

6 NYCRR Part 234, Graphic Arts: Flexographic Printing Operations in the New York City Metro Area

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Part 234, Graphic Arts, is designed to limit the volatile organic compound (VOC) emissions from printing operations. All flexographic printing operations in the New York City Metropolitan Area^a (NYCMA) are required to comply with the requirements of Part 234. In addition, these facilities must obtain a permit from the NYS Department of Environmental Conservation (DEC).

This factsheet summarizes the requirements for flexographic printing operations located in the New York City Metropolitan Area. Additional technical information is available by calling the Small Business Assistance Program (SBAP) at the toll-free number listed below for free and confidential help. For general information about air emissions requirements, contact the Environmental Ombudsman Unit at the toll-free number listed below; their assistance is also free and confidential.

Compliance Options

Flexographic printing operations have two options to comply with Part 234: using low-VOC inks or using control equipment.

Low-VOC Inks: The most cost-effective control strategy involves reformulating to inks that have a low concentration of VOCs. These would include waterborne (75% water to 25% VOCs, by volume), high-solids (60% solids to 40% VOCs, by volume) or UV-cured inks. UV-cured inks have the added benefit of being exempt from DEC permitting (see next page).

Control Equipment: If a facility is unable to reformulate to low-VOC inks, an alternate compliance strategy involves installing emissions control equipment, such as thermal oxidizers or carbon adsorption. The control equipment must reduce overall VOC emissions by at least 60%.

Control equipment typically has two components: the capture system and the cleaning system. Of these, the design of the capture system is more critical to the success of the control equipment. The typical cleaning system can easily remove 90% or greater of the VOC emissions, but if the capture system has a poor efficiency (less than 70% of overall emissions), the system will not be able to comply with Part 234. The installation of a chambered doctor blade system will insure good capture efficiency and will result in less evaporative emissions into the work area.

(over)

^a New York City and Nassau, Suffolk, Rockland, and Westchester Counties

Need more facts?

For technical assistance and for help with permitting, call the Small Business Assistance Program (SBAP) of the New York State Environmental Facilities Corporation
(800) 780-7227

For information about regulations, compliance financing assistance, and assistance resolving regulatory difficulties, contact the Environmental Ombudsman Unit of Empire State Development
(800) 782-8369

Both offer free and confidential assistance to small businesses.

The New York State
Small Business
Stationary Source
Technical
and
Environmental
Compliance
Assistance
Program

Recordkeeping

Flexographic printing operations are required to keep purchase and usage records of inks, VOCs, and solvents and submit these records to DEC **upon request**. The records must be maintained at the facility for 5 years.

Handling, Storing, and Disposing of VOCs

Do not use open containers to:

- Store spent or unused VOCs for use in surface preparation or cleanup of inks or coating materials.
- Store cloths or papers that contain VOCs that have been used for pressroom cleanup.
- Store or dispose of inks or surface coatings.

Permit/Registration Requirements

Part 201 requires nearly all flexographic printing operations located in the New York City Metro Area to obtain a Minor Facility Registration, a State Facility Permit, or Title V Permit, depending on the amount of air pollutants emitted by the facility. The only exception is for facilities that use only UV-cured inks, which are exempt from DEC permitting.

The first two types of permits, Registration and State Facility Permit, have upper limits on the amount of emissions allowed by a facility. A Title V Permit carries no such upper limit, but carries significantly more recordkeeping and reporting requirements, which are outside the scope of this factsheet. Facilities are strongly encouraged to limit or “cap” their emissions to either Registration or State Facility Permit levels.

Permit Types for NYCMA, Based on Emission Limits			
Permit Type	Total VOC Emissions	Total Hazardous Air Pollutants (HAPs)	Individual HAPs
Minor Facility Registration	<12.5 tons/yr	<12.5 tons/yr	<5 tons/yr
State Facility Permit	<25 tons/yr	<25 tons/yr	<10 tons/yr
Title V Permit	>25 tons/yr	>25 tons/yr	>10 tons/yr

Pollution Prevention Tips

Ink management

- Install computerized ink mixing
- Re-blend leftover inks
- Cover ink wells
- Reduce purchases of supplies to avoid storing materials and the risk of outdated materials

Clean-up solvent

- Dispense solvents from central location, which allows usage to be tracked
- Use parts washer to clean ink trays
- Select solvents with low vapor pressures to reduce evaporative losses

Compliance strategies

- Use waterborne inks whenever possible
- Reduce make-solvent whenever possible