

3. No person shall cause or allow the emission of carbon monoxide into the atmosphere from each fuel combustion emission unit to exceed 200 ppm in accordance with 35 Ill. Adm. Code 216.121.
4. Organic liquid by-products or waste materials shall not be used in any fuel combustion emission source without written approval from the Illinois EPA.
5. The Illinois EPA shall be allowed to sample all fuels stored at the above location.
6. The Permittee shall notify the Illinois EPA prior to any change in the type of fuel used at the source.
7. Natural gas shall be the only fuel used at the plant.
8. Emissions from housing painting operation, filament bearing solvent, and solvent cleaning and rust preventive coating shall not exceed the following limits:

a. Housing Painting Operation:

	Usage (Gallons)		VOM Content	Emissions	
	<u>(Monthly)</u>	<u>(Yearly)</u>	<u>(Lbs VOC/Gal)</u>	<u>(Lb/Mo)</u>	<u>(T/Yr)</u>
Paint	817	4,900	1.96	1,598	4.80

This limit is based on VOM content of material and material balance as provided in the permit application.

b. Filamet Bearing Solvent:

	Usage		VOM Content	Emissions	
	<u>(Monthly)</u>	<u>(Yearly)</u>	<u>(Lbs VOC/lb)</u>	<u>(Lb/Mo)</u>	<u>(T/Yr)</u>
Resin	26,666 lbs	160,000 lbs	0.018 lbs VOC/lb	480.0	1.44
Isopropyl Alochol	26 gallons	160 gallons	6.56 lbs VOC/gal	170.0	0.52
Toluene	5.0 gallons	30 gallons	7.25 lbs VOC/gal	36.0	0.11
DiBasic Ester	60 gallons	360 gallons	9.20 lbs VOC/gal	552.0	1.6
Dow 20	10 gallons	60 gallons	3.98 lbs VOC/gal	40.0	0.12

This limit is based on maximum material usage, maximum VOM content of material and material balance as provided in permit application.

c. This permit is issued based on emissions of volatile organic material (VOM) from the filament bearing operation not exceeding 8 lb/hour pursuant to 35 Ill. Adm. Code 218.301.

d. Solvent cleaning and Rust Preventive Coatings:

i. Combined VOM emissions from rust preventive coatings and cleanup solvents shall not exceed 4,133 lbs/month and 12.4 tons/year. These limits are based on actual rust preventive and solvent usage, waste rust preventive and waste solvent sent off-site for recycling, and material balance as indicated in permit application.

ii.

<u>Material Usage</u>	<u>Annual Usage (Gallons)</u>	<u>VOM Content (Lbs VOM/Gal)</u>	<u>Emissions (Tons/Year)</u>
Rust Preventive Coatings	1,923	1.56	1.5
Clean-Up Solvent	7,000	2.31	8.1
	850	6.6	2.8
	9	7.26	0.04

iii. Usage and emissions of methanol shall not exceed 150 lb/month and 0.45 tons/year.

e. Compliance with annual limit shall be determined on a monthly basis from the sum of data for current month plus the preceding 11 months.

f. The Permittee shall comply with all operating requirements of 35 Ill. Adm. Code 218.182, including not using cold cleaning solvents with a vapor pressure exceeding 1 mmHg at 68°F.

9. This permit is issued based on negligible emissions of particulate matter from filament bearing operation, heat treating operation, plating operation, and housing painting operation. For this purpose particulate emissions from each emission source shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 tons/year.

10. The emissions of Hazardous Air Pollutants (HAP) as listed in Section 112(b) of the Clean Air Act shall be less than 10 tons/year of any single HAP and 25 tons/year of any combination of such HAPs. As a result of this condition, this permit is issued based on the emissions of all HAPs from this source not triggering the requirements to obtain a Clean Air Act Permit Program Permit (CAAPP), and Section 112(G) of the Clean Air Act.

11. Coatings on an as applied basis shall not exceed 2.8 lb VOC/gallon less water per 35 Ill. Adm. Code 218.204(j)(4)(B) for electrostatic spray booth and hand spray booth.

