NALCO

Essential Expertise
for Water, Energy and Air℠

APEX Technology

Sustainable Programme for Paint Detackification

APEX TECHNOLOGY

Sustainable Programme
for Paint Detackification

NALCO

Essential Expertise
for Water, Energy and Air℠

NALCO COMPANY operations

North America: Headquarters -1601 West Diehl Road • Naperville, Illinois 60563-1198 • USA
Energy Services Division - P.O.Box 87 • Sugar Land, Texas 77487 • USA
Europe Sàrl: A-One Business Center • Z.A. La Pièce1 • Route de l'Etraz 1180 • Rolle • Switzerland
Asia Pacific: 2 International Business Park • #02-20 The Strategy Tower 2 • Singapore 609930
Latin America: Av. das Nações Unidas 17.891 • 6° Andar 04795-100 • São Paulo • SP • Brazil

www.nalco.com

B-1205 E

APEX Technology for Paint Detackification

Nalco innovation helps to meet sustainability goals across the Automotive Industry

Background

During the last decade, the Automotive Industry has increasingly demonstrated a strong commitment to Corporate Social Responsibility (CSR). In particular, many programmes and procedures have been put in place to help meet sustainability targets around reducing the consumption of natural resources, and associated emissions and waste. Today, more than ever, the challenges of the global economic environment mean that the industry has to work even harder in order to meet sustainability targets and financial goals. Cost control and reduction of the Total Cost of Operation remain key factors in managing operating profitability.

Every automotive plant worldwide has strict environmental management practices in place which aim to:

- Reduce emissions to air, in particular CO_2 and other greenhouse gases, and Volatile Organic Compounds (VOC)
- Reduce energy consumption using innovative technologies
- Reduce fresh water use
- Minimise waste production

Nalco Solution

The technologies which are used today in Paint Detackification were developed in the mid-1980s. Nalco Company, the worldwide leader in sustainability services and integrated and innovative water treatment solutions, has more recently focused its Research & Development capabilities upon the development of a new generation of advanced Paint Detackification programmes. As a result of these efforts, Nalco is now able to offer its innovative APEX technology, including the first truly effective, environmentally-friendly paint detackifier chemistry.

Superior programme performance: a combination of new and innovative chemistries

The APEX programme can include:

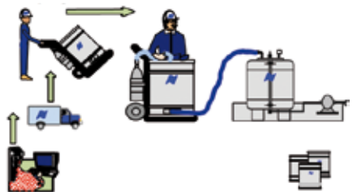
Detackifier - includes environmentally-friendly materials
- Active compound from a renewable resource, representing a high portion of the product formulation
- Zero VOC
- Zero Formaldehyde
- Not classified as dangerous in accordance with Directives 67/548/EEC or 1999/45/EC
- Product is not regulated during transportation

Flocculant (Polymer) - Ultimer technology
- Winner of US Presidential Green Chemistry Award
- No oil content
- Easily applied

Antifoams - Improved high performance materials
- High active content
- Requires low dosage
- Environmentally-friendly
- Advanced formulations
- Zero VOC

Improved Safety Performance

APEX programmes enhance safety standards by minimising chemical exposure through automation, equipment solutions and delivery using the Nalco Porta-Feed ® programme.



Performance & Results

APEX technology has been successfully implemented in paint booth systems using all kinds of paint types (polyurethanes, 2K clear coats, high solids primers, high solids solvent-borne basecoats, and high solids water-borne basecoats). APEX technology delivers complete paint detackification with improved overall system collection efficiency and cleanliness. These advanced programmes can rapidly lower system turbidity and total suspended solids. Challenging foaming issues frequently observed in paint detackification systems are quickly minimised or eliminated.

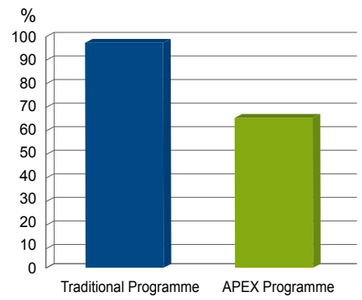
Previous programme after 2 weeks

Nalco APEX Programme after 2 weeks

After introducing APEX technology, customers are typically able to achieve an average reduction of in the Total Cost of Operation of over 20%.

The evaluations of the impact of APEX technology upon customer Sustainability Performance Indicators (SPI) in paint booth operation have shown the following average improvements:

Comparison of sludge volume



Comparison showing average reduction in sludge volume produced with APEX vs. a traditional programme.

APEX TECHNOLOGY Sustainable Programme for Paint Detackification	**Delivering superior sustainability performance**
	Reduction in water volume & cost >20% Improved microbiological control
	Reduction in energy consumption & cost >10% Reduction in waste volumes, disposal & incineration costs >30%
	VOC-free paint detackification programme available Reduction in odour and related number of complaints
	Enhanced process efficiency, product quality, or site productivity Reduction in maintenance and specific cleaning activities & costs >50% Improved air filter life
	Less emissions Conservation of natural resources Achievement of your sustainable goals

Superior technical expertise

Nalco technical experts have extensive global experience working on every type of detackification programme and use a methodical approach to demonstrate the fit and capabilities of APEX technology.

Each paint spray booth is unique with specific Key Performance Indicators (KPI). This requires a through mechanical, operational and chemical (MOC) approach to optimise booth performance.

Nalco technologies and services, along with detailed mechanical and operational knowledge, focus on providing optimum performance for each unique system, by combining integrated solutions that improve sustainability performance.

For more information on how APEX technology can reduce Total Costs of Operation, optimise system performance, and improve sustainability performance on-site, please contact your local Nalco Sales Representative.

Enquires may also be sent directly to: EAMEAPEX@nalco.com.

Solvent-based clear coat system water treated with conventional based chemistry programmes (left). Same clear coat treated with APEX programme (right).