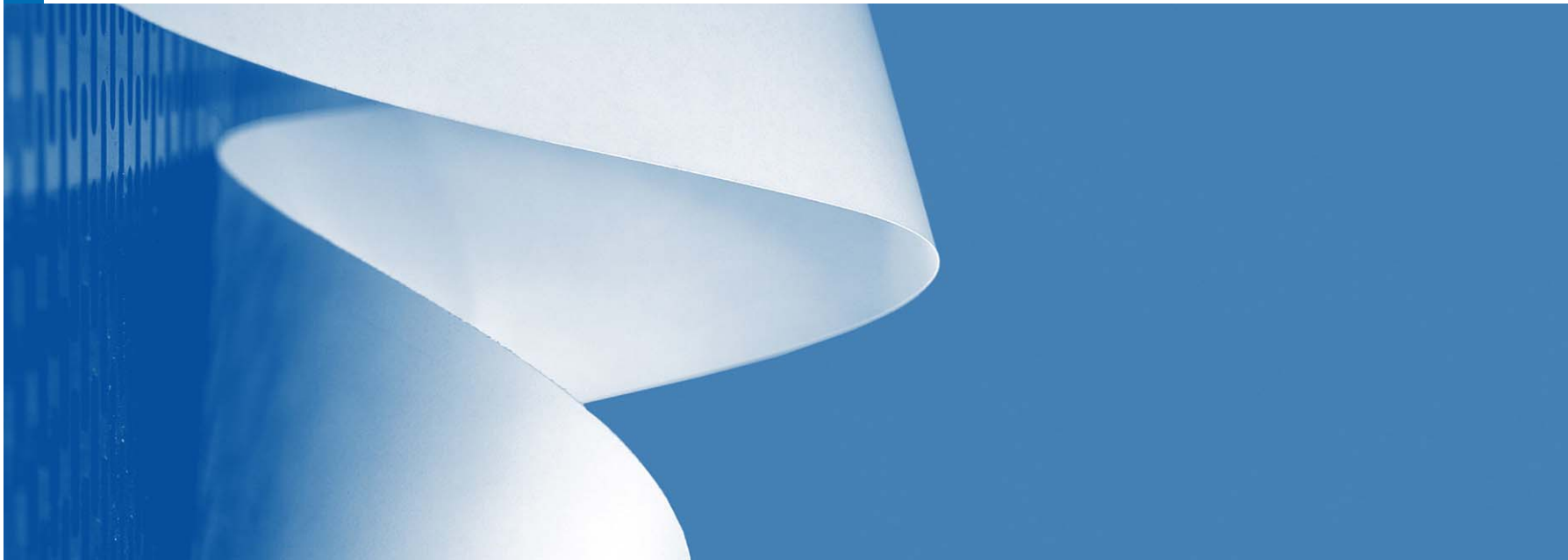


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Pulp & Paper

New technologies for drying sections

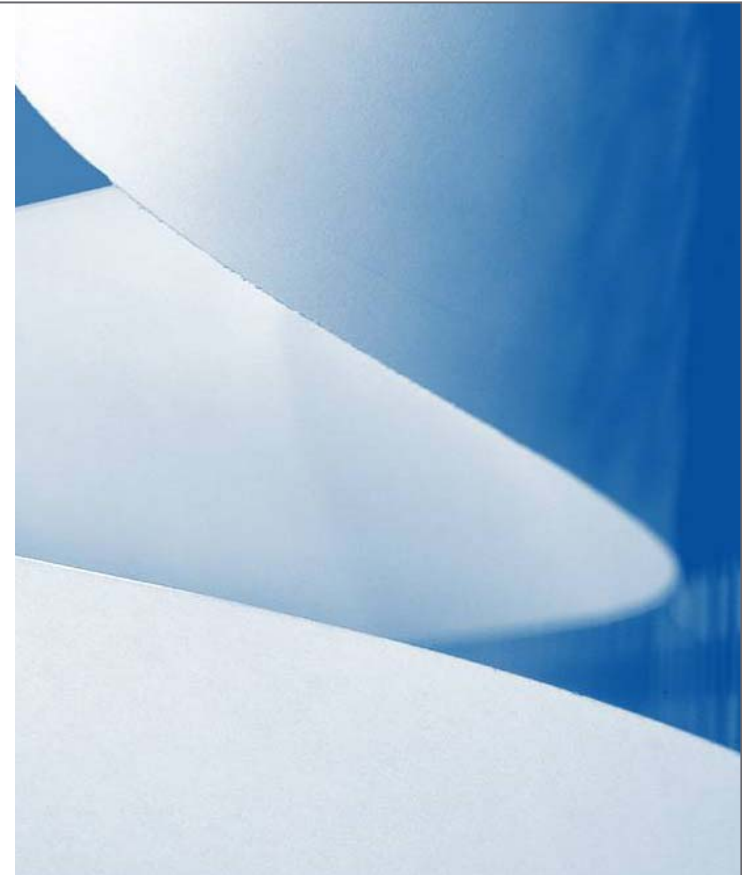
Comparison of different concepts



New technologies for drying sections

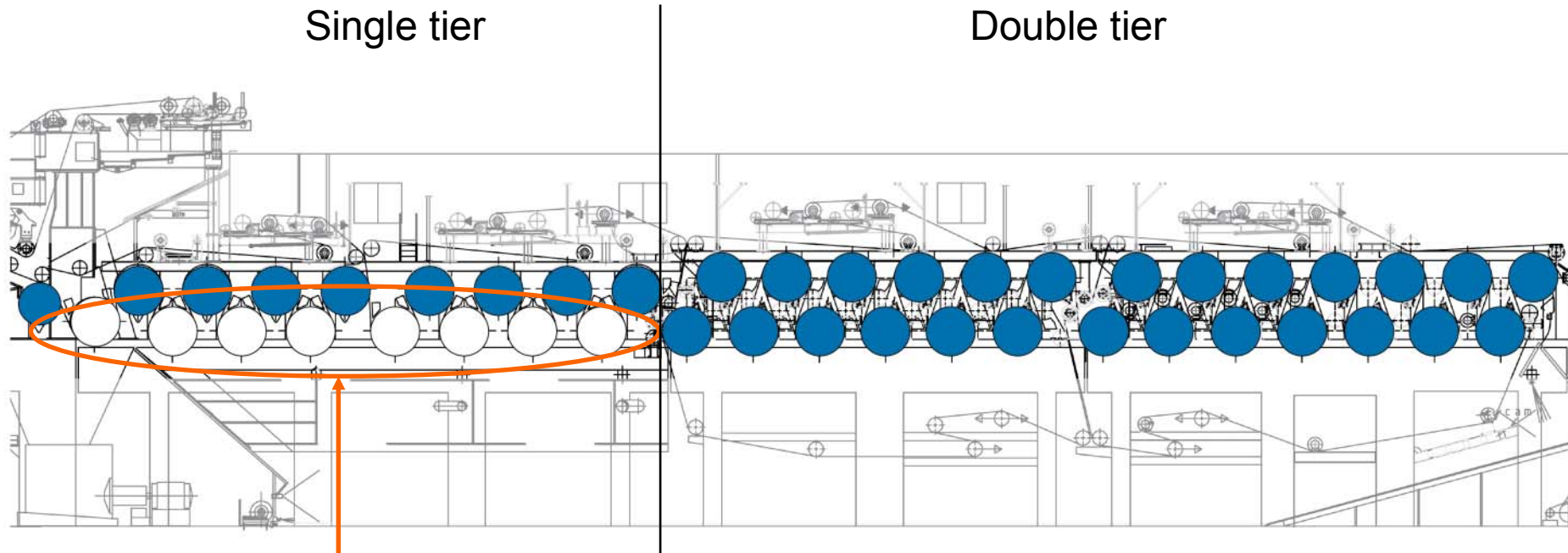
Contents

- Case study contact drying
 - Cast cylinder
 - Steel cylinder
 - High temperature cylinder
- Case study impingement drying
 - Indirect
 - Direct
 - Double sided
- Summary



