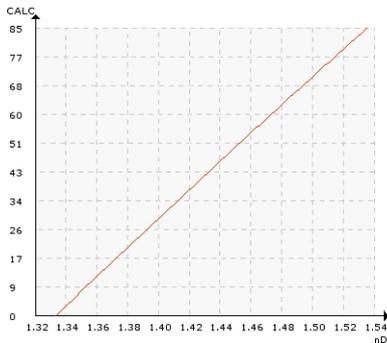


## KRAFT PULP

### Typical end products

Unbleached kraft pulp, bleached kraft pulp

Chemical curve: R.I. per black liquor conc% at ref. temp. of 20°C



### Introduction

After cooking, the pulp passes through a blow line to the blow tank and then on to a washing section. The diffuser washers wash black liquor from the fibres. The washed pulp is then screened before the bleaching process. The weak black liquor passes from the washing section to the chemical recovery area.

K-Patents SAFE-DRIVE™ Process Refractometer PR-23-SD is used in the blow line, extraction and

washing stages to measure the efficiency of the digester. In washing, the black liquor is displaced by water. To optimize the pulp chemical consumption and water usage, the black liquor concentrations have to be measured before and after washing.

The material balances can be calculated and the digester efficiency and washing process can be optimized and controlled using K-Patents SAFE-DRIVE™ Refractometer.

### Installation

The K-Patents SAFE-DRIVE™ Refractometer is used to measure black liquor solids in the extraction, blow line and washing stages. The measurement is unaffected by bubbles, particles, consistency, flow, ion changes, pH, temperature, pressure, color or turbulent flow.

The measurement surface is periodically cleaned using an automatic integrated prism cleaning system.

The key features and savings are:

- Increased washing efficiency
- Consistent pulp quality
- Lower bleaching costs
- Increased evaporation efficiency
- Environmental benefits

<b>PULP AND PAPER</b>	
<b>APPLICATION NOTE</b>	<b>3.01.01</b>
<b>KRAFT (SULFATE) PULP: CONTINUOUS DIGESTER</b>	

<b>Instrumentation</b>	<b>Description</b>
	<p>K-Patents SAFE-DRIVE™ Process Refractometer PR-23-SD for measuring black liquor dry solids and green liquor density or TTA in kraft chemical recovery process. K-Patents SAFE-DRIVE™ design allows for safe and easy insertion and retraction of the sensor under full operating pressure without having to shut down the process.</p>
<p>Measurement range:</p>	<p>Refractive Index (nD) 1.3200 – 1.5300, corresponding to 0-100 % by weight.</p>