and grease ^{c2d}	330	110

^{c1d}TTO is comprised of the toxic organic pollutants listed in Table 35.

^{c2d}Use as alternative to monitoring for TTO.

TABLE 37
COPPER CASTING SUBCATEGORY
MELTING FURNACE SCRUBBER OPERATIONS

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	kg [62.3 million Sm ³] pounds per billion SCF of air scrubbed	
Copper cTd	1.81	0.988
Lead cTd	1.25	0.612
Zinc cTd	1.79	0.673
Total phenols	2.02	0.706
TTO ^{c1d}	5.41	1.77
Oil and grease ^{c2d}	70.6	23.5

^{c1d}TTO is comprised of the toxic organic pollutants listed in Table 35.

^{c2d}Use as alternative to monitoring for TTO.

TABLE 38
COPPER CASTING SUBCATEGORY
MOLD COOLING OPERATIONS

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	kg [1,000 kkg] pounds per million pounds of metal poured	
Copper cTd	0.392	0.214
Lead cTd	0.27	0.132
Zinc cTd	0.387	0.148
TTO ^{c1d}	0.428	0.14
Oil and grease ^{c2d}	15.3	5.09

^{c1d}TTO is of the following toxic organic pollutants:
chloroform
trichloromethane
pentachlorophenol
bis(2-ethylhexyl) phthalate
dimethyl phthalate

^{c2d}Use as alternative to monitoring for TTO

History: Cr. Register, June, 1989, No. 402, eff. 7-1-89.

NR 256.26 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into publicly owned treatment works shall comply with ch. NR 211 and achieve the pretreatment standards contained in s. NR 256.25. Grinding scrubber operations may not discharge process wastewater pollutants to a POTW.

History: Cr. Register, June, 1989, No. 402, eff. 7-1-89.

Subchapter III — Ferrous Casting Subcategory

NR 256.30 Applicability; description of the ferrous casting subcategory. **c1d** This subchapter applies to discharges to waters of the state and to introduction of pollutants into publicly owned treatment works from ferrous casting operations. It applies to a production process if the molten metal contains, on average, greater than 50% by weight of ferrous metal or if ferrous metal comprises the greatest percentage of the metal, measured by weight.

c2d Ancillary scrubber operations, such as fan washes and backwashes, are covered by the mass limitations of the associated discrete wet scrubbing device. Water discharges from aftercooling devices are not regulated as a process wastewater in this subcategory.

c3d Processing operations following the cooling of castings, except for grinding scrubber operations, may be regulated by the electroplating point source category under ch. NR 260, or metal finishing point source category under ch. NR 261.

History: Cr. Register, June, 1989, No. 402, eff. 7-1-89.

NR 256.31 Specialized definitions. The following definitions are applicable to terms used in this chapter:

c1d XCast ironY means an iron containing carbon in excess of the solubility in the austenite that exists in the alloy at the eutectic temperature, or any iron-carbon alloy that contains 1.2% or more carbon by weight.

c2d XDiscrete wet scrubbing deviceY means a distinct, stand-alone device that removes particulates and fumes from a contaminated gas stream by bringing the gas stream into contact with a scrubber liquor, usually water, and from which there is a wastewater discharge, including but not limited to spray towers and chambers, fixed and variable venturi scrubbers, wet caps, packed bed scrubbers, quenchers and orifice scrubbers. It does not include aftercoolers, ancillary scrubber operations such as fan washes and backwashes, or semi-wet scrubbing devices.

c3d XDuctile ironY means a cast iron treated while molten with a master alloy that contains an element such as magnesium or cerium to induce the formation of free graphite as nodules or spherules, which imparts a measurable degree of ductility to the cast metal.

c4d XGray ironY means a cast iron that gives a gray fracture due to the presence of flake graphite.

c5d XMalleable ironY which means a cast iron made by a prolonged anneal of white cast iron in which either decarburization or graphitization, or both, eliminate some or all of the cementite, and where graphite is present in the form of temper carbon.

c6d XMultiple ferrous melting furnace scrubber configurationY means a configuration where 2 or more discrete wet scrubbing devices are used in series in a single melting furnace exhaust gas stream.

c7d XPrimary metal castY means the metal that is poured in the greatest quantity at an individual plant.

c8d XSemi-wet scrubbing deviceY means a device to which water is added and totally evaporates prior to dry air pollution control.

c9d XSteelY means an iron-base alloy containing manganese, carbon at less than 1.2% by weight, and often other alloying elements.

History: Cr. Register, June, 1989, No. 402, eff. 7-1-89

NR 256.32 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter, including noncontinuous direct dischargers, shall achieve the following BPT effluent limitations. Grinding scrubber operations may not discharge process wastewater pollutants to waters of the state.

TABLE 39
FERROUS CASTING SUBCATEGORY
CASTING CLEANING OPERATIONS

BPT Effluent Limitations			Noncontinuous Direct Dischargers		
Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
	kg{1,000 kkg cpounds per million poundsd of metal poured		mg{l ^{c1d}	mg{l ^{c1d}	c ^{2d}
Copper cTd	0.0129	0.0071	0.29	0.16	0.0029
Lead cTd	0.0353	0.0174	0.79	0.39	0.0098
Zinc cTd	0.0656	0.025	1.47	0.56	0.0179
Oil & grease	1.34	0.446	30	10	0.223
TSS	1.7	0.67	38	15	0.446
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c5.33{xd where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of metal pouredd for a specific plant.

^{c2d} kg{1,000 kkg cpounds per million poundsd of metal poured.

^{c3d} Within the range of 7.0 to 10.0 to all times.

TABLE 40
FERROUS CASTING SUBCATEGORY
CASTING QUENCH OPERATIONS

BPT Effluent Limitations			Noncontinuous Direct Dischargers		
Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
	kg{1,000 kkg cpounds per million poundsd of metal poured		mg{l ^{c1d}	mg{l ^{c1d}	c ^{2d}
Copper cTd	0.0138	0.0076	0.29	0.16	0.0031
Lead cTd	0.0376	0.0185	0.79	0.39	0.0105
Zinc cTd	0.0699	0.0266	1.47	0.56	0.019
Oil & grease	1.43	0.476	30	10	0.238
TSS	1.81	0.713	38	15	0.476
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c5.7{xd where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of metal pouredd for a specific plant.

^{c2d} kg{1,000 kkg cpounds per million poundsd of metal poured.

^{c3d} Within the range of 7.0 to 10.0 to all times.

TABLE 41
FERROUS CASTING SUBCATEGORY
DUST COLLECTION SCRUBBER OPERATIONS

BPT Effluent Limitations			Noncontinuous Direct Dischargers		
Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
	kg{62.3 million Sm ³ cpounds per billion SCFd of air scrubbed		mg{l ^{c1d}	mg{l ^{c1d}	c ^{2d}
Copper cTd	0.218	0.12	0.29	0.16	0.0488
Lead cTd	0.593	0.293	0.79	0.39	0.165
Zinc cTd	1.1	0.421	1.47	0.56	0.3
Total phenols	0.656	0.225	0.86	0.3	0.15
Oil & grease	22.5	7.51	30	10	3.76
TSS	28.5	11.3	38	15	7.51
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c0.09{xd where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 SCF of air scrubbedd for a specific plant.