Drying section

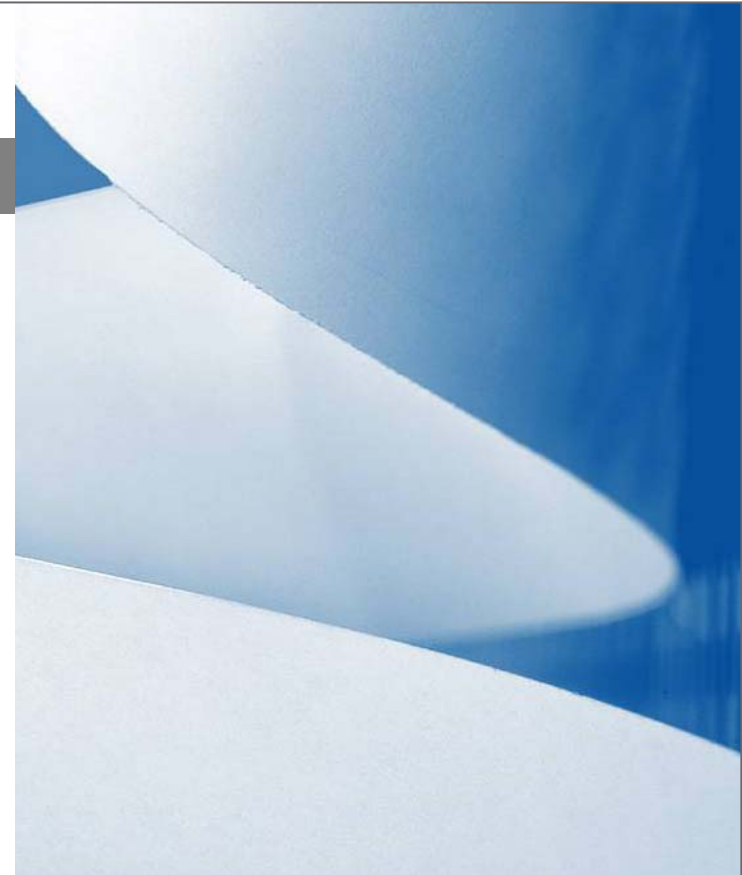
Layout for case studies



Basis weight:	36 g/m ²
Machine speed:	1600 m/min
after Press:	43 %

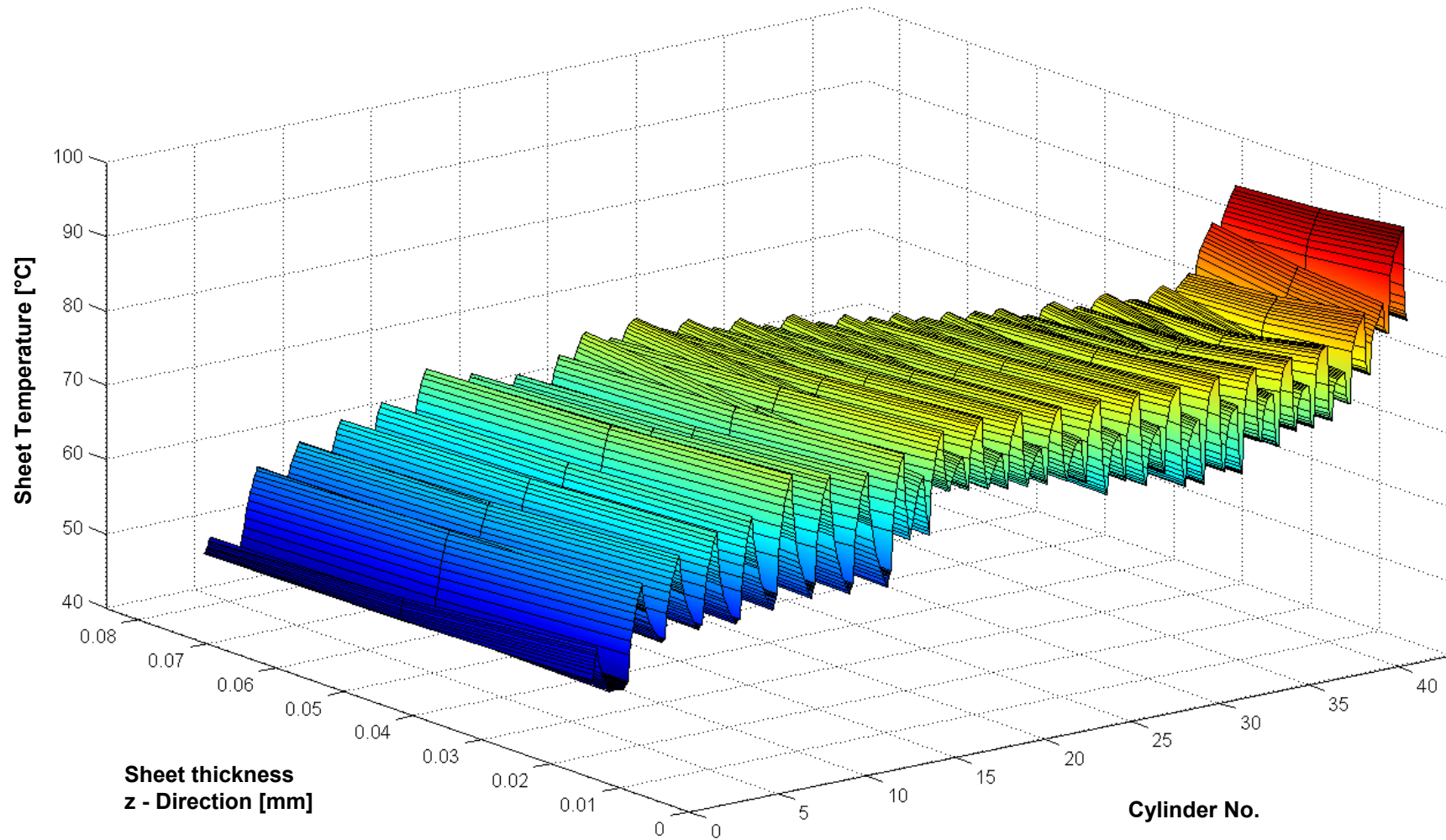
New technologies for drying sections

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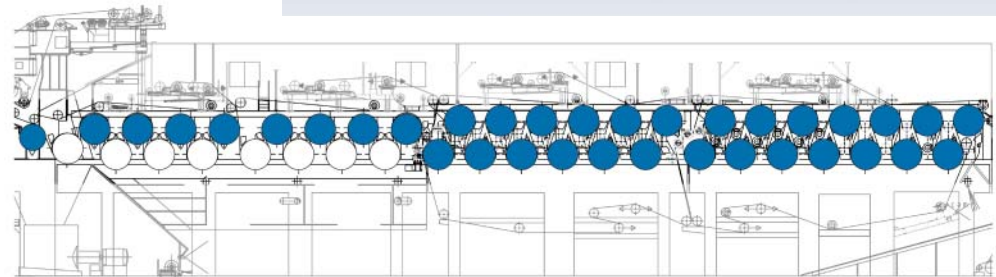
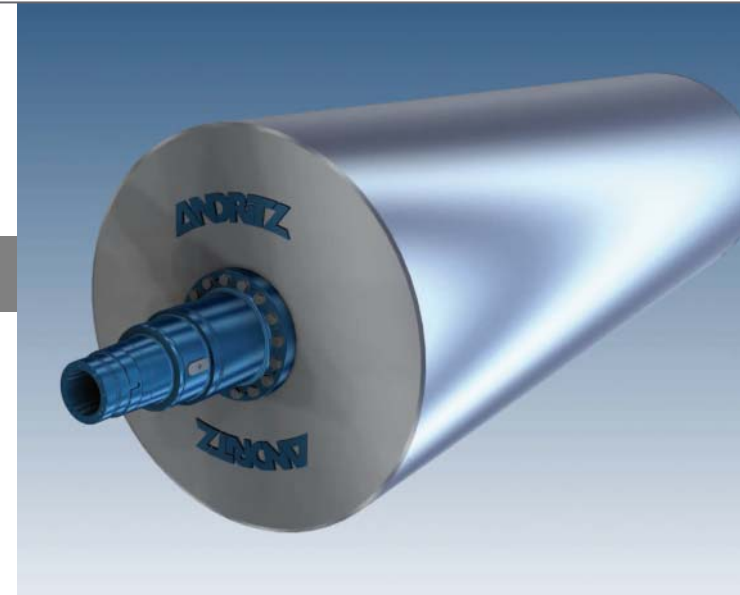
Cast cylinder

