Harper Corporation of America Position Statement

Chemical Cleaning of Anilox Rolls

Recognizing the ever-expanding variety (proliferation) of chemical cleaners in the “Flexographic” industry, Harper Corporation has been diligent in keeping abreast with what chemicals are utilized and the adverse effects of improper application of these chemicals.

As an anilox manufacturer, Harper Corporation understands that the use of chemical cleaners is a reality within the “Flexographic” printing industry and plays a vital role in the production process. Based on Harper Corporation experience with anilox rollers and chemical cleaners, it has been observed that many of these cleaners are unnecessarily caustic to permit fast and thorough cleaning. The corrosiveness does not make them a safe cleaner for the anilox roll. We also have developed criteria below to address what can be safe and what can be detrimental to the anilox. We advise our customers to consult with us as well as the ink suppliers when using chemical cleaner(s) on anilox rollers.

Several things should be taken into consideration when cleaning an anilox roll. First and foremost, EPA and OSHA issues must be addressed. Secondly, Material Safety and Data sheets (MSDS) should be reviewed. Third: before using any chemical cleaner, you should consult with your anilox and ink suppliers to determine if these chemicals can have a negative reaction with the ceramic anilox roll or ink performance. Fourth: ceramics are porous and can allow acidic or alkaline chemical migration through the ceramic to attack the ceramic’s bond between it and the metal base. Furthermore; if an end of a roller and/or sleeve is chipped this is like an open wound accelerating the corrosion process resulting in the ceramic blistering or delaminating. Fifth: The majority of sleeves have “aluminum” cladding or other non-ferrous metals and are a composite structure. Many lightweight narrow web rolls have aluminum roller bodies. These materials by nature are more susceptible to damage from acidic and alkaline cleaning chemicals than steel base. Many anilox chemicals developed for use on a steel bases may not be suited for an anilox sleeve or lightweight “aluminum” anilox. KNOW WHAT TYPES OF ANILOXES YOU HAVE! Finally, when cleaning all bases and especially sleeves and aluminum rolls in heated equipment, we do not recommend temperatures above 120°F (49°C.)

It bears repeating that Harper Corporation’s first and foremost concern with chemical cleaners is the health of one’s employees. Typical health and safety precautions require the use of safety glasses and rubber gloves when using chemical cleaners.

Precautions should always be taken into consideration when choosing a specific cleaning solution. More often than not, a roll can be damaged because of the pH of the chemical solution. The typical pH of water based inks is between 8.5 and 9.4. When cleaning water based inks or solvent based inks, the pH of the chemical cleaner should never be below 5.5 (for carbon fiber sleeves not below 6.5 pH) and never be above 11.8 pH. All cleaning chemicals must be specifically formulated for ceramic anilox rollers. Although extremely effective, ink cleaners outside this pH range are not anilox safe and can damage ceramics and the engraving. Corrosiveness of a cleaner is no guarantee it will work to clean up your particular ink system. It will require some experimentation to find a health-safe solution and an anilox safe and effective cleaner. Furthermore, most water based ink companies state that “pH” only needs to be 2 points higher than the ink to rewet, so there is no need to use high or low pH cleaners. When in doubt consult our Harper GraphicSolutions professionals with your specific questions.

To summarize, Harper Corporation recognizes the many variables associated with the use of chemical cleaners and has developed stringent criteria involving the application. Successful chemical cleaning should be considered a science rather than just a maintenance procedure. Work closely with your suppliers in this area. We have developed our own chemical cleaner(s) to give us as well as the customer the satisfaction of knowing what they are using is safe.

Should you have any questions or need further information, please do not hesitate to call Harper’s Technical Services at (800) 438-3111.

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