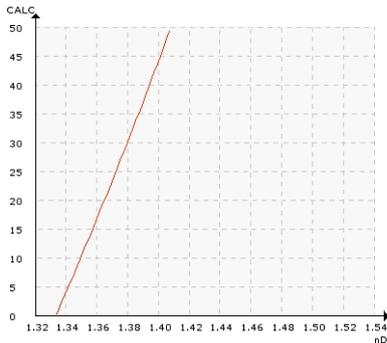


SIZING AGENTS, STARCH, CARBOXYMETHYL CELLULOSE (CMC), POLYVINYL ALCOHOL (PVA)

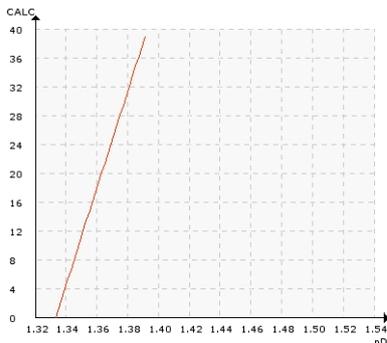
Typical end products

Textile sizing agents

Chemical curve: Polyvinyl alcohol R.I.per Conc% b.w. at Ref. Temp. of 20°C



Chemical curve: Starch R.I.per Conc% b.w. at Ref. Temp. of 20°C



Introduction

Sizing materials, such as starches and water soluble polymers (polyvinyl alcohol), are used to facilitate the weaving process. The woven cloth is later washed to

remove the size, resulting in a dilute solution of the sizing material. Ultrafiltration (UF) can be used to recover the sizing material for reuse and to produce good quality water permeate for discharge or reuse.

Wash water containing sizing materials is harmful to the environment. The sizing materials are also expensive and it is possible to reuse the materials several times. This has resulted in a growing interest in UF systems in the textile industry.

Application

Similar to reverse osmosis (RO), UF is a pressure driven membrane process capable of separating solution components on the basis of molecular size and shape.

Under applied pressure, difference against an UF membrane, solvent and small solute particles pass through the membrane, and are collected as permeate. Larger solute particles are retained by the membrane and recovered as a concentrated retentate.

Installation

The used sizing solution is filtered through the UF membranes until the required levels of concentration are obtained. The resultant concentrate is then pumped into a holding tank and the UF system is refilled with the sizing solution.

The K-Patents Process Refractometer PR-23-GP is installed in the circulation loop on the pressure side of the circulation pump. The typical measurement range is 0-15%.

The K-Patents refractometer is also used to measure the concentration levels in the product tanks or at the mixing stage to ensure correct concentration levels. A steam cleaning system is recommended for the above installation positions.

Instrumentation	Description
	<p>K-Patents Process Refractometer PR-23-GP is an industrial refractometer for large pipe sizes and tanks, cookers, crystallizers and kettles. Installation through a flange or clamp connection.</p>
<p>Measurement range:</p>	<p>Refractive Index (nD) 1.3200 – 1.5300, corresponding to 0-100 % by weight.</p>