Simulation result



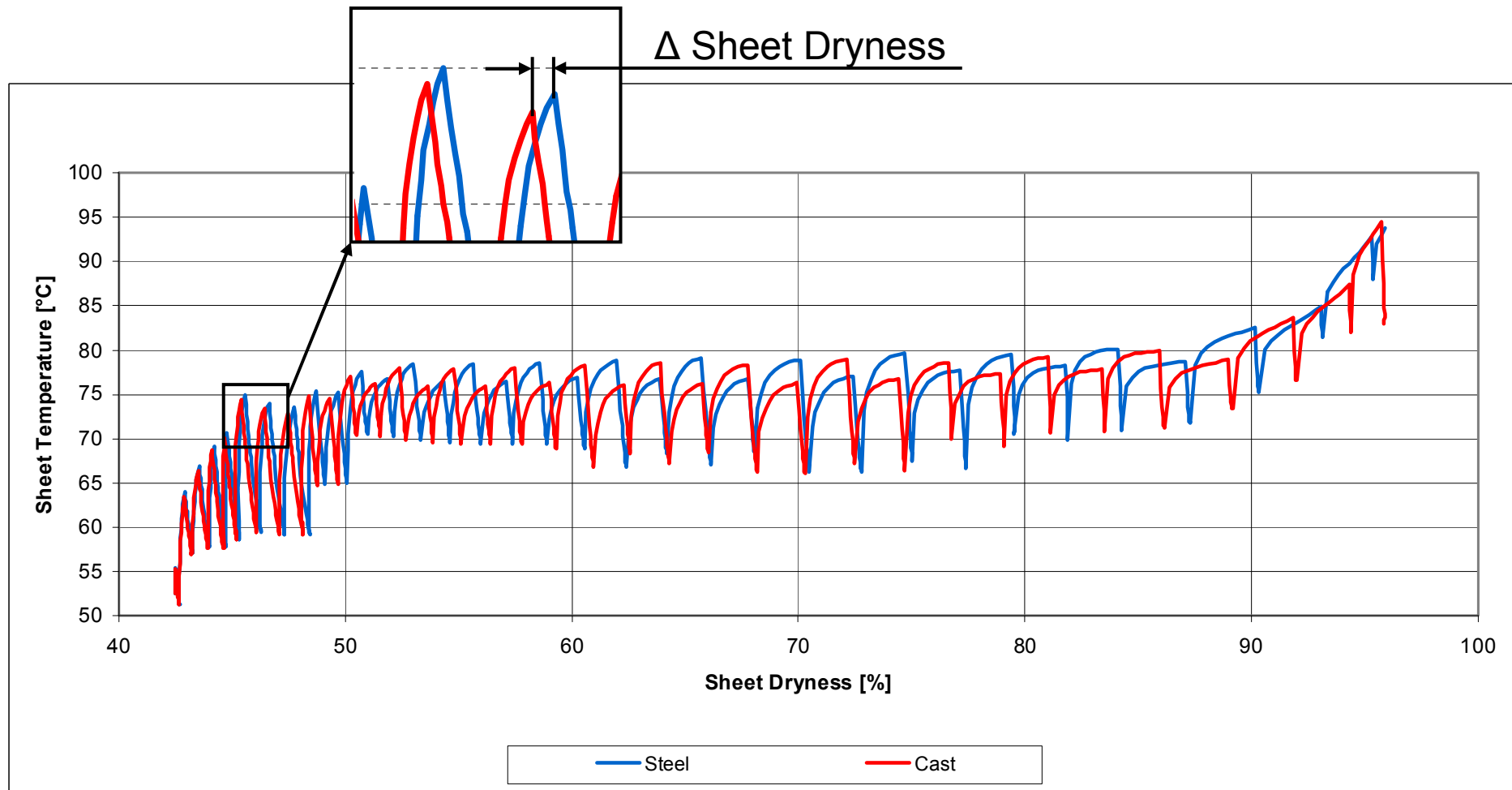
New technologies for drying sections

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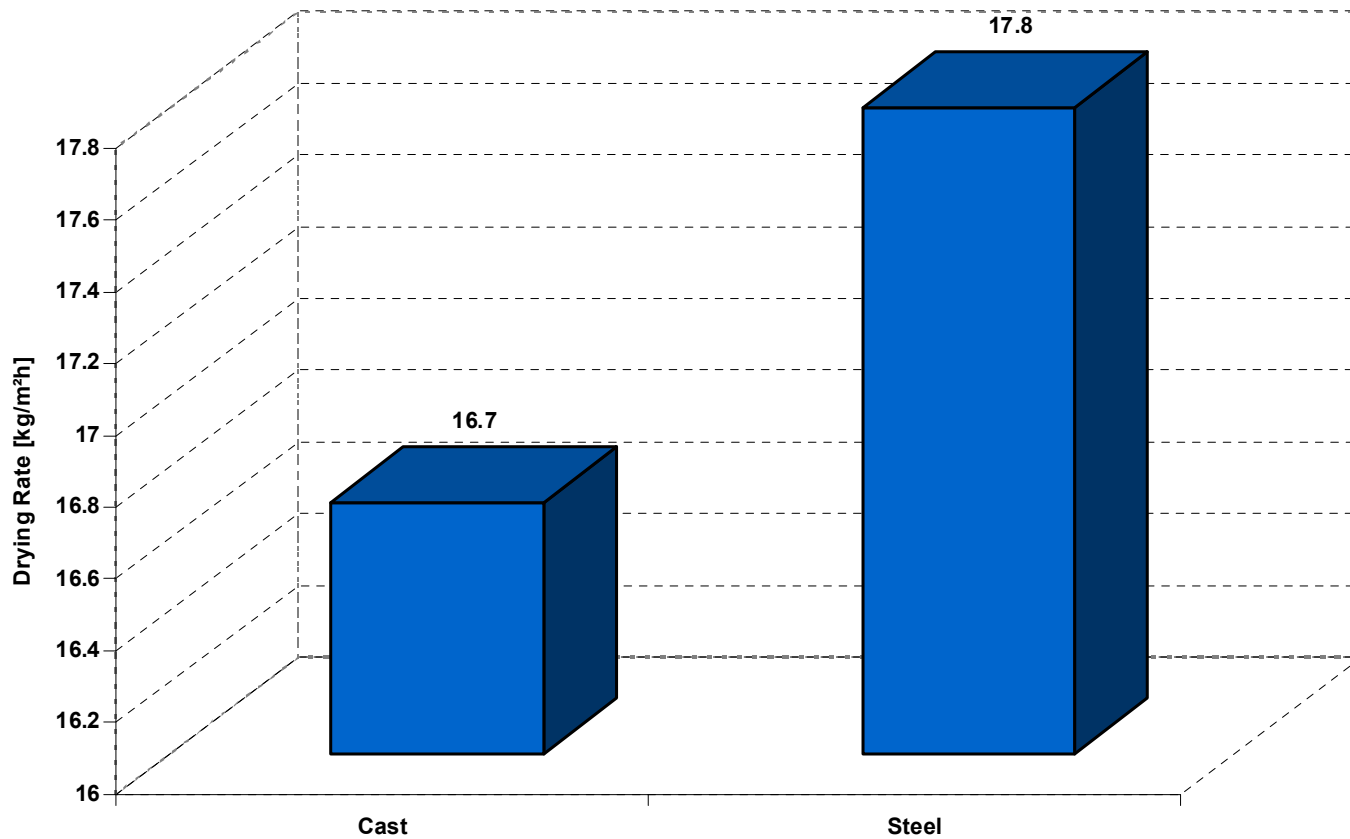
Steel cylinder

