Starch: An integral component in the paper industry

In the paper industry, starch is generally used as an adhesive, flocculant and bonding agent. Most starches used in making paper are specialty products that have been modified via hydrolysis, oxidation, or derivatisation.

It is an important component in the production of various quality paper grades. It acts as a surface sizing agent, improves appearance, restrains ink penetration, and creates a firm surface suitable for better writing and printing.

Surface sizing or paper surface hydrophobisation prevents paper from wetting and water penetration. Hydrophobic particles and starch are combined at the dry end of the paper machine. The combined solution is applied to paper to enhance its strength and stiffness.

Cationic starch is also used in wet milling processes; mixing the wet end starch with pulp improves strength, sizing, retention, drainage, formation, wastewater quality, and productivity.

For the paper industry, starch is procured from potato, tapioca, maize and wheat. It is the third-largest consumer of processed starch.

> With increased use of alkaline papermaking, starch has become an essential part of alkaline sizing programs while starch used as a polymer has become essential for microparticle retention systems. Increased use of modified starch is on the horizon not only to improve quality and productivity, but also to meet or

> exceed rising environmental standards.
> Source

At Bluecraft Agro, we manufacture and supply different quality modified starch for paper making, depending upon their functions.

Cationic starches- AmyloflocTM & FiberlocTM

These starches are used as wet end additives in the paper industry. They enable improved mechanical strength, retention of fillers, faster drainage and reduced wastewater pollution.

Coating starches- AmylogumTM & AmylokoteTM

These starches enable the binding of coating mix/colour. Coating colour, consisting of pigments, binders and water, enhances the appearance of the finished paper. Starches act as natural binders for the same.

Sizing starches- AmyloplastTM & AmylokraftTM

Sizing starches fill the cavities and capillaries in paper and board to reduce water penetration.

Wet-end and sizing starches- Super BondTM

- These starches have several benefits:
- Increased fiber and ash retention
- Improved process runnability
- Better dewatering behavior
- Wide range of cationicity
- Cost-effectiveness

AmyloflocTM– It is used in paper processing as an emulsifier for neutral/alkaline internal sizing additives and wet–end additives in the paper processing. It helps improve the effectiveness of retention, dewatering and sizing chemicals through synergistic action.
AmylogumTM– Amylogum is used as a binder for the coating/lamination of paper and board. It provides paper stiffness and acts as an excellent printing gloss. It improves stiffness, increases ink receptivity, has excellent printing gloss, less mottling tendency and acts as excellent binding power.
AmylokoteTM– It is a phosphate/carbamate ester for laminating paper & board. It acts as an adhesive.

AmyloplastTM– Amyloplast is an oxidized starch with a range of viscosity and fluidity to suit the requirement of paper processing in applying surface sizing for all types of paper.
FiberlocTM– Fibreloc series is a Quaternary Ammonium Derivative of starch used as a wet-end additive in paper processing. It improves the rating/stiffness and enhances the smoothness.
Super BondTM– Super Bond improves the paperboard's ply bond strength and IGT printability during its application.
Amylosize- It improves better barrier properties, IGT value, smoothness, stiffness and strength. It comes in various categories- Amylosize T-8202, Amylosize T-1012, Amylosize T GBP-35, Amylosize T-BP-23, Amylosize T-101, Amylosize T-GBP.
Amylocorr- Amylocorr is used as an adhesive in paper corrugation. It acts as a binder and has faster drying properties which can enable corrugators to improve productivity.
Amylospray- A wet-end spray, amylospray enables to improve the ply bond strength and IGT of paper. It improves ply bonding when sprayed between the layers in Board. It is sourced from maize, tapioca and natural gum.
Amylotap-10- A tapioca sourced product, amylotap is used for surface sizing of the paper and enhances paper strength.