



FORSCHUNG

BERATUNG

MESSTECHNIK

WEITERBILDUNG

**Paper Technology Specialists**  
Services in the paper value chain

## Services offered by the PTS Pilot Plant

**Optimising the defibration conditions of wet strength broke**

# Objectives and Methodology

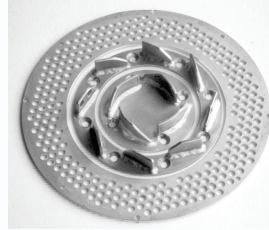
## Objectives

- To determine optimum repulping conditions for high wet strength broke with a view to avoiding investment costs by increasing the throughput of the existing pulper

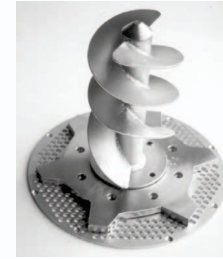
## Methodology

- Repulp in the pulper while varying
  - the rotor
  - stock consistency
  - temperature
  - type and amount of process chemicals
- Evaluate the repulping action as a function of the repulping time
- Evaluate the specific repulping energy

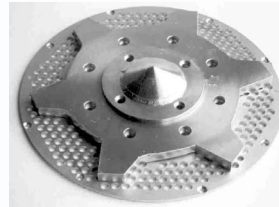
# Test bench



Rotor for mild repulping



Rotor for HC repulping

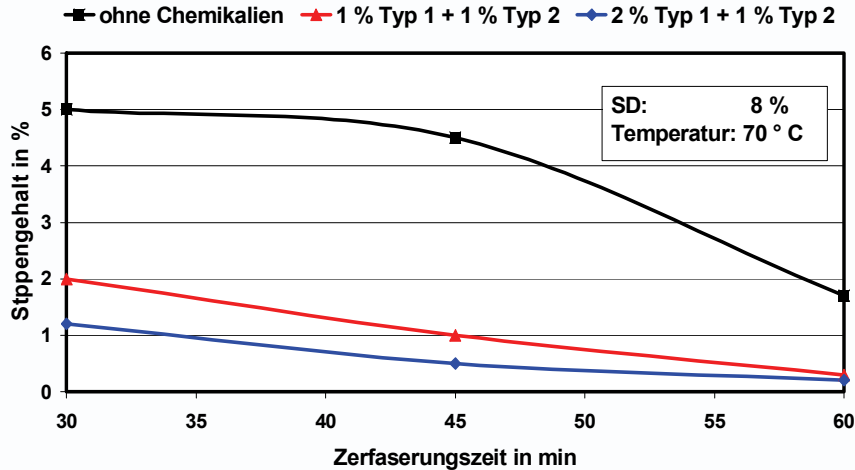


Design data  
 working volume: max. 140 l  
 rotor speed: max. 1440 rpm



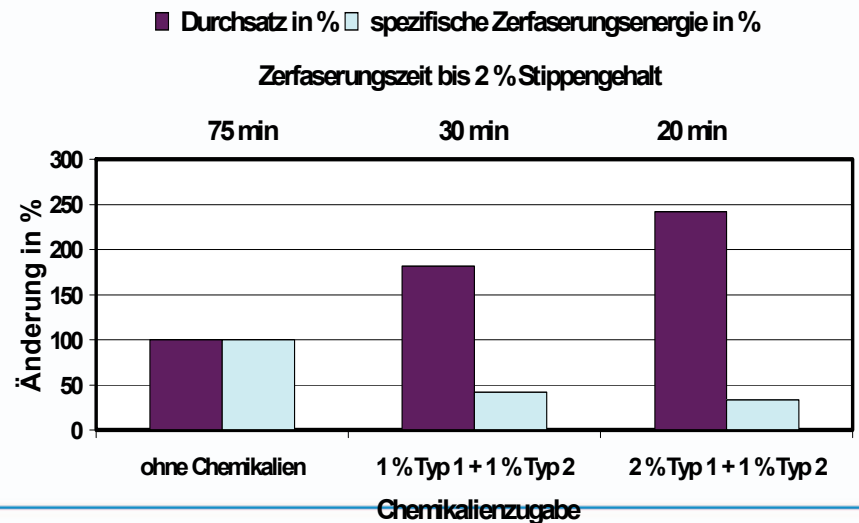
# Results

Stippengehalt in Abhängigkeit von der Zerfaserungszeit und vom Einsatz an Prozesschemikalien



- Specific repulping energy reduced to 40%
- Throughput increased by 2½ times

Einfluss der Chemikaliengabe auf Zerfaserungszeit, spezifischen Zerfaserungsenergie und Durchsatz



# Benefits

- Determination of optimum repulping conditions
  - rotor, rotor speed, power consumption
  - stock density and degree of filling of the pulper
  - pH, temperature, type and amount of process chemicals
- Increase in throughput by optimum repulping conditions and thus increase in capacity
- Reduction in the specific energy consumption
- Production of reproducible, even extreme, conditions that are virtually to absolutely impossible to duplicate in large-scale production
- Testing of a large number of products under comparable conditions within a short period of time
- Low investment costs owing to small amount of test material

# Ansprechpartner

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