

ECOPHOR™ SERIES

ECOPHOR™ includes a range of metal phosphating formulations designed to clean and phosphate metal surfaces simultaneously in a single stage at room temperature.

This special phosphating reaction produces a chemical conversion by deposition of ferro-organic phosphates. Not only is the treated metal ready for painting, but the treatment also improves paint adhesion as well as corrosion protection.

Moreover, unlike conventional phosphating processes, steel treated with ECOPHOR™ shows excellent temporary corrosion protection, so unpainted articles will resist rusting for several weeks if stored indoors on premises with normal relative humidity.

SURFACES THAT CAN BE TREATED

ECOPHOR™ can be used to simultaneously treat mild steel, cast iron, galvanized steel, aluminum and the majority of aluminum alloys. ECOPHOR™ is compatible with most paints (solvent- and water-based paints, powder coatings).

HOW IT WORKS

ECOPHOR™ operates by either flowcoating or dip application. The processing cycle includes the treatment phase, 60–90 seconds, the draining phase and the drying phase. In the drain station, cold air is blown over the parts to recover excess liquid, while the final station is a drier where fluid flash-off and ferro-organic phosphating polymerization is performed.

INSTALLATIONS

Plants are simple and compact. Plants must include a filtering unit and adequate ventilation equipment. For high production, a special version of the process, ECOPHOR SYSTEM™, operates with a Recovery Unit, which recuperates and recycles the fluids involved in the process.

CLEANER PRODUCTION

ECOPHOR™ was developed to provide a safe method of cleaning and phosphating, from the point of view of both environmental and operator safety.

NO EFFLUENT

ECOPHOR™ is a PlafORIZATION™ process, so it is capable of treating indefinitely, without the need to remove effluent, so long as the parts to be treated are not contaminated with more than 13–14 gms/100 ft² of oil on average.

ECOPHOR™ is a no-rinse, water-free and sludge-free process, so there is no effluent, ever.

AIRDEGRADABILITY

ECOPHOR™ uses new Airdegradable fluids, which demonstrate an extremely high compatibility with the environment. Due to their extremely low vapor pressure, PlafORIZATION™ chemicals are virtually VOC-free*. The products contain no halogenated compounds, ozone-depleting compounds, carcinogens, mutagens, or hazardous air pollutants. Based on the volatility of the components and their ability to photochemically react in the atmosphere, the estimated VOC content for representative products is:

Ecophor B700 – ~0 grams/liter
Ecophor A447 – <5 grams/liter

*except as defined by the California South Coast AQMD



ECONOMIC SAVINGS

ECOPHOR™ works at room temperature, so no thermal energy is required. There is no waiting for warm-up, as with heated systems, before work can start. There is no effluent, ever. There is no downtime for messy cleaning of the tank. There is no cost for effluent/waste disposal. Use of ECOPHOR™ does not involve large capital expenditures for installations. Plants are more compact and simpler compared with conventional multi-stage aqueous phosphating processes. ECOPHOR™ is easy to maintain and no complex daily analytical controls are needed.

EXPERIENCE

PAI-KOR has a long and outstanding history in organic and inorganic chemistry and is a world leader in the development and production of PlafORIZATION Technology. PAI-KOR's worldwide client base of over 400 installations demonstrates the company's solid base of technology in surface treatment.

Full technical details are available.
Call for more information today.