Comparison sheet temperature vs. sheet dryness



Steel cylinder

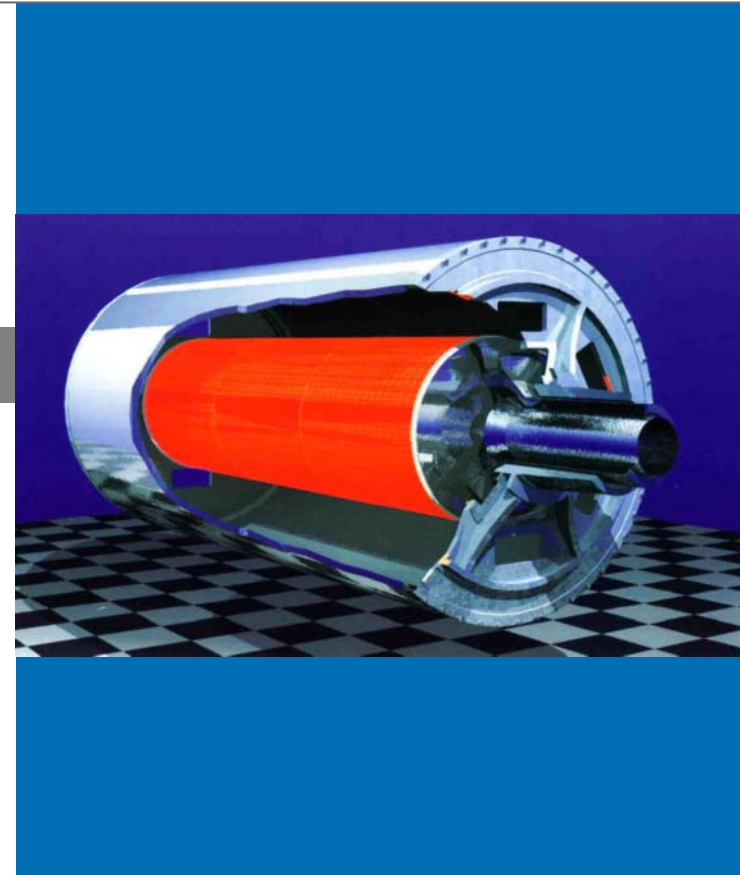
Comparison of drying rates from simulation



- Reference for steel cylinder rebuild: German board mill, installed in 07/2011

New technologies for drying sections

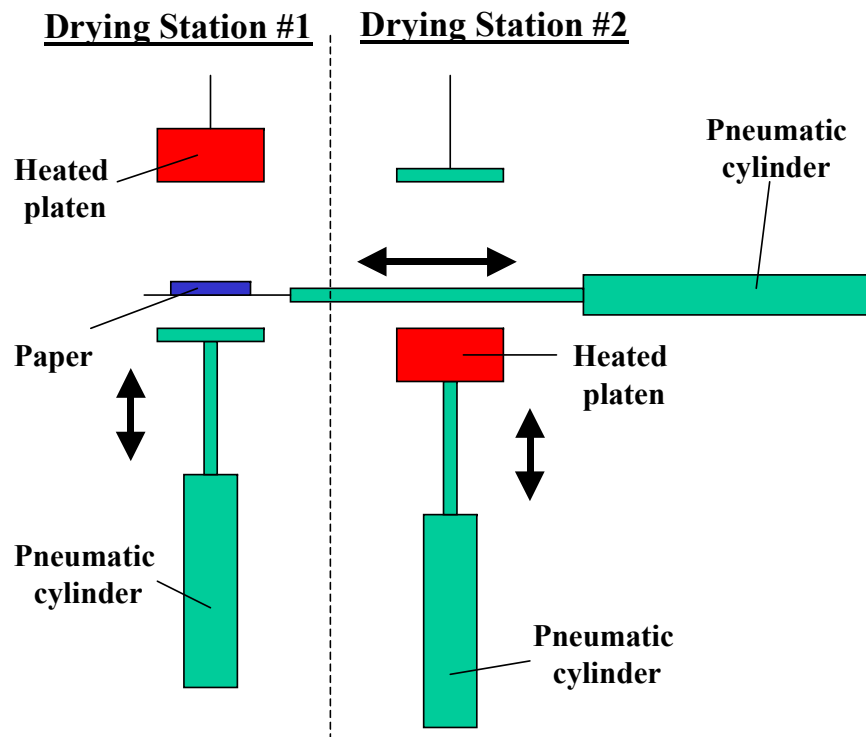
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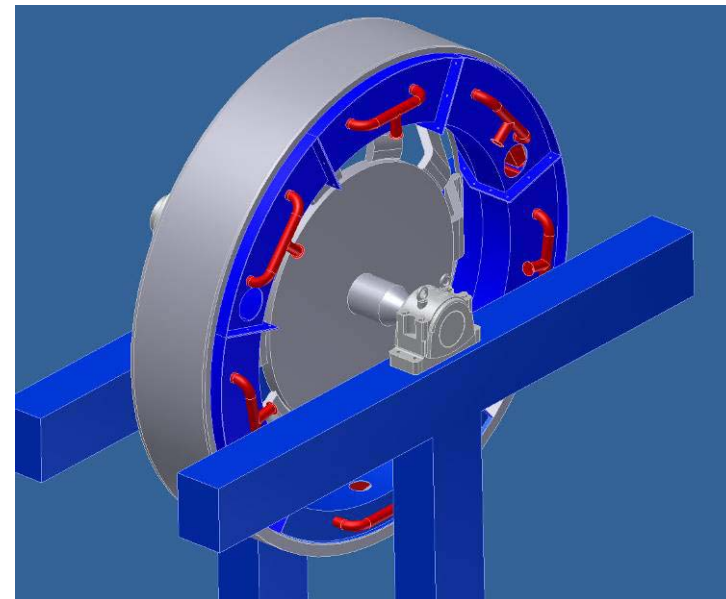
High temperature cylinder

Test arrangement

Labor arrangement



Pilot plant

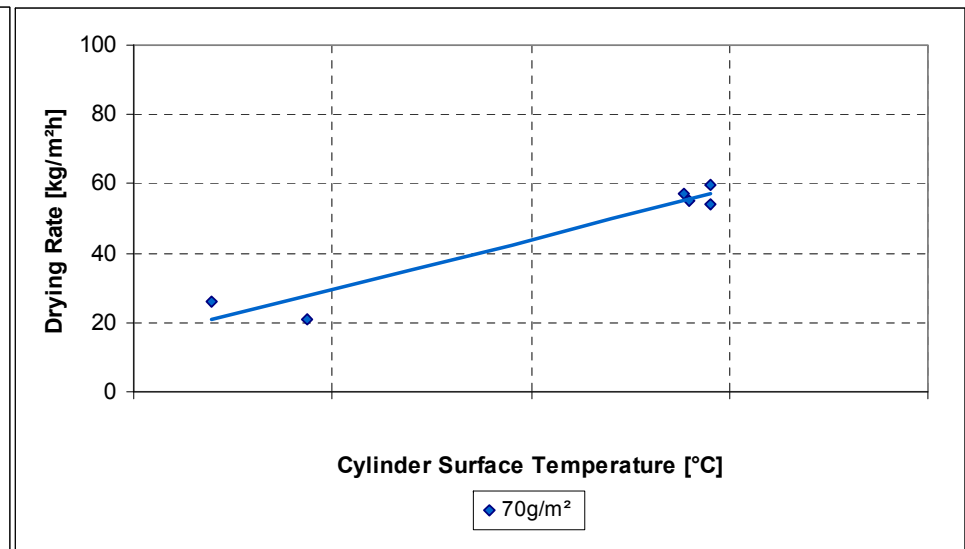
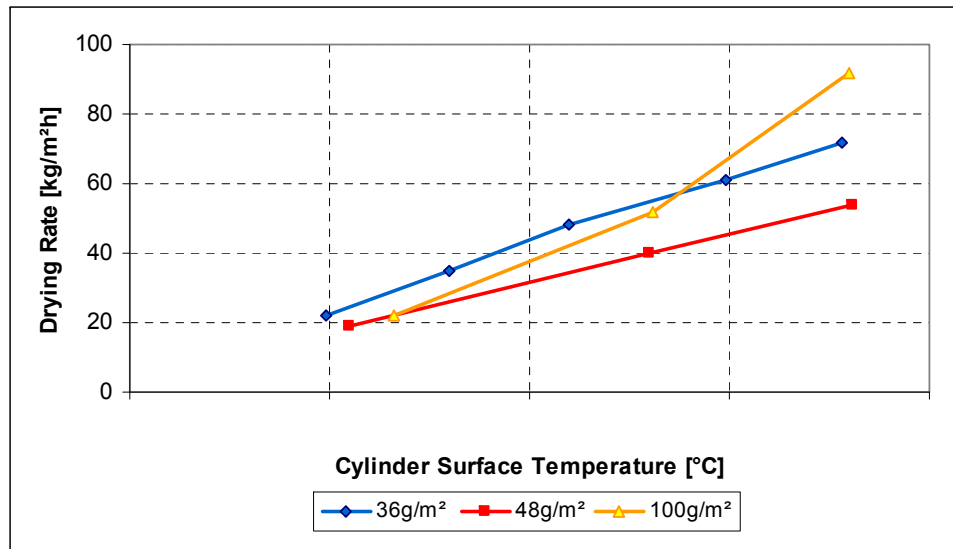