^{c2d} kg{62.3 million Sm³ cpounds per billion SCFd of air scrubbed.

^{c3d} Within the range of 7.0 to 10.0 to all times.

TABLE 42
FERROUS CASTING SUBCATEGORY
INVESTMENT CASTING

BPT Effluent Limitations					
Pollutant or pollutant property	BPT Effluent Limitations		Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
	kg { 1,000 kkg cpounds per million poundsd of metal poured		mg {l ^{c1d}	mg {l ^{c1d}	c ^{2d}
Copper cTd	3.19	1.76	0.29	0.16	0.716
Lead cTd	8.7	4.3	0.79	0.39	2.42
Zinc cTd	16.2	6.17	1.47	0.56	4.41
Oil & grease	330	110	30	10	55.1
TSS	419	165	38	15	110
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c1,320{x}d where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of metal pouredd for a specific plant.

^{c2d} kg { 1,000 kkg cpounds per million poundsd of metal poured.

^{c3d} Within the range of 7.0 to 10.0 at all times.

TABLE 43
FERROUS CASTING SUBCATEGORY
MELTING FURNACE SCRUBBER OPERATIONS^{c1d}

BPT Effluent Limitations					
Pollutant or pollutant property	BPT Effluent Limitations		Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
	kg { 62.3 million Sm ³ cpounds per billion SCFd of air scrubbed		mg {l ^{c1d}	mg {l ^{c1d}	c ^{2d}
Copper cTd	1.02	0.561	0.29	0.16	0.228
Lead cTd	2.77	1.37	0.79	0.39	0.771
Zinc cTd	5.15	1.96	1.47	0.56	1.4
Total phenols	3.01	1.05	0.86	0.3	0.701
Oil & grease	105	35	30	10	17.5
TSS	133	52.6	38	15	35
pH	c4d	c4d	c4d	c4d	c4d

^{c1d} In a multiple ferrous melting furnace scrubber configuration, each discrete wet scrubbing device with an associated wastewater discharge shall be given the mass allowance specified. The allowance will be identical for each device and based on the airflow of the exhaust gas stream that passes through the multiple scrubber configuration.

^{c2d} These concentrations shall be multiplied by the ratio of c0.42{x}d where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 SCF of air scrubbedd for a specific plant.

^{c3d} kg { 62.3 million Sm³ cpounds per billion SCFd of air scrubbed.

^{c4d} Within the range of 7.0 to 10.0 at all times.

TABLE 44
FERROUS CASTING SUBCATEGORY
MOLD COOLING OPERATIONS

BPT Effluent Limitations					
Pollutant or pollutant property	BPT Effluent Limitations		Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
	kg { 1,000 kkg cpounds per million poundsd of metal poured		mg {l ^{c1d}	mg {l ^{c1d}	c ^{2d}
Copper cTd	0.0428	0.0236	0.29	0.16	0.0096
Lead cTd	0.117	0.0576	0.79	0.39	0.0325
Zinc cTd	0.217	0.0827	1.47	0.56	0.0591
Oil & grease	4.43	1.48	30	10	0.738
TSS	5.61	2.22	38	15	1.48
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c17.7{x}d where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of metal pouredd for a specific plant.

^{c2d} kg { 1,000 kkg cpounds per million poundsd of metal poured.

^{c3d} Within the range of 7.0 to 10.0 at all times.

TABLE 45
FERROUS CASTING SUBCATEGORY
SLAG QUENCH OPERATIONS

BPT Effluent Limitations					
Pollutant or pollutant property	Maximum for any 1 day		Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
	kg{1,000 kkg cpounds per million poundsd of metal poured		mg{l ^{c1d}	mg{l ^{c1d}	c ^{2d}
Copper cTd	0.0527	0.0291	0.29	0.16	0.0118
Lead cTd	0.144	0.0709	0.79	0.39	0.04
Zinc cTd	0.267	0.102	1.47	0.56	0.0728
Oil & grease	5.46	1.82	30	10	0.909
TSS	6.91	2.73	38	15	1.82
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c21.8{x where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of metal pouredd for a specific plant.

^{c2d} kg{1,000 kkg cpounds per million poundsd of metal poured.

^{c3d} Within the range of 7.0 to 10.0 at all times.

TABLE 46
FERROUS CASTING SUBCATEGORY
WET SAND RECLAMATION OPERATIONS

BPT Effluent Limitations					
Pollutant or pollutant property	Maximum for any 1 day		Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
	kg{1,000 kkg cpounds per million poundsd of sand reclaimed		mg{l ^{c1d}	mg{l ^{c1d}	c ^{2d}
Copper cTd	0.217	0.12	0.29	0.16	0.0485
Lead cTd	0.59	0.291	0.79	0.39	0.164
Zinc cTd	1.1	0.418	1.47	0.56	0.299
Total phenols	0.642	0.224	0.86	0.3	0.149
Oil & grease	22.4	7.47	30	10	3.73
TSS	28.4	11.2	38	15	7.47
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c89.5{x where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of sand reclaimedd for a specific plant.

^{c2d} kg{1,000 kkg cpounds per million poundsd of sand reclaimed.

^{c3d} Within the range of 7.0 to 10.0 at all times.

History: Cr. Register, June, 1989, No. 402, eff. 7-1-89.

NR 256.33 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

c1d Any plant, including noncontinuous direct dischargers, which casts primarily malleable iron where metal poured is equal to or less than 3,557 tons per year or casts primarily steel, shall achieve the copper, lead, zinc, and total phenols effluent limitations contained in s. NR 256.32. Grinding scrubber opera-

tions may not discharge process wastewater pollutants to waters of the state.

c2d Except as provided in 40 CFR 125.30 to 125.32, any plant, including noncontinuous direct dischargers, which casts primarily malleable iron where metal poured is greater than 3,557 tons per year or casts primarily ductile or gray iron shall achieve the following BAT effluent limitations. Grinding scrubber operations may not discharge process wastewater pollutants to waters of the state.

TABLE 47
FERROUS CASTING SUBCATEGORY
CASTING CLEANING OPERATIONS

BAT Effluent Limitations					
Pollutant or pollutant property	Maximum for any 1 day		Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
	kg{1,000 kkg cpounds per million poundsd of metal poured		mg{l ^{c1d}	mg{l ^{c1d}	c ^{2d}
Copper cTd	0.0129	0.0071	0.29	0.16	0.0029
Lead cTd	0.0237	0.0116	0.53	0.26	0.0067
Zinc cTd	0.0437	0.0165	0.98	0.37	0.0116

^{c1d} These concentrations shall be multiplied by the ratio of c5.33{x where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of metal pouredd for a specific plant.

^{c2d} kg{1,000 kkg cpounds per million poundsd of metal poured.

TABLE 48
FERROUS CASTING SUBCATEGORY
CASTING QUENCH OPERATIONS

BAT Effluent Limitations					
			Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg{ 1,000 kkg cpounds per million poundsd of metal poured		mg{l ^{c1d}	mg{l ^{c1d}	c ^{2d}
Copper cTd	0.0138	0.0076	0.29	0.16	0.0031
Lead cTd	0.0252	0.0124	0.53	0.26	0.0071
Zinc cTd	0.0466	0.0176	0.98	0.37	0.0124

^{c1d} These concentrations shall be multiplied by the ratio of c5.7{x where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of metal pouredd for a specific plant.
^{c2d} kg{ 1,000 kkg cpounds per million poundsd of metal poured.

