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# FIBERCARE® REFINING CASE STUDY

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# Case Study 2

## Refining & Strength improvement with FiberCare® on Tissue Production at Mill 2

# Trial Situation

Mill target: Improve tensile strength of tissue paper

Mill problem: Poor tensile strength

# Trial Situation

Paper grade:  14.6g/m2 Roll tissue paper

Machine speed: 1720m/min

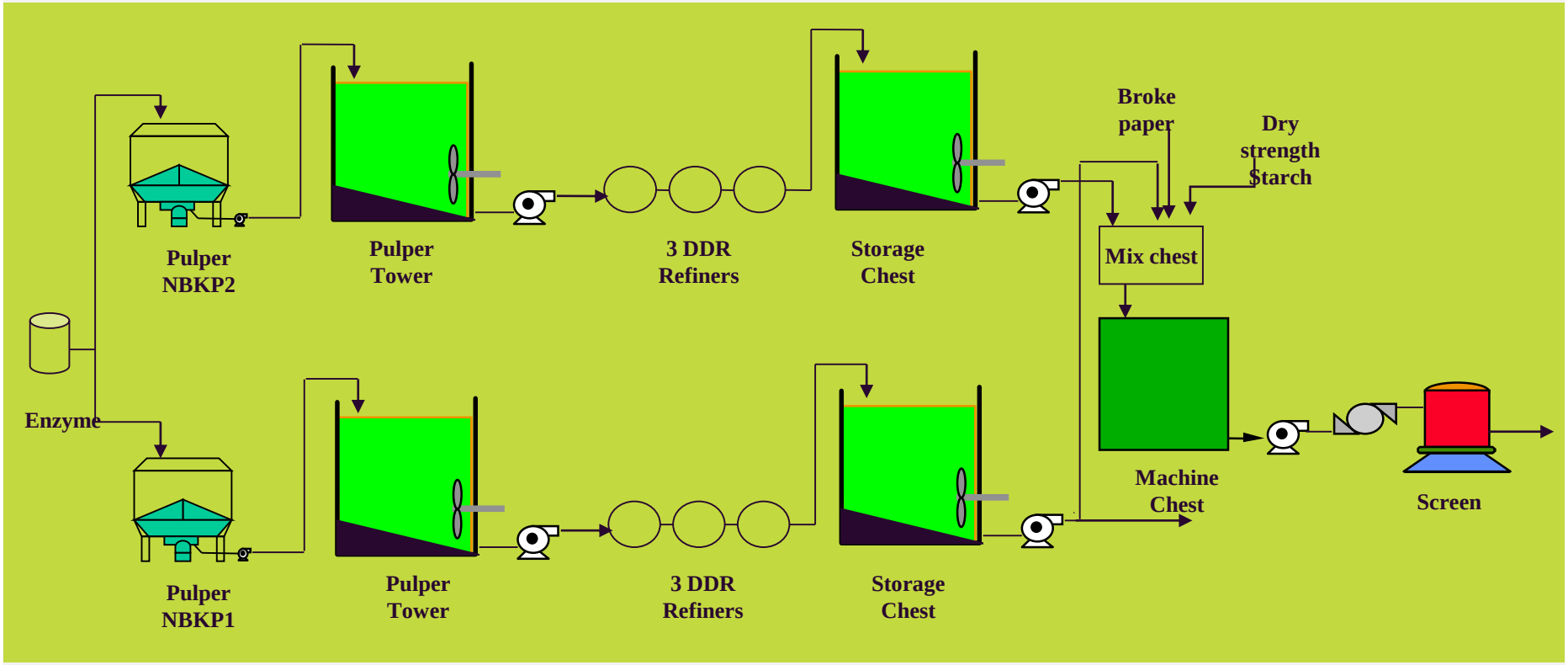
Furnish: 10% bleached softwood kraft pulp / 90% bleached  hardwood kraft pulp

Enzyme treated pulp: Mixed bleached softwood/ hardwood pulp

Pulp and white water situation:

- Pulp in Hydraulic Pulper: T = 35℃, pH = 6.7
- White water: pH = 6.5-7.5
- Post-refiner Pulp: T = 40℃
- Headbox Pulp: T = 35-38℃

# Trial Situation




Enzyme: FiberCare R

Adding point: Pulper

Enzyme dosage: 70g/t

Enzyme treatment time: around 1 hours before refining

# Trial Situation

Before enzyme refining trial, adding strength aid as below:

- 25kg/t pulp Dry strength aids in Polymer form
- 7kg/t pulp cationic starch

Refiners: 2 sets of DDR refiners

# Trial Result

| | Control | FiberCare R |
|---|---|---|
| Enzyme dosage | 0 | 0.07kg |
| Dry strength aids (polymer) | 25kg | 0 |
| Refining energy consumption, kwh/t | 60kwh/t | 20kwh/t |
| *Freeness of Refined pulp, CSF | 390 | 460 |
| Cylinder speed, m/min | 1720 | 1800 |

*Pre-condition: Maintaining or slightly improving the tensile strength, while retaining the tissue thickness

# Trial Conclusion

- 0.07kg/t FiberCare®
- Reduced 67% refining energy, per ton pulp saved 40kwh refining energy
- Totally stopped adding of 25kg Dry strength
- Better tensile strength, which facilitates an increase in machine speed

# THANK YOU

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