High temperature cylinder

Results drying rates form tests

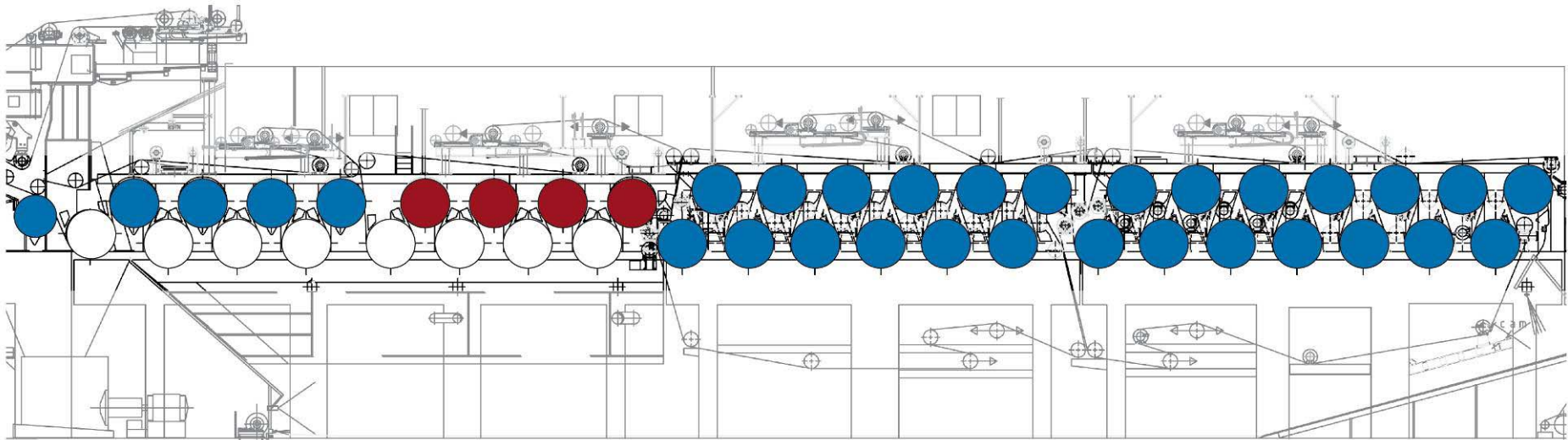
Labor arrangement

Pilot plant



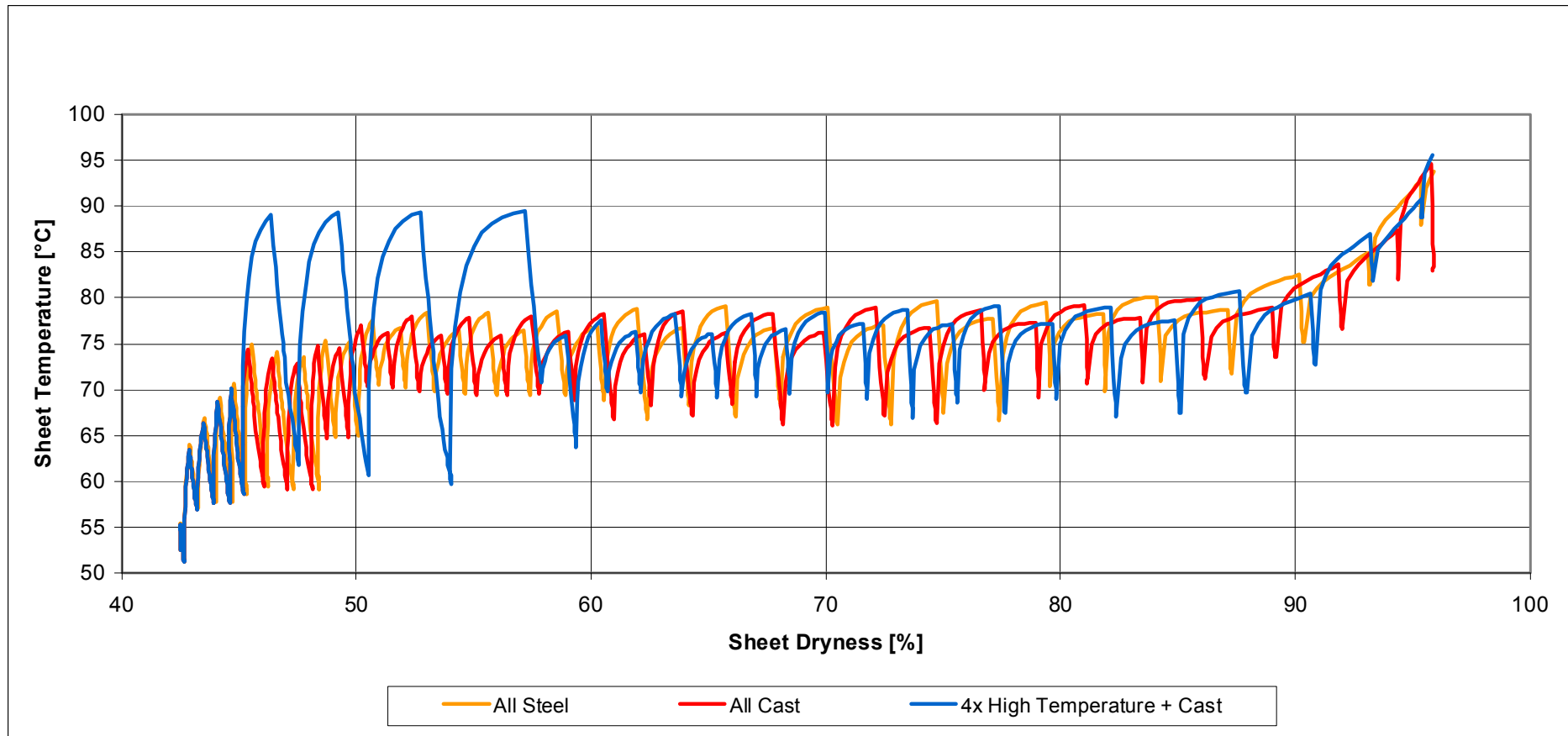
High temperature cylinder

Layout drying section for simulation



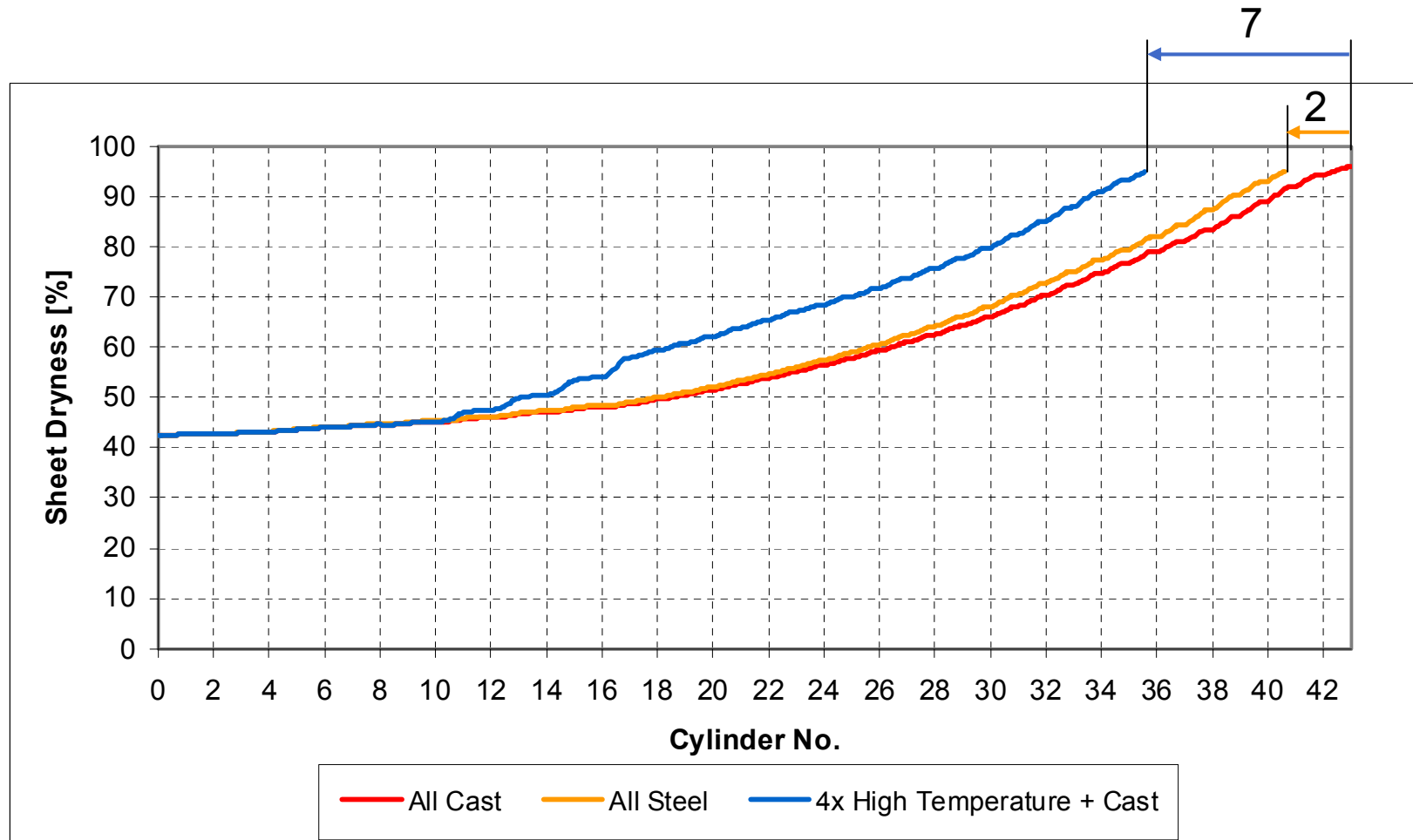
High temperature cylinder

Comparison sheet temperature vs. sheet dryness



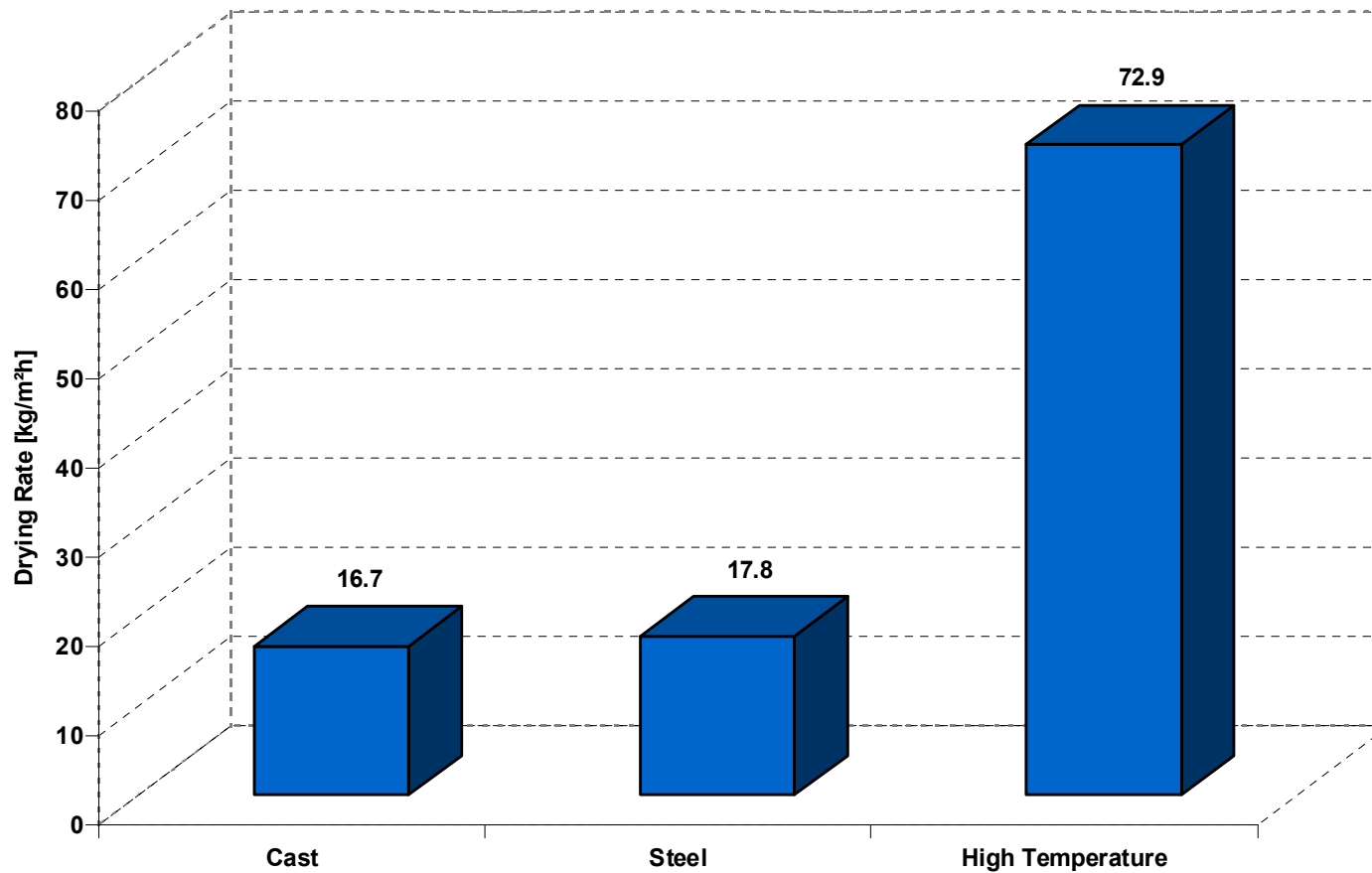
