



# ASA Emulsifiers for the Paper Industry

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## You don't have time for low paper quality, slow drying time, or unplanned maintenance.



ProFlow was an early trailblazer of emulsifier technology. We have hundreds of systems installed worldwide—many of which have been installed and running as intended for 30 years.

Our commitment to quality sets us apart. We offer comprehensive in-house engineering. All design work, fabrication, and testing are performed at our headquarters in North Haven, Connecticut.

What do you need from your ASA Emulsifier?

- ✓ Reliable emulsification
- ✓ Uniform particles
- ✓ Perfect metering
- ✓ Even application

### Why ASA Emulsifiers are Important

Alkenyl succinic anhydride (ASA) is used as an internal sizing agent during the production of paper products. Sizing helps to ensure the paper product is resistant to liquid wetting, penetration, and absorption. For example, when ink is applied to a paper, the sizing helps to reduce the amount of color bleed.

ASA is an ideal sizing agent due to the strong chemical bond it forms with cellulose. It improves machine efficiency by keeping parts cleaner, which maximizes quality. It also improves drying efficiency and ensures a more stable pH reading.

In order to add ASA to the pulp slurry, it must be emulsified. This is done with an ASA emulsifier, which combines polymer starch or cooked starch with ASA oil and water, and blends it into a specific particle size.

ASA emulsification is a critical process for both product quality and process efficiency. An ASA emulsifier must ensure a controllable and stable particle size, because the larger a particle gets, the less effective the sizing agent will be. However, the rate of hydrolysis (reaction with water) increases as the size of the particles decreases, and this means the ASA formulation decomposes and becomes unusable. This is why ensuring a consistent particle size is so important.



### PAE 100: ASA in Polymer Starch

ProFlow's PAE-100 ASA Emulsifier is designed to emulsify ASA into polymer. It includes a full range of optional accessories, including water and polymer filters, emulsion filters, and a splitter system for multi-ply applications.



### SAE 100: ASA in Cooked Starch

ProFlow's SAE-100 ASA Emulsifier is designed to emulsify ASA in starch. Optional accessories include starch pumps and filters, emulsion filters, and a splitter system for multi-ply applications.

## ProFlow ASA Emulsifier

In a process where every component is critical, the emulsification system in the paper making process stands out as one of the systems that truly must not fail. If the emulsifier goes down, the entire paper making process would come to a halt, resulting in a potentially million-dollar shutdown.

The ProFlow ASA Emulsifier is designed for continued operations. From its rugged design and solid construction to its PLC control, the ProFlow Emulsifier performs without fail, and has been proven in hundreds of installations worldwide over the past 30 years.

Using ASA as a sizing agent is a common practice among paper mills, due to its ability to improve operations and overall product quality. ProFlow's ASA Emulsification System supplies ASA/starch emulsion directly to the headbox for superior control of particle size and hydrolysis for an extremely stable emulsification process.

**ProFlow has a track record of over 30 years of field-proven success and ongoing support. When you choose ProFlow, you get our long-term commitment to excellence.**

### Features

- Compact Design
- Stainless Steel Frame & Piping
- Pre-piped, pre-wired, and ready to operate
- ASA rate to 250+ lbs/hr
- Emulsion flows to 30+ GPM
- Multi-ply discharge available with different flow rates with equal concentrations
- Optional DCS connectivity
- Optional recirculation loop flowmeter
- Other options:
  - NEMA 4XSS Enclosure
  - UL/CSA-listed Panel

# Trust ProFlow to develop the plan, mobilize the resources, and engineer the system

While every project is as unique as our customers' requirements, ProFlow has developed best practices that allow us to control all elements of the process. No matter where you are in the project planning process, ProFlow is ready to support your project to successful completion. Our full range of in-house capabilities includes:

## Design

From preliminary designs to detailed plans, our engineering team uses state-of-the-art design software to prepare P&IDs, 3D modeling of piping and structural layouts, mechanical, electrical and control panel designs.

## Fabrication

ProFlow's 50,000 square feet of facilities in North Haven, CT employ ASME-certified welders. We produce UL- and c-UL listed electrical control panels.

## Programming

ProFlow's in-house specialists handle all programming, including PLC and operator-interface programming, which may include interfacing with data acquisition, historians, DCSs, and other subsystems.

## Testing & Documentation

Our on-site test facility ensures that the system operates as designed. A complete documentation package, including drawings, parts list, weld maps, installation/operation manuals and test results, is prepared.

**ProFlow has a significant global presence, with customers in over 30 countries worldwide.**