TABLE 49
FERROUS CASTING SUBCATEGORY
DUST COLLECTION SCRUBBER OPERATIONS

BAT Effluent Limitations					
			Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg{ 62.3 million Sm ³ SCFd of air scrubbed	cpounds per billion	mg{l ^{c1d}	mg{l ^{c1d}	c ^{2d}
Copper cTd	0.218	0.12	0.29	0.16	0.0488
Lead cTd	0.398	0.195	0.53	0.26	0.113
Zinc cTd	0.736	0.278	0.98	0.37	0.195
Total phenols	0.646	0.225	0.86	0.3	0.15

^{c1d} These concentrations shall be multiplied by the ratio of c0.09{x where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 SCF of air scrubbedd for a specific plant.
^{c2d} kg{62.3 million Sm³ cpounds per billion SCFd of air scrubbed.

TABLE 50
FERROUS CASTING SUBCATEGORY
INVESTMENT CASTING

BAT Effluent Limitations					
			Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg{ 1,000 kkg cpounds per million poundsd of metal poured		mg{l ^{c1d}	mg{l ^{c1d}	c ^{2d}
Copper cTd	3.19	1.76	0.29	0.16	0.716
Lead cTd	5.84	2.86	0.53	0.26	1.65
Zinc cTd	10.8	4.07	0.98	0.37	2.86

^{c1d} These concentrations shall be multiplied by the ratio of c1,320{x where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of metal pouredd for a specific plant.
^{c2d} kg{ 1,000 kkg cpounds per million poundsd of metal poured.

TABLE 51
FERROUS CASTING SUBCATEGORY
MELTING FURNACE SCRUBBER OPERATIONS^{c1d}

BAT Effluent Limitations					
Pollutant or pollutant property	BAT Effluent Limitations		Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
	kg{62.3 million Sm ³ SCFd of air scrubbed	cpounds per billion	mg{l ^{c1d}	mg{l ^{c1d}	c2d
Copper cTd	1.02	0.561	0.29	0.16	0.228
Lead cTd	1.86	0.911	0.53	0.26	0.526
Zinc cTd	3.44	1.3	0.98	0.37	0.911
Total phenols	3.01	1.05	0.86	0.3	0.701

^{c1d} In a multiple ferrous melting furnace scrubber configuration, each discrete wet scrubbing device with an associated wastewater discharge shall be given the mass allowance specified. The allowance will be identical for each device and based on the airflow of the exhaust gas stream that passes through the multiple scrubber configuration.

^{c2d} These concentrations shall be multiplied by the ratio of c0.42{x where x is the actual normalized process wastewater discharge flow in gallons per 1,000 SCF of air scrubbed for a specific plant.

^{c3d} kg{62.3 million Sm³ cpounds per billion SCFd of air scrubbed.

TABLE 52
FERROUS CASTING SUBCATEGORY
MOLD COOLING OPERATIONS

BAT Effluent Limitations					
Pollutant or pollutant property	BAT Effluent Limitations		Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
	kg{1,000 kkg poundsd of metal poured	cpounds per million	mg{l ^{c1d}	mg{l ^{c1d}	c2d
Copper cTd	0.0428	0.0236	0.29	0.16	0.0096
Lead cTd	0.0783	0.0384	0.53	0.26	0.0222
Zinc cTd	0.0145	0.0546	0.98	0.37	0.0384

^{c1d} These concentrations shall be multiplied by the ratio of c17.7{x where x is the actual normalized process wastewater discharge flow in gallons per 1,000 pounds of metal poured for a specific plant.

^{c2d} kg{1,000 kkg cpounds per million poundsd of metal poured.

TABLE 53
FERROUS CASTING SUBCATEGORY
SLAG QUENCH OPERATIONS

BAT Effluent Limitations					
Pollutant or pollutant property	BAT Effluent Limitations		Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
	kg{1,000 kkg poundsd of metal poured	cpounds per million	mg{l ^{c1d}	mg{l ^{c1d}	c2d
Copper cTd	0.0527	0.0291	0.29	0.16	0.0118
Lead cTd	0.0964	0.0473	0.53	0.26	0.0273
Zinc cTd	0.178	0.0673	0.98	0.37	0.0473

^{c1d} These concentrations shall be multiplied by the ratio of c21.8{x where x is the actual normalized process wastewater discharge flow in gallons per 1,000 pounds of metal poured for a specific plant.

^{c2d} kg{1,000 kkg cpounds per million poundsd of metal poured.

TABLE 54
FERROUS CASTING SUBCATEGORY
WET SAND RECLAMATION OPERATIONS

BAT Effluent Limitations					
			Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg{ 1,000 kkg cpounds per million poundsd of sand reclaimed		mg{l ^{c1d}	mg{l ^{c1d}	c ^{2d}
Copper cTd	0.217	0.12	0.29	0.16	0.0485
Lead cTd	0.396	0.194	0.53	0.26	0.112
Zinc cTd	0.732	0.276	0.98	0.37	0.194
Total phenols	0.642	0.224	0.86	0.3	0.149

^{c1d} These concentrations shall be multiplied by the ratio of c89.5{xd where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of sand reclaimedd for a specific plant.

^{c2d} kg{1,000 kkg cpounds per million poundsd of sand reclaimed.

History: Cr. Register, June, 1989, No. 402, eff. 7-1-89.

NR 256.34 New source performance standards.

c1d Any new source, including noncontinuous direct dischargers, which casts primarily malleable iron where metal poured is equal to or less than 3,557 tons per year or casts primarily steel shall achieve the effluent standards contained in s. NR 256.32. Grinding scrubber operations may not discharge process wastewater pollutants to navigable waters.

c2d Any new source, including noncontinuous direct dischargers, which casts primarily malleable iron where metal poured is greater than 3,557 tons per year or casts primarily ductile or gray iron shall achieve the following effluent standards. Grinding scrubber operations may not discharge process wastewater pollutants to waters of the state.

TABLE 55
FERROUS CASTING SUBCATEGORY
CASTING CLEANING OPERATIONS

NSPS					
			Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg{ 1,000 kkg cpounds per million poundsd of metal poured		mg{l ^{c1d}	mg{l ^{c1d}	c ^{2d}
Copper cTd	0.0129	0.0071	0.29	0.16	0.0029
Lead cTd	0.0237	0.0116	0.53	0.26	0.0067
Zinc cTd	0.0437	0.0165	0.98	0.37	0.0116
Oil & grease	1.34	0.446	30	10	0.223
TSS	0.67	0.536	15	12	0.116
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c5.33{xd where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of metal pouredd for a specific plant.

^{c2d} kg{1,000 kkg cpounds per million poundsd of metal poured.

^{c3d} Within the range of 7.0 to 10.0 to all times.

