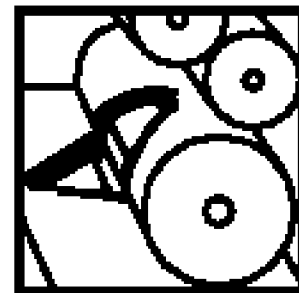




Design for the Environment Lithography Project



What Is Design for the Environment?

The Design for the Environment (DfE) Program harnesses EPA's expertise and leadership to facilitate information exchange and research on risk reduction and pollution prevention efforts. DfE works with both large and small businesses on a voluntary basis, and its wide-ranging projects include:

- Changing general business practices to incorporate environmental concerns.
- Working with specific industries to evaluate the risks, performance, and costs of alternative chemicals, processes, and technologies.
- Helping individual businesses undertake environmental design efforts through the application of specific tools and methods.

DfE partners include:

- Industry
- Professional Institutions
- Academia
- Environmental and Public Interest Groups
- Other Government Agencies

Blanket Wash Solutions for Small Printers

Why Is EPA Working With Lithographers?

There are more than 52,000 lithographic printers in the United States. These small and medium-sized businesses print materials such as books, brochures, newspapers, magazines, and other items that are fixtures in our daily lives. In doing so, they make an important contribution to the nation's economy.

Offset presses utilized in the industry transfer the printed image from a plate to a rubber or plastic blanket and then to the paper or other medium for the final printed product. The cleanliness of the blanket is a primary concern for producing high-quality images. Blanket washes, consisting of varying types of solvents, are employed in removing ink, paper dust, and other debris from the blanket cylinder. However, some of these solvents can pose risks to human health and the environment. New, potentially less harmful blanket washes are appearing on the market, giving printers the opportunity to reduce impacts on the environment and minimize risks to workers. Testing new blanket washes, however, can be a time-consuming and expensive process.

The Design for the Environment (DfE) Lithography Project is a unique voluntary effort between the lithographic printing industry and the U.S. Environmental Protection Agency that provides information about less polluting materials and process alternatives. DfE's goal in working with printers is to help them make more informed choices by easing the search for and evaluation of cleaner processes, products, and technologies. Since blanket washes are the primary concern, they have been the project's first focus. Through the demonstration of manufacturer supplied, commercially available products at volunteer printing shops, the assessment of associated human health and environmental concerns, and the evaluation of other factors, the project will make information available that will help printers make more informed decisions about the products they bring into their shops.

How Did the DfE Printing Project Get Started?

DfE began working with the printing industry in 1992, when the Printing Industries of America (PIA) requested EPA's assistance in evaluating environmental claims for products. This effort ultimately grew into projects with three separate sectors of the printing industry: lithography, flexography, and screen printing. Each project addresses a

different area of environmental concern: for flexography the focus is on the types of inks used; for screen printing the focus is on screen reclamation; and for lithography the project partners chose to look at blanket washes. DfE lithography partners include PIA, the Graphic Arts Technical Foundation (GATF), the Environmental Conservation Board of the Graphic Communications Industry (ECB), The University of Tennessee, and individual printers and suppliers.

What Has the DfE Lithography Project Accomplished?

DfE's work with the lithographic printing industry is conducted under three distinct project areas: technical studies, implementation, and outreach.

Technical Studies

The DfE Lithography Project focused its efforts on developing specific risk, performance, cost, and other technical information on blanket washes to help small and medium-sized lithographic printers. The project partners agreed to focus their efforts initially on the needs of small shops using small (less than 26" wide) presses.

The DfE Lithography Project is examining the environmental and human health risks of more than 38 potential substitute blanket washes. The project is collecting health hazard and environmental release information (i.e., releases to air, water, land) associated with the use of generic formulations found in these blanket washes.

Between November 1994 and February 1995, performance evaluations were conducted. Performance was evaluated in two phases: 1) GATF's laboratory performed screening evaluations of certain characteristics of the blanket washes, and 2) eighteen printing shops across the country volunteered to provide performance information under real world conditions of production. These shops used the substitute blanket washes for one week. Press operators at the shops recorded the amount of product used, the length of time needed to clean the blanket cylinders, and their opinion of how well the products worked.

The information collected in the performance demonstration is being used to develop cost data for each of the demonstrated blanket washes. In addition, the DfE Lithography Project is identify-

ing simple workplace practice changes, pollution prevention options, and other steps that printers can implement easily and cheaply.

Information on the comparative risk, performance, and cost of each of the substitute blanket washes will be included in the DfE Lithography Project's full technical report—the Blanket Wash Cleaner Technologies Substitutes Assessment (CTSA), which was published in draft form in July 1996.

Implementation Efforts

In an effort to encourage pollution prevention in the lithography sector of the printing industry, the DfE Lithography Project is developing a variety of technical assistance for lithographic printers. For example, plans are in place to develop computer software that can help lithographic printers assess the profitability of pollution prevention investments using total cost assessment techniques. DfE is also planning to conduct pilot workshops for lithographic printers on how to use the software.

Outreach Activities

The project will create different informational materials based on the Blanket Wash CTSA. The project partners will produce a simple, concise brochure to explain to printers the results of the technical work. A series of case studies will also be developed to help lithographic printers sort through some of the different factors that can make one product a more attractive substitute than another. Other information products geared to small and medium-sized printers will also be developed.

How Can I Get More Information?

To learn more about the Lithography Project of EPA's Design for the Environment Program or to obtain the documents described in this fact sheet, contact:

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