- 12a. The Permittee shall maintain monthly records of the following items:
 - i. Natural gas usage (10^6 scf/month and 10^6 scf/year).
- b. Permittee shall maintain the following records for the housing painting operation:
 - i. Paint usage (gallons/month and gallons/year).
 - ii. VOM content of paints (lbs VOM/gallon).
 - iii. VOM emissions calculated from paint usage and VOM content of paint.
- c. Permittee shall maintain the following records for the filamet bearing operation:
 - i. Resin usage (lbs/month and lbs/year).
 - ii. VOM content of resin (lbs VOM/lbs resin).
 - iii. Isopropyl alcohol, toluene, dow 20, and dibasic ester usage (gallons/month and gallons/year).
 - iv. VOM content of isopropyl alcohol, toluene, dow 20, and dibasic ester (lbs VOM/gallon).
 - v. VOM emissions from material usage and VOM content of material.
- d. Permittee shall maintain the following records for the rust preventive coatings and solvent cold cleaning:
 - i. Rust preventive and solvent cold cleaning (gallons/month and gallons/year).
 - ii. VOM contents of rust preventive coatings and cold cleaning solvents (lbs/gallon).
 - iii. Waste generated for recycling (gallons/month and gallons/year).
 - iv. VOM content of waste sent offsite for recycling (lbs VOM/gallon) using IEPA Method 24.
 - v. VOM emissions using material usage, VOM content and solvent generated for recycling.
13. The vapor degreaser shall comply with the requirements of 35 Ill. Adm. Code 218.183.
- 14a. The halogenated solvent cleaning machine(s) are subject to 40 CFR part 63, Subpart T - National Emission Standards for Halogenated Solvent Cleaning. The Illinois EPA is administering this regulation in Illinois on behalf of the United States EPA under a delegation

agreement. The United States EPA issued this final rule on December 2, 1994.

- b. The Permittee must be in compliance with 40 CFR Part 63, Subpart T - National Emission Standards for Halogenated Solvent Cleaning on or before December 2, 1997.
- c. Maintain a log of solvent additions and deletions for each solvent cleaning machine.
- d. Pursuant to 40 CFR Part 63.465(b), the Permittee shall on the first operating day of every month ensure that the solvent cleaning machine system contains only clean liquid solvent. This includes, but is not limited to, fresh unused solvent, recycled solvent and used solvent that has been cleaned of soils. A fill line must be indicated during the first month the measurements are made. The solvent level within the machine must be returned to the same fill-line each month, immediately prior to calculating monthly emissions. The solvent cleaning machine does not have to be emptied and filled with fresh unused solvent prior to the calculations.
- e. Pursuant to 40 CFR Part 63.465(c), the Permittee shall on the first operating day of the month comply with the following requirements:
 - i. Using the records of all solvents additions and deletions for the previous monthly reporting period, determine solvent emissions (E) using the equation in Condition 15(b).
 - ii. Determine SSR, using the following method:
 - A. From test conducted using EPA reference method 25d.
 - B. By engineering calculations included in the compliance report.
 - iii. Determine monthly rolling average, EA, for the 3-month period ending with the most recent reporting periods using the following equation:

$$EA_i = \frac{\sum_{j=1}^3 E_i}{3}$$

Where: EA_i = the average halogenated HAP solvent emissions over the preceding 3 monthly reporting periods, (pounds of solvent per square feet of solvent/air interface area per month).

j=1 = the most recent monthly reporting period.

- j=2 = the monthly reporting period immediately prior to j=1.
- j=3 = the monthly reporting period immediately prior to j=2.

15a. The emissions and operation of each solvent cleaning machine shall not exceed the following limits, pursuant to 40 CFR Part 63.464(a)(1):

<u>Type of Machine</u>	<u>Solvent-air interface Area (Ft²)</u>	<u>Organic Material Emissions</u>	
		<u>3-month rolling average monthly emissions lb/month</u>	<u>ton/year</u>
Batch Vapor	13.1	405	2.43

These limits are based on the type of solvent cleaning machine, solvent-air interface area, and determined by using equation in Condition 14(e)(iii).

b. For determination with the limits of this permit, halogenated solvent usage shall be determined by the following equation, pursuant to 40 CFR Part 63.465(c)(1). E, SA, LSR, SSR, and AREA shall be determined on the first operating day of each month.

$$E = (SA - LSR - SSR) / AREA$$

Where:

- E = The total halogenated HAP solvent emissions from the solvent cleaning machine during the current month (lb/ft²).
- SA = The total amount of halogenated HAP liquid solvent added to the solvent cleaning machine during the current month (lb/month). Solvent addition up to pre marked fill line is required to maintain the same level at the beginning of each month before the calculation.
- LSR = The total amount of halogenated HAP liquid solvent removed from the solvent cleaning machine during the current month (lb/month). Solvent is removed only when it is necessary to remove.
- SSR = The total amount of halogenated HAP solvent removed from the solvent cleaning machine solid waste during the current month (lb/month). This shall be determined by engineering calculation or by EPA test method 25D.
- AREA = The solvent-air interface area of the solvent cleaning machine(ft²).