TABLE 56
FERROUS CASTING SUBCATEGORY
CASTING QUENCH OPERATIONS

NSPS					
			Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg{ 1,000 kkg cpounds per million poundsd of metal poured		mg{l ^{c1d}	mg{l ^{c1d}	c ^{2d}
Copper cTd	0.0138	0.0076	0.29	0.16	0.0031
Lead cTd	0.0252	0.0124	0.53	0.26	0.0071
Zinc cTd	0.0466	0.0176	0.98	0.37	0.0124
Oil & grease	1.43	0.476	30	10	0.238
TSS	0.713	0.571	15	12	0.124
pH	c3d	c3d	c3d	c3d	c3d

^{c1d}These concentrations shall be multiplied by the ratio of c5.7{xd where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of metal pouredd for a specific plant.

^{c2d}kg{ 1,000 kkg cpounds per million poundsd of metal poured.

^{c3d}Within the range of 7.0 to 10.0 to all times.

TABLE 57
FERROUS CASTING SUBCATEGORY
DUST COLLECTION SCRUBBER OPERATIONS

NSPS					
Pollutant or pollutant property	Maximum for any 1 day kg{62.3 million Sm ³ SCFd of air scrubbed	Maximum for monthly average cpounds per billion	Noncontinuous Direct Dischargers		
			Maximum for any 1 day mg{l ^{c1d}	Maximum for monthly average mg{l ^{c1d}	Annual average c2d
Copper cTd	0.218	0.12	0.29	0.16	0.0488
Lead cTd	0.398	0.195	0.53	0.26	0.113
Zinc cTd	0.736	0.278	0.98	0.37	0.195
Total phenols	0.646	0.225	0.86	0.3	0.15
Oil and grease	22.5	7.51	30	10	3.76
TSS	11.3	9.01	15	12	1.95
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c0.09{xd where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 SCF of air scrubbedd for a specific plant.

^{c2d} kg{62.3 million Sm³ cpounds per billion SCFd of air scrubbed.

^{c3d} Within the range of 7.0 to 10.0 at all times.

TABLE 58
FERROUS CASTING SUBCATEGORY
INVESTMENT CASTING

NSPS					
Pollutant or pollutant property	Maximum for any 1 day kg{1,000 kkg cpounds per million poundsd of metal poured	Maximum for monthly average cpounds per million	Noncontinuous Direct Dischargers		
			Maximum for any 1 day mg{l ^{c1d}	Maximum for monthly average mg{l ^{c1d}	Annual average c2d
Copper cTd	3.19	1.76	0.29	0.16	0.716
Lead cTd	5.84	2.86	0.53	0.26	1.65
Zinc cTd	10.8	4.07	0.98	0.37	2.86
Oil & grease	330	110	30	10	55.1
TSS	165	132	15	12	28.6
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c1.320{xd where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of metal pouredd for a specific plant.

^{c2d} kg{1,000 kkg cpounds per million poundsd of metal poured.

^{c3d} Within the range of 7.0 to 10.0 to all times.

TABLE 59
FERROUS CASTING SUBCATEGORY
MELTING FURNACE SCRUBBER OPERATIONS^{c1d}

NSPS					
Pollutant or pollutant property	Maximum for any 1 day kg{62.3 million Sm ³ SCFd of air scrubbed	Maximum for monthly average cpounds per billion	Noncontinuous Direct Dischargers		
			Maximum for any 1 day mg{l ^{c1d}	Maximum for monthly average mg{l ^{c1d}	Annual average c2d
Copper cTd	1.02	0.561	0.29	0.16	0.228
Lead cTd	1.86	0.911	0.53	0.26	0.526
Zinc cTd	3.44	1.30	0.98	0.37	0.911
Total phenols	3.01	1.05	0.86	0.3	0.701
Oil and grease	105	35	30	10	17.5
TSS	52.6	42.1	15	12	9.11
pH	c4d	c4d	c4d	c4d	c4d

^{c1d} In a multiple ferrous melting furnace scrubber configuration, each discrete wet scrubbing device with an associated wastewater discharge shall be given the mass allowance specified. The allowance will be identical for each device and based on the airflow of the exhaust gas stream that passes through the multiple scrubber configuration.

^{c2d} These concentrations shall be multiplied by the ratio of c0.42{xd where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 SCF of air scrubbedd for a specific plant.

^{c3d} kg{62.3 million Sm³ cpounds per billion SCFd of air scrubbed.

^{c4d} Within the range of 7.0 to 10.0 at all times.

TABLE 60
FERROUS CASTING SUBCATEGORY
MOLD COOLING OPERATIONS

NSPS					
Noncontinuous Direct Dischargers					
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg{1,000 kkg cpounds per million poundsd of metal poured		mg{l ^{c1d}	mg{l ^{c1d}	c ^{2d}
Copper cTd	0.0428	0.0236	0.29	0.16	0.0096
Lead cTd	0.0783	0.0384	0.53	0.26	0.0222
Zinc cTd	0.0145	0.0546	0.98	0.37	0.0384
Oil & grease	4.43	1.48	30	10	0.738
TSS	2.22	1.77	15	12	0.384
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c17.7{x where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of metal poured for a specific plant.

^{c2d} kg{1,000 kkg cpounds per million poundsd of metal poured.

^{c3d} Within the range of 7.0 to 10.0 to all times.

TABLE 61
FERROUS CASTING SUBCATEGORY
SLAG QUENCH OPERATIONS

NSPS					
Noncontinuous Direct Dischargers					
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg{1,000 kkg cpounds per million poundsd of metal poured		mg{l ^{c1d}	mg{l ^{c1d}	c ^{2d}
Copper cTd	0.0527	0.0291	0.29	0.16	0.0118
Lead cTd	0.0964	0.0473	0.53	0.26	0.0273
Zinc cTd	0.178	0.0673	0.98	0.37	0.0473
Oil & grease	5.46	1.82	30	10	0.909
TSS	2.73	2.18	15	12	0.473
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c21.8{x where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of metal poured for a specific plant.

^{c2d} kg{1,000 kkg cpounds per million poundsd of metal poured.

^{c3d} Within the range of 7.0 to 10.0 to all times.

TABLE 62
FERROUS CASTING SUBCATEGORY
WET SAND RECLAMATION OPERATIONS

NSPS					
Noncontinuous Direct Dischargers					
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg{1,000 kkg cpounds per million poundsd of sand reclaimed		mg{l ^{c1d}	mg{l ^{c1d}	c ^{2d}
Copper cTd	0.217	0.12	0.29	0.16	0.0485
Lead cTd	0.396	0.194	0.53	0.26	0.112
Zinc cTd	0.732	0.276	0.98	0.37	0.194
Total phenols	0.642	0.224	0.86	0.3	0.149
Oil & grease	22.4	7.47	30	10	3.73
TSS	11.2	8.96	15	12	1.94
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c89.5{x where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of sand reclaimed for a specific plant.

^{c2d} kg{1,000 kkg cpounds per million poundsd of sand reclaimed.

^{c3d} Within the range of 7.0 to 10.0 to all times.

History: Cr. Register, June, 1989, No. 402, eff. 7-17-89

NR 256.35 Pretreatment standard for existing sources. Except as provided in ss. NR 211.13 and 211.14, any existing source subject to this subchapter which introduces pollutants into a publicly owned treatment works shall comply with ch. NR 211 and achieve the following pretreatment standards for existing sources. Grinding scrubber operations may not discharge process wastewater pollutants to a POTW.