High temperature cylinder

Comparison sheet dryness



High temperature cylinder

Comparison drying rates from simulation

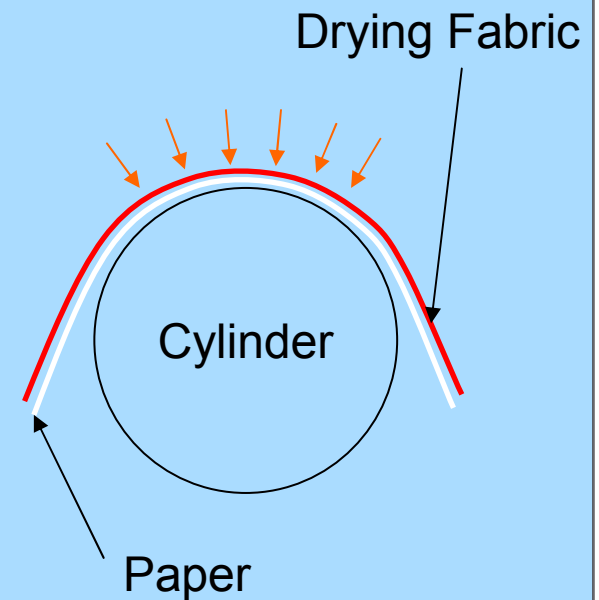


- Reference: PM2, Corrugated Services Inc., Forney, Texas

New technologies for drying sections

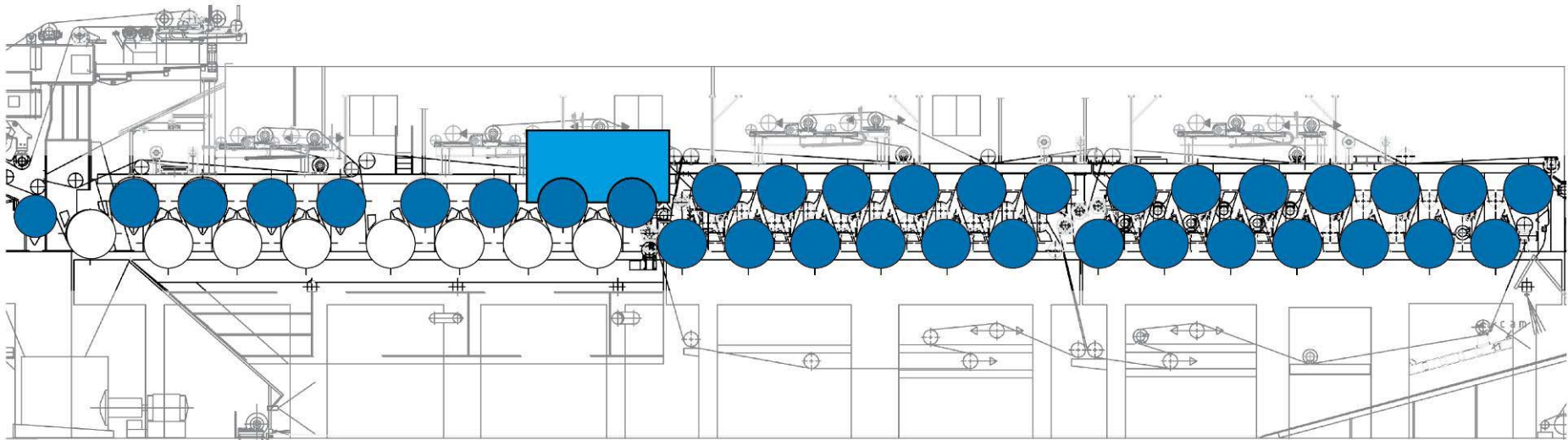
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Indirect Impingement