16a. The Permittee shall retain the following records on paper or computer disk for five years, pursuant to 40 CFR Part 63.467(c):

- i. Record the date and amount of solvent added(SA) to each solvent cleaning machine.
 - ii. Record the date and amount of halogenated HAP solvent removed (LSR) from each solvent cleaning machine.
 - iii. The amount of solvent removed(SSR) from the waste of each cleaning machine. Analysis sheet (EPA test method 25D) or calculation shall be retained.
 - iv. Calculation sheet showing how the monthly emissions and the 3-month rolling average monthly emissions were determined.
 - v. Emissions of organic material (lb/month).
 - vi. Emissions of organic material (ton/year).
 - b. Any records by this permit shall be readily available for inspection and copying by the Illinois EPA.
17. The Permittee shall comply with the following reporting requirements pursuant to 40 CFR. Part 63.468.
- a. An initial statement of compliance report, pursuant to 40 CFR Part 63.468(e), demonstrating each existing solvent cleaning machine is in compliance by December 2, 1997, must be submitted no later than May 1, 1998. For new solvent cleaning machine compliance report shall be submitted no later than 150 days after startup. Any machine installed on or before November 29, 1993, is considered as existing machine and installed after November 29, 1993, is considered as new machine. The initial compliance report shall include the following:
 - i. Name and address.
 - ii. Facility location address.
 - iii. The solvent-air interface area for each solvent cleaning machine.
 - b. A solvent emission report, pursuant to 40 CFR Part 63.468(g), shall be submitted for each batch vapor or in-line solvent cleaning machine. The solvent emission report shall contain the following:
 - i. The size (air-interface area or capacity) and type (batch vapor or in-line) for each solvent cleaning machine.
 - ii. The average monthly solvent consumption for the solvent cleaning machine in lb/month.
 - iii. The 3-month rolling average monthly emission estimate calculated for each month.

- c. An exceedance report, pursuant to 40 CFR Part 63.468(h), shall be submitted every 6 months if there is not an exceedance, and every 3 months if there is an exceedance. If an exceedance did not occur the report would consist of a statement certifying that there was no exceedance. The frequency of exceedance report will increase to quarterly after an exceedance occurs. The frequency can be reduced to every six month upon approval from the Illinois EPA provided no exceedance has occurred during the last one year. Exceedance reports shall be delivered or postmarked by the 30th day following the end of each calendar half or quarter, as appropriate. The exceedance report shall include the following:
 - i. If an exceedance has occurred, the reason for the exceedance.
 - ii. If no exceedance has occurred, such information shall be stated in the report.
 - d. The Permittee shall submit exceedance report within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.
 - e. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least 5 years, unless specifically stated in the permit from the date of entry and shall be made available for inspection and copying by the Illinois EPA and USEPA upon request. Any records retained in a computer shall be cable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA request for records during the course of a source inspection.
18. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA request for records during the course of a source inspection.
19. If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.

20. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
9511 West Harrison
Des Plaines, Illinois 60016

21. The Permittee shall submit the following additional information with the Annual Emissions Report, due May 1st of each year: Annual material usage, VOM and HAP contents and emission calculations. If there have been no exceedances during the prior calendar year, the Annual Emission Report shall include a statement to that effect.

Please note that screw machining, grinding, and shotblasting are exempt from state permit requirements pursuant to 35 Ill. Adm. Code 201.146(aa).

Also please note that use of methanol, dow 20 and condursal thinner have been added to this permit.

If you have any questions on this permit, please call Randy Solomon at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:RBS:jar

cc: Illinois EPA, FOS Region 1
Illinois EPA, Compliance Section
USEPA

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from the bearing manufacturing plant operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Agency used the annual operating scenario which results in maximum emissions from such a plant. The resulting maximum emissions are well below the levels, e.g., 25 tons per year of VOM, 10 tons per year of individual HAP and 25 tons per year for total HAPs at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that less material is handled and control measures are more effective than required in this permit.