TABLE 63
FERROUS CASTING SUBCATEGORY
CASTING CLEANING OPERATIONS

PSES				
Pollutant or pollutant property	Maximum for any 1 day ^{c1d}	Maximum for monthly average ^{c1d}	Maximum for any 1 day ^{c2d}	Maximum for monthly average ^{c2d}
	kg{1,000 kkg cpounds per million poundsd of metal poured			
Copper cTd	0.0129	0.0071	0.0129	0.0071
Lead cTd	0.0237	0.0116	0.0353	0.0174
Zinc cTd	0.0437	0.0165	0.0656	0.025

^{c1d} Applies to plants which cast primarily ductile iron, primarily malleable iron where metal poured is greater than 3,557 tons per year, or primarily gray iron where metal poured is greater than 1,784 tons per year.

^{c2d} Applies to plants which cast primarily steel, primarily malleable iron where metal poured is equal to or less than 3,557 tons per year, or primarily gray iron where metal poured is equal to or less than 1,784 tons per year.

TABLE 64
FERROUS CASTING SUBCATEGORY
CASTING QUENCH OPERATIONS

PSES				
Pollutant or pollutant property	Maximum for any 1 day ^{c1d}	Maximum for monthly average ^{c1d}	Maximum for any 1 day ^{c2d}	Maximum for monthly average ^{c2d}
	kg{1,000 kkg cpounds per million poundsd of metal poured			
Copper cTd	0.0138	0.0076	0.0138	0.0076
Lead cTd	0.0252	0.0124	0.0376	0.0185
Zinc cTd	0.0466	0.0176	0.0699	0.0266
TTO ^{c3d}	0.0257	0.00838	0.0257	0.00838
Oil and grease ^{c4d}	1.43	0.476	1.43	0.476

^{c1d} Applies to plants which cast primarily ductile iron, primarily malleable iron where metal poured is greater than 3,557 tons per year, or primarily gray iron where metal poured is greater than 1,784 tons per year.

^{c2d} Applies to plants which cast primarily steel, primarily malleable iron where metal poured is equal to or less than 3,557 tons per year, or primarily gray iron where metal poured is equal to or less than 1,784 tons per year.

^{c3d} TTO is comprised of the following toxic organic pollutants
chloroform
trichloromethane
2,4-dimethylphenol

^{c4d} Use as alternative to monitoring for TTO.

TABLE 65
FERROUS CASTING SUBCATEGORY
DUST COLLECTION SCRUBBER OPERATIONS

PSES				
Pollutant or pollutant property	Maximum for any 1 day ^{c1d}	Maximum for monthly average ^{c1d}	Maximum for any 1 day ^{c2d}	Maximum for monthly average ^{c2d}
	kg{62.3 million Sm ³ cpounds per billion SCFd of air scrubbed			
Copper cTd	0.218	0.12	0.218	0.12
Lead cTd	0.398	0.195	0.593	0.293
Zinc cTd	0.736	0.278	1.1	0.421
Total phenols	0.646	0.225	0.656	0.225
TTO ^{c4d}	2.04	0.664	2.04	0.664
Oil and grease ^{c5d}	22.5	7.51	22.5	7.51

^{c1d} Applies to plants which cast primarily ductile iron, primarily malleable iron where metal poured is greater than 3,557 tons per year, or primarily gray iron where metal poured is greater than 1,784 tons per year.

^{c2d} Applies to plants which cast primarily steel, primarily malleable iron where metal poured is equal to or less than 3,557 tons per year, or primarily gray iron where metal poured is equal to or less than 1,784 tons per year.

^{c3d} TTO is comprised of the following toxic organic pollutants

acenaphthene
chloroform ctrichloromethaned
2,4-dichlorophenol
2,4-dimethylphenol
fluoranthene
methylene chloride cdichloromethaned
naphthalene
pentachlorophenol
phenol
bis c2-ethylhexyld phthalate
butyl benzyl phthalate
di-n-butyl phthalate
diethyl phthalate
benzo cadanthracene c1,2-benzanthracened
chrysene
acenaphthylene
anthracene
flourene
phenanthrene
pyrene

^{c4d} Use as alternative to monitoring for TTO.

TABLE 66
FERROUS CASTING SUBCATEGORY
INVESTMENT CASTING

PSES				
Pollutant or pollutant property	Maximum for any 1 day ^{c1d}	Maximum for monthly average ^{c1d}	Maximum for any 1 day ^{c2d}	Maximum for monthly average ^{c2d}
	kg{1,000 kkg cpounds per million poundsd of metal poured			
Copper cTd	3.19	1.76	3.19	1.76
Lead cTd	5.84	2.86	8.7	4.3
Zinc cTd	10.8	4.07	16.2	6.17
TTO ^{c3d}	13.2	4.3	13.2	4.3
Oil and grease ^{c4d}	330	110	330	110

^{c1d} Applies to plants which cast primarily ductile iron, primarily malleable iron where metal poured is greater than 3,557 tons per year, or primarily gray iron where metal poured is greater than 1,784 tons per year.

^{c2d} Applies to plants which cast primarily steel, primarily malleable iron where metal poured is equal to or less than 3,557 tons per year, or primarily gray iron where metal poured is equal to or less than 1,784 tons per year.

^{c3d} TTO is comprised of the following toxic organic pollutants:

chloroform ctrichloromethaned
methylene chloride cdichloromethaned
bis c2-ethylhexyld phthalate
acenaphthylene
pyrene

^{c4d} Use as alternative to monitoring for TTO.

TABLE 67
FERROUS CASTING SUBCATEGORY
MELTING FURNACE SCRUBBER OPERATIONS^{c1d}

Pollutant or pollutant property	PSES			
	Maximum for any 1 day ^{c1d}	Maximum for monthly average ^{c1d}	Maximum for any 1 day ^{c2d}	Maximum for monthly average ^{c2d}
	kg{ 62.3 million Sm ³ cpounds per billion SCFd of air scrubbed			
Copper cTd	1.02	0.561	1.02	0.561
Lead cTd	1.86	0.911	2.77	1.37
Zinc cTd	3.44	1.30	5.15	1.96
Total phenols	3.01	1.05	3.01	1.05
TTO ^{c3d}	8.34	2.73	8.34	2.73
Oil and grease ^{c5d}	105	35	105	35

^{c1d} In a multiple ferrous melting furnace scrubber configuration, each discrete wet scrubbing device with an associated wastewater discharge shall be given the mass allowance specified. The allowance will be identical for each device and based on the airflow of the exhaust gas stream that passes through the multiple scrubber configuration.

^{c2d} Applies to plants which cast primarily ductile iron, primarily malleable iron where metal poured is greater than 3,557 tons per year, or primarily gray iron where metal poured is greater than 1,784 tons per year.

^{c3d} Applies to plants which cast primarily steel, primarily malleable iron where metal poured is equal to or less than 3,557 tons per year, or primarily gray iron where metal poured is equal to or less than 1,784 tons per year.

^{c3d} TTO is comprised of the following toxic organic pollutants:

chloroform
trichloromethane
2,4-dichlorophenol
2,4-dimethylphenol
fluoranthene
methylene chloride
dichloromethane
naphthalene
phenol
bis (2-ethylhexyl) phthalate
butyl benzyl phthalate
di-n-butyl phthalate
benzo cadanthracene
1,2-benzanthracene
chrysene
acenaphthylene
anthracene
fluorene
phenanthrene
pyrene

^{c4d} Use as alternative to monitoring for TTO.