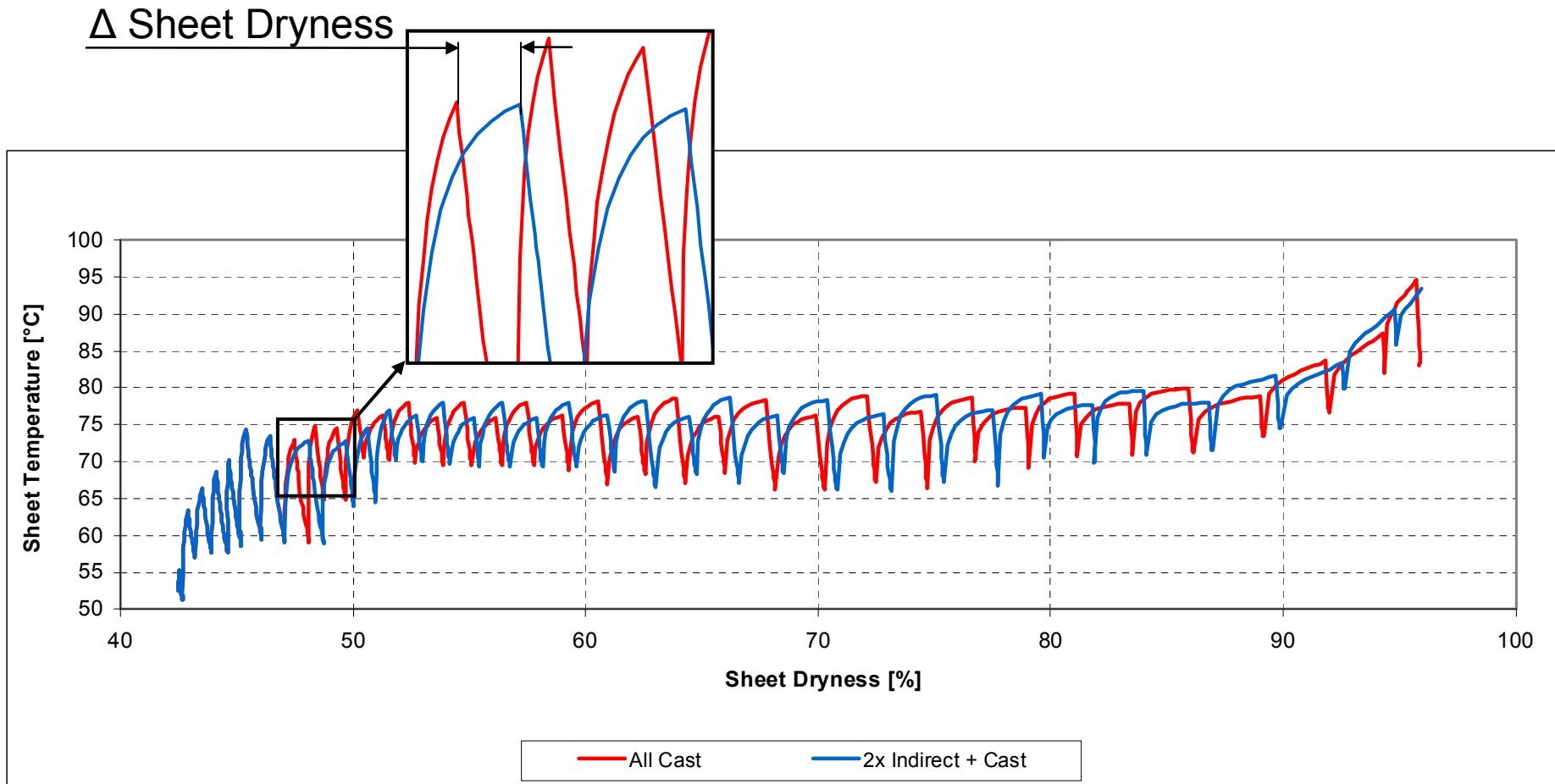
Impingement indirect

Layout drying section for simulation



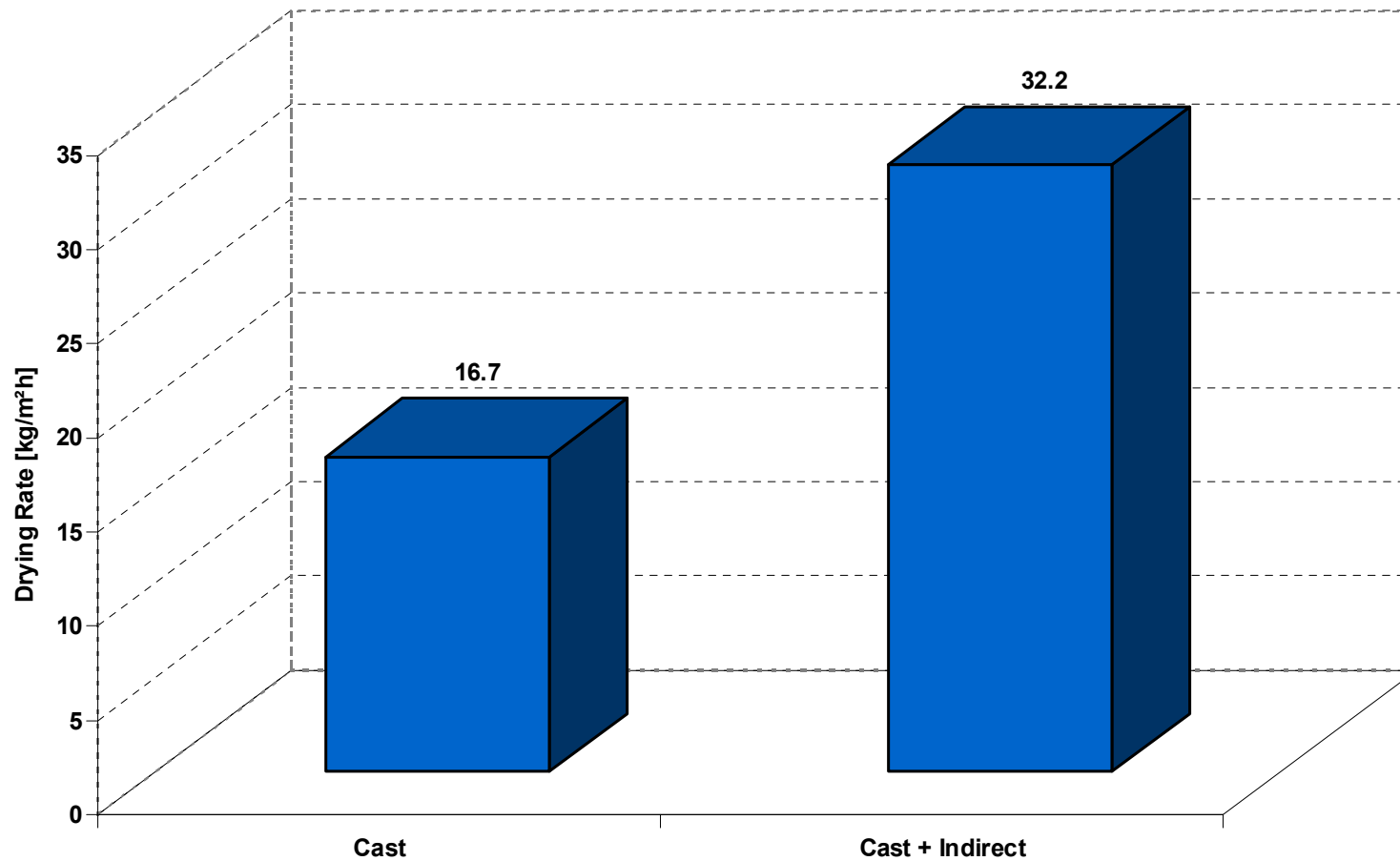
Impingement indirect

Comparison sheet temperature vs. sheet dryness



Impingement indirect

Comparison drying rates from simulation



