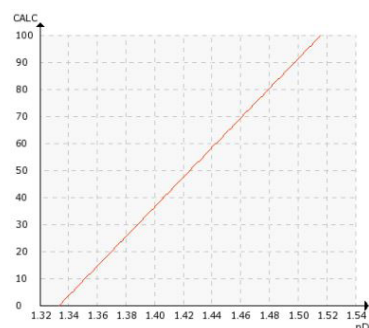


SIZING LIQUID, PVA, CMC, STARCH

Typical end products

Bond, ledger, writing and other types of paper.

Chemical curve: CMC R.I. per Conc. % by weight at Ref. Temp. of 20°C



Introduction

The size liquid is commonly added to the paper with a *size press* or a *blade coater*. From the storage tank, the sizing liquid is pumped into the size press circulation system.

There is a constant flow from the machine tank to the size press. At the size press, the sizing liquid is sprayed onto the paper. The paper absorbs a portion of the sizing liquid with the surplus being recirculated through a screen to the machine tank.

At the size press, the paper absorbs more water than sizing material. This changes the concentration of the liquid to the recirculation line. Therefore, it is


extremely important to measure precisely the size's concentration levels in the size press circulation system. Water must be added into the circulation to maintain the dilution levels.

Application

The K-Patents Process Refractometer PR-43-GP is used to control the sizing liquid concentration in order to optimize the paper sizing process. The K-Patents refractometer stabilizes sizing conditions and keep paper quality constant.

Instrumentation and installation

Typical measurement range is 0-15 % starch. Usually the bottom layer concentration is lower than the top layer concentration. Automatic prism wash with high-pressure warm water is recommended in this application.

Instrumentation	Description
	K-Patents Process Refractometer PR-43-GP is a general industrial refractometer for pipes and vessel installations. The PR-43-GP can be installed with 2, 3 and 4 inch flange and 3 inch Sandvik L coupling process connections and a variety of flow cells for pipe sizes of 1 inch and larger.
User Interface	Selectable multichannel MI, compact CI or a web-based WI user interface options allow the user to select the most preferred way to access and use the refractometer measurement and diagnostics data.
Automatic prism wash	Prism wash system components are a refractometer with integral wash nozzle mounted at the refractometer probe or in a flow cell, wash supply line components and a Multi user interface MI with relay module for prism wash diagnostics and control. Alternative wash media can be used for wash, e.g. steam, high-pressure water and warm water (hot condensate).
Measurement range	Refractive Index (nD) 1.3200 – 1.5300, corresponding to 0-100 % by weight.