TABLE 68
FERROUS CASTING SUBCATEGORY
MOLD COOLING OPERATIONS

Pollutant or pollutant property	PSES			
	Maximum for any 1 day ^{c1d}	Maximum for monthly average ^{c1d}	Maximum for any 1 day ^{c2d}	Maximum for monthly average ^{c2d}
	kg{ 1,000 kkg cpounds per million poundsd of metal poured			
Copper cTd	0.0428	0.0236	0.0428	0.0236
Lead cTd	0.0783	0.0384	0.117	0.0576
Zinc cTd	0.145	0.0546	0.217	0.0827
TTO ^{c3d}	0.0797	0.026	0.0797	0.026
Oil and grease ^{c4d}	4.43	1.48	4.43	1.48

^{c1d} Applies to plants which cast primarily ductile iron, primarily malleable iron where metal poured is greater than 3,557 tons per year, or primarily gray iron where metal poured is greater than 1,784 tons per year.

^{c2d} Applies to plants which cast primarily steel, primarily malleable iron where metal poured is equal to or less than 3,557 tons per year, or primarily gray iron where metal poured is equal to or less than 1,784 tons per year.

^{c3d} TTO is comprised of the following toxic organic pollutants:

chloroform
trichloromethane
2,4-dimethylphenol

^{c4d} Use as alternative to monitoring for TTO.

TABLE 69
FERROUS CASTING SUBCATEGORY
SLAG QUENCH OPERATIONS

Pollutant or pollutant property	PSES			
	Maximum for any 1 day ^{c1d}	Maximum for monthly average ^{c1d}	Maximum for any 1 day ^{c2d}	Maximum for monthly average ^{c2d}
	kg{ 1,000 kkg cpounds per million poundsd of metal poured			
Copper cTd	0.0527	0.0291	0.0527	0.0291
Lead cTd	0.0964	0.0473	0.144	0.0709
Zinc cTd	0.178	0.0673	0.267	0.102
TTO ^{c3d}	0.0257	0.00838	0.0257	0.00838
Oil and grease ^{c4d}	5.46	1.82	5.46	1.82

^{c1d} Applies to plants which cast primarily ductile iron, primarily malleable iron where metal poured is greater than 3,557 tons per year, or primarily gray iron where metal poured is greater than 1,784 tons per year.

^{c2d} Applies to plants which cast primarily steel, primarily malleable iron where metal poured is equal to or less than 3,557 tons per year, or primarily gray iron where metal poured is equal to or less than 1,784 tons per year.

^{c3d} TTO is comprised of the following toxic organic pollutants:
2,4-dimethylphenol
dimethyl phthalate

^{c4d} Use as alternative to monitoring for TTO.

TABLE 70
FERROUS CASTING SUBCATEGORY
WET SAND RECLAMATION OPERATIONS

Pollutant or pollutant property	PSES			
	Maximum for any 1 day ^{c1d}	Maximum for monthly average ^{c1d}	Maximum for any 1 day ^{c2d}	Maximum for monthly average ^{c2d}
	kg{ 1,000 kkg cpounds per million poundsd of sand reclaimed			
Copper cTd	0.217	0.12	0.217	0.12
Lead cTd	0.396	0.194	0.59	0.291
Zinc cTd	0.732	0.276	1.1	0.418
Total phenols	0.642	0.224	0.642	0.224
TTO ^{c3d}	1.18	0.386	1.18	0.386
Oil and grease ^{c4d}	22.4	7.47	22.4	7.47

^{c1d} Applies to plants which cast primarily ductile iron, primarily malleable iron where metal poured is greater than 3,557 tons per year, or primarily gray iron where metal poured is greater than 1,784 tons per year.

^{c2d} Applies to plants which cast primarily steel, primarily malleable iron where metal poured is equal to or less than 3,557 tons per year, or primarily gray iron where metal poured is equal to or less than 1,784 tons per year.

^{c3d} TTO is comprised of the following toxic organic pollutants:
acenaphthene
2,4-dimethylphenol
fluoranthene
methylene chloride cdichloromethaned
naphthalene
phenol
bis c2-ethylhexyld phthalate
di-n-butyl phthalate
diethyl phthalate
dimethyl phthalate
benzocanthracene c1,2-benzanthracened
acenaphthylene
pyrene

^{c4d} Use as alternative to monitoring for TTO.

History: Cr. Register, June, 1989, No. 402, eff. 7-1-89

NR 256.36 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into publicly owned treatment works shall comply with ch. NR 211 and achieve the pretreatment standards contained in s. NR 256.35. Grinding scrubber operations may not discharge process wastewater pollutants to a POTW.

History: Cr. Register, June, 1989, No. 402, eff. 7-1-89,

Subchapter IV — Zinc Casting Subcategory

NR 256.40 Applicability; description of the zinc casting subcategory. c1d This subchapter applies to discharges to waters of the state and to introductions of pollutants into publicly owned treatment works from zinc casting operations. It applies to a production process if the molten metal contains, on average, greater than 50% by weight of zinc or if zinc comprises the greatest percentage of the metal, measured by weight.

c2d This subchapter does not apply to the casting of ingots, pigs or other cast shapes following primary metal smelting, which

is regulated by the nonferrous metals manufacturing point source category under [40 CFR Part 421](#). This subchapter does not apply to the casting of zinc performed as an integral part of zinc forming and conducted on-site at a zinc forming plant, which is regulated by the nonferrous metals forming point source category under [40 CFR Part 471](#).

c3d Processing operations following the cooling of castings, except for grinding scrubber operations, may be regulated by nonferrous metals forming point source category under [40 CFR Part 471](#), electroplating point source category under [ch. NR 260](#), or metal finishing point source category under [ch. NR 261](#).

History: Cr. Register, June, 1989, No. 402, eff. 7-1-89.

NR 256.42 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. Except as provided in [40 CFR 125.30](#) to [125.32](#), any existing point source subject to this subchapter, including noncontinuous direct dischargers, shall achieve the following BPT effluent limitations:

TABLE 71
ZINC CASTING SUBCATEGORY
CASTING QUENCH OPERATIONS

	BPT Effluent Limitations		Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg { 1,000 kkg c pounds per million poundsd of metal poured		mg {l ^{c1d}	mg {l ^{c1d}	c ^{2d}
Copper cTd	0.0344	0.0187	0.77	0.42	0.0076
Lead cTd	0.0353	0.0174	0.79	0.39	0.0098
Zinc cTd	0.0509	0.0192	1.14	0.43	0.0121
Oil & grease	1.34	0.446	30	10	0.223
TSS	1.7	0.67	38	15	0.446
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of $c5.35\{x$ where x is the actual normalized process wastewater discharge flow in gallons per 1,000 pounds of metal pouredd for a specific plant.