1. The emissions and operation of the vapor degreaser shall not exceed the following limits, pursuant to 40 CFR Part 63.464(a)(1):

<u>Type of Machine</u>	<u>Solvent-air interface Area (Ft²)</u>	<u>Organic Material Emissions</u>	
		<u>3-month rolling average monthly emissions lb/month</u>	<u>ton/year</u>
Batch Vapor	13.1	405	2.43

2. Emissions and operation of housing painting operation, filament bearing solvent, and solvent cleaning and rust preventive coating shall not exceed the following limits:

- a. Housing Painting Operation:

	<u>Usage (gallons)</u>		<u>VOM Content (Lbs VOC/Gal)</u>	<u>Emissions</u>	
	<u>(Monthly)</u>	<u>(Yearly)</u>		<u>(Lb/Mo)</u>	<u>(T/Yr)</u>
Paint	817	4900	1.96	1598	4.80

This limit is based on VOM content of material and material balance as provided in permit application.

- b. Filament bearing Solvent:

	<u>Usage</u>		<u>VOM Content</u>	<u>Emissions</u>	
	<u>(Monthly)</u>	<u>(Yearly)</u>		<u>(Lb/Mo)</u>	<u>(T/Yr)</u>
Resin	26,666 lbs	160,000 lbs	0.018 lbs VOC/lb	480.0	1.44
Isopropyl Alcohol	26 gallons	160 gallons	6.56 lbs VOC/gal	170.0	0.52
Toluene	5.0 gallons	30 gallons	7.25 lbs VOC/gal	36.0	0.11
DiBasic Ester	60 gallons	360 gallons	9.20 lbs VOC/gal	552.0	1.66
Dow 20	10 gallons	60 gallons	3.98 lbs VOC/gal	40.0	0.12

This limit is based on maximum material usage, maximum VOM content of material and material balance as provided in permit application.

c. Solvent cleaning and Rust Preventive Coatings:

i. Combined VOM emissions from rust preventive coatings and cleanup solvents shall not exceed 4,133 lbs/month and 12.4 tons/year. These limits are based on actual rust preventive and solvent usage, waste rust preventive and waste solvent sent off-site for recycling, and material balance as indicated in permit application.

ii.

<u>Material Usage</u>	<u>Annual Usage (Gallons)</u>	<u>VOM Content (Lbs VOM/Gal)</u>	<u>Emissions (Tons/Year)</u>
Rust Preventive Coatings	1,923	1.56	1.5
Clean-Up Solvent	7,000	2.31	8.1
	850	6.6	2.8
	9	7.26	0.04

iii. Usage and emissions of methanol shall not exceed 150 lb/month and 0.45 tons/year.

3. This permit is issued based on negligible emissions of particulate matter from heat treating operation, plating operation, filament bearing operation, and housing painting operation. For this purpose particulate emissions from each emission source shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/yr.

4. Emissions and operation from natural gas fuel combustion equipment shall not exceed the following limits:

	<u>Natural Gas Usage</u>		<u>Emissions Factor</u>	<u>Emissions</u>	
	<u>(mmscf/Mo)</u>	<u>(mmscf/Yr)</u>	<u>(Lbs/10⁶ scf)</u>	<u>(Tons/Yr)</u>	<u>(Tons/Yr)</u>
NO _x	25	250	100.0	1.3	12.50
CO	25	250	84.0	1.1	10.50
PM	25	250	7.6	0.1	1.00
VOM	25	250	5.5	0.07	0.70

These limits are based on maximum natural gas usage and standard AP-42 emission factor for natural gas combustion. Compliance with annual limit shall be determined on monthly basis from the sum of data for current month plus the preceding 11 month.

5. The emissions of Hazardous Air Pollutants (HAP) as listed in Section 112(b) of the Clean Air Act shall be less than 10 tons/year of any single HAP and 25 tons/year of any combination of such HAPs. As a result of this condition, this permit is issued based on the emissions of all HAPs from this source not triggering the requirements to obtain a Clean Air Act Permit Program Permit (CAAPP), and Section 112(G) of the Clean Air Act.