



# ENZYMES

## Biocatalysts for your processes

**CHT**  
SMART CHEMISTRY  
WITH CHARACTER.

Paper Solutions

# CHT ENZYMES for TISSUE PRODUCTION

## CHT Group sustainable solutions

Sustainability is a major focus of the pulp and paper industry. Renewable and recyclable raw materials are state of the art for paper production. Aligned with the market demands and our strategy on sustainable management throughout the value chain, during the last ten years the CHT Group developed 7 generations of environmentally friendly enzyme technologies to improve the efficiency of energy management in the paper and pulp production process. In 2017 the application of CHT Enzyme technology saved approximately 5500 MWh of energy in the paper industry, which would be equivalent to one month supply of around 25 thousand households in Brazil.

## What are ENZYMES and how they work

Enzymes are biocatalysts, which are extracted from natural raw materials or made by means of fermentation. CHT products consist of cellulases working substrate specifically. They improve the fibrillation and delamination of cellulose fibres and prepare them for the refining process. This induces less mechanical stress to the fibre and has a positive impact on paper properties. Additionally, the dewatering can be accelerated due to reduced formation of fines.

## The benefits at a glance

<b>Sustainability</b>	<ul style="list-style-type: none"><li>• Refining energy and steam saving</li><li>• Saving fibres by keeping paper properties</li></ul>
<b>Productivity</b>	<ul style="list-style-type: none"><li>• Increased production capacity</li><li>• Enhanced drainage</li></ul>
<b>Paper quality</b>	<ul style="list-style-type: none"><li>• Increased strength properties</li><li>• Improved softness and bulk</li></ul>
<b>Chemical savings</b>	<ul style="list-style-type: none"><li>• Decrease of wet strength agent</li><li>• Decrease of starch and polymers</li></ul>

## Successful industrial application

Our successful cooperation with long term customers shows that a proper choice of the enzyme together with smart application management can provide additional benefits besides the energy savings.

Depending on customer demands we develop the right approach to introduce the CHT Enzymes into the process. Smart application management offers a variety of unique opportunities to increase productivity or to improve paper properties, such as strength and softness.

## QUIMIZIME B in tissue production

Variable	Reference	With Enzyme	Δ
Production [t/day]	85	97	+14 %
Refiners	2 refiners	1 refiner	-50 %
Wet strength resin [kg/t]	22	15	-30 %
Starch [kg/t]	18	5	-72 %

Main advantages of smart bio-refining using CHT Enzymes:

- ▶ Savings in refining energy and steam consumption
- ▶ Chemical savings
- ▶ Increased productivity
- ▶ Improved paper properties (Tensile Index, Scott Bond and softness)

The improved paper properties achieved with CHT Enzymes provide the following savings:

- ▶ Reduction of grammage
- ▶ Replacement of long fibres by short fibres

## Product overview

	Fibre	pH	Temperature	Effect
<b>QUIMIZIME B</b>	<ul style="list-style-type: none"><li>• Chemical pulp</li><li>• Recycled fibre</li></ul>	4.0 – 8.0	40 – 60 °C	<ul style="list-style-type: none"><li>• Increased strength properties</li><li>• Savings in refining energy</li><li>• Chemical savings</li></ul>
<b>ZIAX 775-D</b>	<ul style="list-style-type: none"><li>• Chemical pulp</li><li>• Recycled fibres</li></ul>	4.0 – 8.0	40 – 60 °C	<ul style="list-style-type: none"><li>• Accelerated drainage</li></ul>

You need further information?  
Please contact us under e-mail: [paper@cht.com](mailto:paper@cht.com)



**PA08, Version 05/2024**

CHT GERMANY GMBH | Bismarckstraße 102 | D-72072 Tübingen | Tel +49 7071 154-0 | Fax +49 7071 154-290 | [www.cht.com](http://www.cht.com) | [info@cht.com](mailto:info@cht.com)