^{c2d} kg { 1,000 kkg c pounds per million poundsd of metal poured

^{c3d} Within the range of 7.0 to 10.0 at all times

TABLE 72
ZINC CASTING SUBCATEGORY
DIE CASTING OPERATIONS

	BPT Effluent Limitations		Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg { 1,000 kkg c pounds per million poundsd of metal poured		mg {l ^{c1d}	mg {l ^{c1d}	c ^{2d}
Copper cTd	0.0066	0.0036	0.77	0.42	0.0015
Lead cTd	0.0068	0.0034	0.79	0.39	0.0019
Zinc cTd	0.0098	0.0037	1.14	0.43	0.0023
Total phenols	0.0074	0.0026	0.86	0.3	0.0017
Oil & grease	0.259	0.0864	30	10	0.0432
TSS	0.328	0.13	38	15	0.0864
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of $c1.04\{x$ where x is the actual normalized process wastewater discharge flow in gallons per 1,000 pounds of metal pouredd for a specific plant.

^{c2d} kg { 1,000 kkg c pounds per million poundsd of metal poured

^{c3d} Within the range of 7.0 to 10.0 at all times

TABLE 73
ZINC CASTING SUBCATEGORY
MELTING FURNACE SCRUBBER OPERATIONS

BPT Effluent Limitations			Noncontinuous Direct Dischargers		
Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
	kg { 62.3 million Sm ³ SCF of air scrubbed	cpounds per billion	mg {l ^{c1d}	mg {l ^{c1d}	c2d
Copper cTd	1.56	0.852	0.77	0.42	0.345
Lead cTd	1.6	0.791	0.79	0.39	0.446
Zinc cTd	2.31	0.872	1.14	0.43	0.548
Total phenols	1.74	0.608	0.86	0.3	0.406
Oil & grease	60.8	20.3	30	10	10.1
TSS	77.1	30.4	38	15	20.3
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c0.243{x where x is the actual normalized process wastewater discharge flow in gallons per 1,000 SCF of air scrubbed for a specific plant.

^{c2d} kg { 62.3 million Sm³ cpounds per billion SCFd of air scrubbed

^{c3d} Within the range of 7.0 to 10.0 at all times

TABLE 74
ZINC CASTING SUBCATEGORY
MOLD COOLING OPERATIONS

BPT Effluent Limitations			Noncontinuous Direct Dischargers		
Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
	kg { 1,000 kkg cpounds per million poundsd of metal poured		mg {l ^{c1d}	mg {l ^{c1d}	c2d
Copper cTd	0.304	0.166	0.77	0.42	0.067
Lead cTd	0.311	0.154	0.79	0.39	0.0867
Zinc cTd	0.449	0.17	1.14	0.43	0.106
Oil & grease	11.8	3.94	30	10	1.97
TSS	15	5.91	38	15	3.94
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c47.3{x where x is the actual normalized process wastewater discharge flow in gallons per 1,000 pounds of metal pouredd for a specific plant.

^{c2d} kg { 1,000 kkg cpounds per million poundsd of metal poured

^{c3d} Within the range of 7.0 to 10.0 at all times

History: Cr. Register, June, 1989, No. 402, eff. 7-1-89.

NR 256.43 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter, including noncontinuous direct dischargers, shall achieve the following BAT effluent limitations:

TABLE 75
ZINC CASTING SUBCATEGORY
CASTING QUENCH OPERATIONS

BAT Effluent Limitations			Noncontinuous Direct Dischargers		
Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
	kg { 1,000 kkg cpounds per million poundsd of metal poured		mg {l ^{c1d}	mg {l ^{c1d}	c2d
Copper cTd	0.0334	0.0187	0.77	0.42	0.0076
Lead cTd	0.0237	0.0116	0.53	0.26	0.0067
Zinc cTd	0.0339	0.0129	0.76	0.29	0.008

^{c1d} These concentrations shall be multiplied by the ratio of c5.34{x where x is the actual normalized process wastewater discharge flow in gallons per 1,000 pounds of metal pouredd for a specific plant.

^{c2d} kg { 1,000 kkg cpounds per million poundsd of metal poured

TABLE 76
ZINC CASTING SUBCATEGORY
DIE CASTING OPERATIONS

BAT Effluent Limitations					
			Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg{ 1,000 kkg cpounds per million poundsd of metal poured		mg{l ^{c1d}	mg{l ^{c1d}	c ^{2d}
Copper cTd	0.0066	0.0036	0.77	0.42	0.0015
Lead cTd	0.0046	0.0022	0.53	0.26	0.0013
Zinc cTd	0.0066	0.0025	0.76	0.29	0.0016
Total phenols	0.0074	0.0026	0.86	0.3	0.0017

^{c1d} These concentrations shall be multiplied by the ratio of c1.04{x where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of metal pouredd for a specific plant.

^{c2d} kg{ 1,000 kkg cpounds per million poundsd of metal poured.

TABLE 77
ZINC CASTING SUBCATEGORY
MELTING FURNACE SCRUBBER OPERATIONS

BAT Effluent Limitations					
			Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg{ 62.3 million Sm ³ cpounds per billion SCFd of air scrubbed		mg{l ^{c1d}	mg{l ^{c1d}	c ^{2d}
Copper cTd	1.56	0.852	0.77	0.42	0.345
Lead cTd	1.07	0.527	0.53	0.26	0.304
Zinc cTd	1.54	0.588	0.76	0.29	0.365
Total phenols	1.74	0.608	0.86	0.3	0.406

^{c1d} These concentrations shall be multiplied by the ratio of c0.243{x where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 SCF of air scrubbedd for a specific plant.

^{c2d} kg{ 62.3 million Sm³ cpounds per billion SCFd of air scrubbed.

TABLE 78
ZINC CASTING SUBCATEGORY
MOLD COOLING OPERATIONS

BAT Effluent Limitations					
			Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg{ 1,000 kkg cpounds per million poundsd of metal poured		mg{l ^{c1d}	mg{l ^{c1d}	c ^{2d}
Copper cTd	0.304	0.166	0.77	0.42	0.067
Lead cTd	0.209	0.103	0.53	0.26	0.0591
Zinc cTd	0.3	0.114	0.76	0.29	0.071

^{c1d} These concentrations shall be multiplied by the ratio of c47.3{x where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of metal pouredd for a specific plant.

^{c2d} kg{ 1,000 kkg cpounds per million poundsd of metal poured.

History: Cr. Register, June, 1989, No. 402, eff. 7-1-89.

NR 256.44 New source performance standards. Any new source subject to this subchapter, including noncontinuous direct dischargers, shall achieve the following standards:

TABLE 79
ZINC CASTING SUBCATEGORY
CASTING QUENCH OPERATIONS

NSPS					
Pollutant or pollutant property	NSPS		Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
	kg { 1,000 kkg cpounds per million poundsd of metal poured		mg {l ^{c1d}	mg {l ^{c1d}	c2d
Copper cTd	0.0344	0.0187	0.77	0.42	0.0076
Lead cTd	0.0237	0.0116	0.53	0.26	0.0067
Zinc cTd	0.0339	0.0129	0.76	0.29	0.008
Oil & grease	1.34	0.446	30	10	0.223
TSS	0.67	0.536	15	12	0.116
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c5.34{x where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of metal pouredd for a specific plant.

^{c2d} kg{ 1,000 kkg cpounds per million poundsd of metal poured

^{c3d} Within the range of 7.0 to 10.0 at all times

TABLE 80
ZINC CASTING SUBCATEGORY
DIE CASTING OPERATIONS

NSPS					
Pollutant or pollutant property	NSPS		Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
	kg { 1,000 kkg cpounds per million poundsd of metal poured		mg {l ^{c1d}	mg {l ^{c1d}	c2d
Copper cTd	0.0066	0.0036	0.77	0.42	0.0015
Lead cTd	0.0046	0.0022	0.53	0.26	0.0013
Zinc cTd	0.0066	0.0025	0.76	0.29	0.0016
Total phenols	0.0074	0.0026	0.86	0.3	0.0017
Oil & grease	0.259	0.0864	30	10	0.0432
TSS	0.13	0.104	15	12	0.0225
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c1.04{x where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of metal pouredd for a specific plant.

^{c2d} kg{ 1,000 kkg cpounds per million poundsd of metal poured

^{c3d} Within the range of 7.0 to 10.0 at all times

TABLE 81
ZINC CASTING SUBCATEGORY
MELTING FURNACE SCRUBBER OPERATIONS

NSPS					
Pollutant or pollutant property	NSPS		Noncontinuous Direct Dischargers		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
	kg { 62.3 million Sm ³ cpounds per billion SCFd of air scrubbed		mg {l ^{c1d}	mg {l ^{c1d}	c2d
Copper cTd	1.56	0.852	0.77	0.42	0.345
Lead cTd	1.07	0.527	0.53	0.26	0.304
Zinc cTd	1.54	0.588	0.76	0.29	0.365
Total phenols	1.74	0.608	0.86	0.3	0.406
Oil & grease	60.8	20.3	30	10	10.1
TSS	30.4	24.3	15	12	5.27
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c0.243{x where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 SCF of air scrubbedd for a specific plant.

^{c2d} kg{ 62.3 million Sm³ cpounds per billion SCFd of air scrubbed

^{c3d} Within the range of 7.0 to 10.0 at all times

TABLE 82
ZINC CASTING SUBCATEGORY
MOLD COOLING OPERATIONS

NSPS					
Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
	kg{ 1,000 kkg cpounds per million poundsd of metal poured		mg{l ^{c1d}	mg{l ^{c1d}	c ^{2d}
Copper cTd	0.304	0.166	0.77	0.42	0.067
Lead cTd	0.209	0.103	0.53	0.26	0.0591
Zinc cTd	0.3	0.114	0.76	0.29	0.071
Oil & grease	11.8	3.94	30	10	1.97
TSS	5.91	4.73	15	12	1.03
pH	c3d	c3d	c3d	c3d	c3d

^{c1d} These concentrations shall be multiplied by the ratio of c47.3{x where x is the actual normalized process wastewater discharge flow cin gallons per 1,000 pounds of metal pouredd for a specific plant.

^{c2d} kg{ 1,000 kkg cpounds per million poundsd of metal poured

^{c3d} Within the range of 7.0 to 10.0 at all times

History: Cr. Register, June, 1989, No. 402, eff. 7-1-89.

NR 256.45 Pretreatment standards for existing sources. Except as provided in ss. NR 211.13 and 211.14 any existing source subject to this subchapter which introduces pollutants into a publicly owned treatment works shall comply with ch. NR 211 and achieve the following pretreatment for existing sources:

TABLE 83
ZINC CASTING SUBCATEGORY
CASTING QUENCH OPERATIONS

PSES		
Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg{ 1,000 kkg cpounds per million poundsd of metal poured	
Copper cTd	0.0344	0.0187
Lead cTd	0.0237	0.0116
Zinc cTd	0.0339	0.0129
TTO ^{c1d}	0.093	0.0304
Oil and grease ^{c2d}	1.34	0.446

^{c2d} TTO is comprised of the following toxic organic pollutants:

- 2,4,6-trichlorophenol
- para-chloro meta-cresol
- 2,4-dichlorophenol
- 2,4-dimethylphenol
- fluoranthene
- methylene chloride cdichloromethaned
- phenol
- bisc2-ethylhexyld phthalate
- di-n-butyl phthalate
- diethyl phthalate
- tetrachloroethylene

^{c2d} Use as alternative to monitoring for TTO.

TABLE 84
ZINC CASTING SUBCATEGORY
DIE CASTING OPERATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg{ 1,000 kkg cpounds per million poundsd of metal poured	
Copper cTd	0.0066	0.0036
Lead cTd	0.0046	0.0022
Zinc cTd	0.0066	0.0025
Total phenols	0.0074	0.0026
TTO ^{c1d}	0.0196	0.0064
Oil and grease ^{c2d}	0.259	0.0864

^{c1d} TTO is comprised of the following toxic organic pollutants:

- acenaphthene
- 2,4,6-trichlorophenol
- para-chloro meta-cresol
- 2-chlorophenol
- 2,4-dimethylphenol
- methylene chloride cdichloromethaned
- naphthalene
- phenol
- bisc2-ethylhexyld phthalate
- di-n-butyl phthalate
- diethyl phthalate
- tetrachloroethylene
- toluene
- trichloroethylene

^{c2d} Use as alternative to monitoring for TTO.

TABLE 85
ZINC CASTING SUBCATEGORY
MELTING FURNACE SCRUBBER OPERATIONS
PSES

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	kg (62.3 million Sm ³ cpounds per billion SCFd of air scrubbed)	
Copper cTd	1.56	0.852
Lead cTd	1.07	0.527
Zinc cTd	1.54	0.588
Total phenols	1.74	0.608
TTO ^{c1d}	3.95	1.29
Oil and grease ^{c2d}	60.8	20.3

^{c1d} TTO is comprised of the following toxic organic pollutants:
2,4-dichlorophenol
2,4-dimethylphenol
fluoranthene
methylene chloride
dichloromethane
naphthalene
phenol
bisc2-ethylhexyld phthalate
di-n-butyl phthalate
tetrachloroethylene
toluene
trichloroethylene

^{c2d} Use as alternative to monitoring for TTO

TABLE 86
ZINC CASTING SUBCATEGORY
MOLD COOLING OPERATIONS
PSES

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	kg (1,000 kkg cpounds per million poundsd of metal poured)	
Copper cTd	0.304	0.166
Lead cTd	0.209	0.103
Zinc cTd	0.3	0.114
TTO ^{c1d}	0.821	0.268
Oil and grease ^{c2d}	11.8	3.94.

^{c1d} TTO is comprised of the toxic organic pollutants listed in Table 83.

^{c2d} Use as alternative to monitoring for TTO

History: Cr. Register, June, 1989, No. 402, eff. 7-1-89.

NR 256.46 Pretreatment standards for new sources. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into publicly owned treatment works shall comply with ch. NR 211 and achieve the pretreatment standards contained in s. NR 256.45.

History: Cr. Register, June, 1989, No. 402, eff. 7-1-89.

Note: The citations of the Wisconsin administrative code correspond to provisions of the code of federal regulations as cross-referenced in the following table:

State Code Section	Corresponding Federal Regulation
ch. NR 256	40 CFR Part 464
s. NR 205.03	40 CFR 401.11
s. NR 205.04	40 CFR 401.11
ch. NR 211	40 CFR Part 403
s. NR 211.03	40 CFR 403.3
s. NR 211.13	40 CFR 493.7
s. NR 211.03	40 CFR 403.13
ch. NR 219	40 CFR Part 136
ch. NR 260	40 CFR Part 413
ch. NR 261	40 CFR Part 433