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Direct Impingement

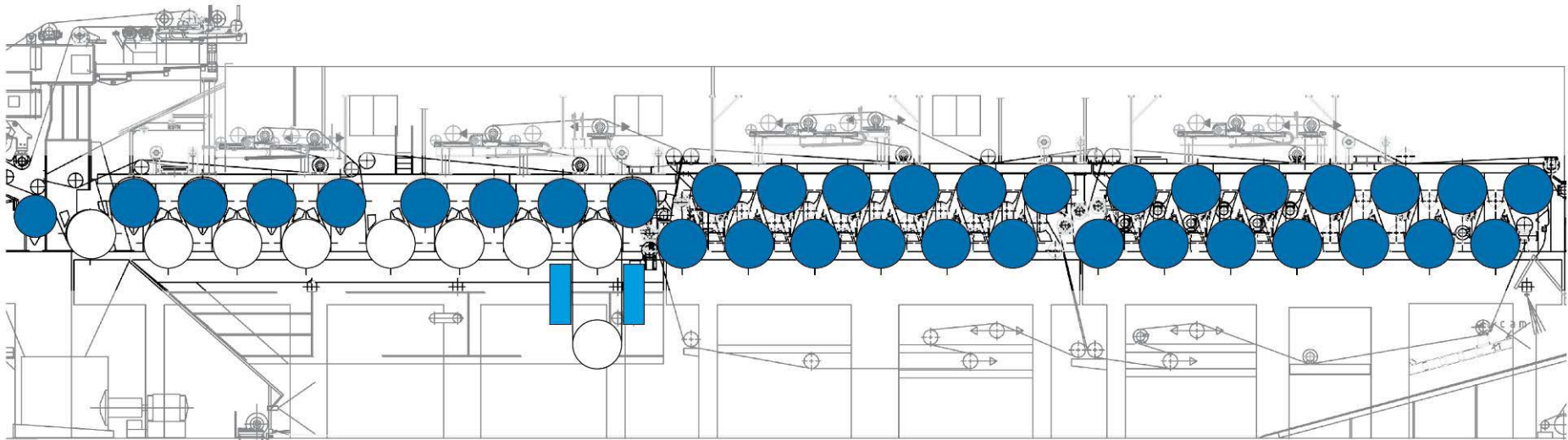
Paper



Drying Fabric

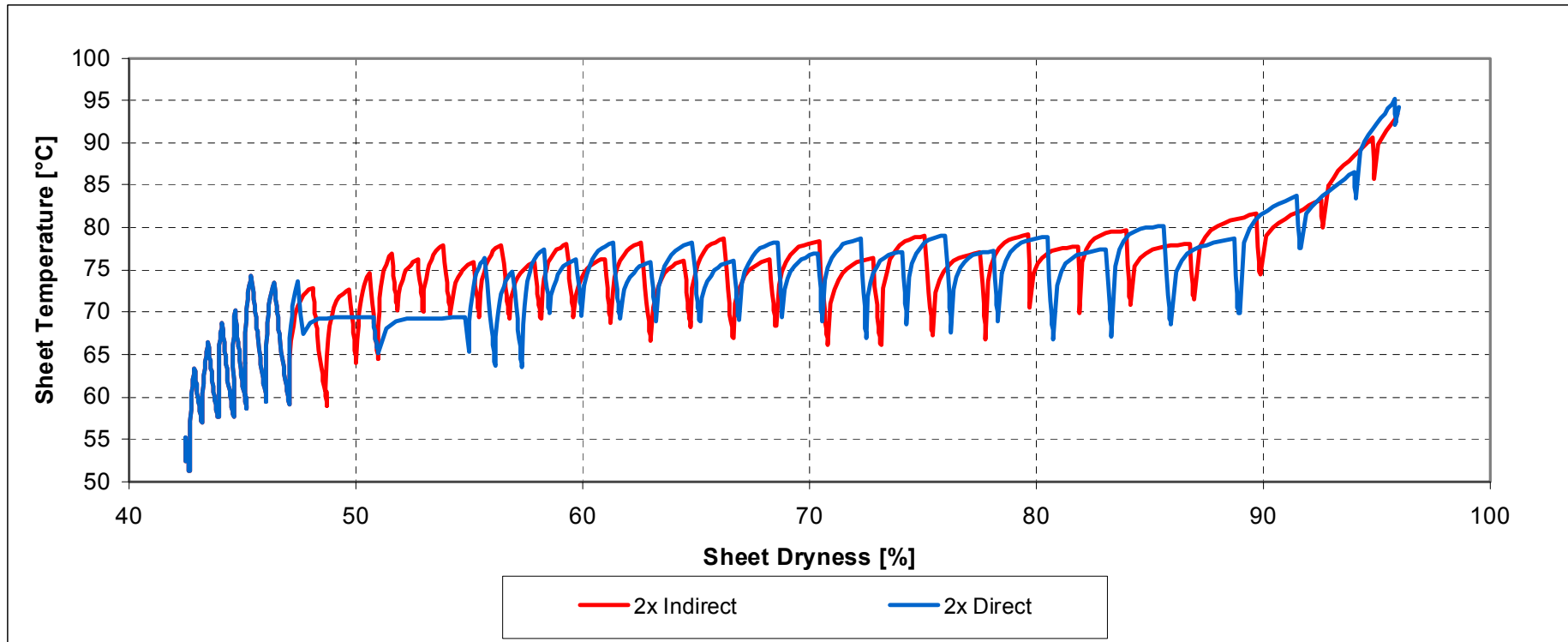
Impingement direct

Layout drying section for simulation



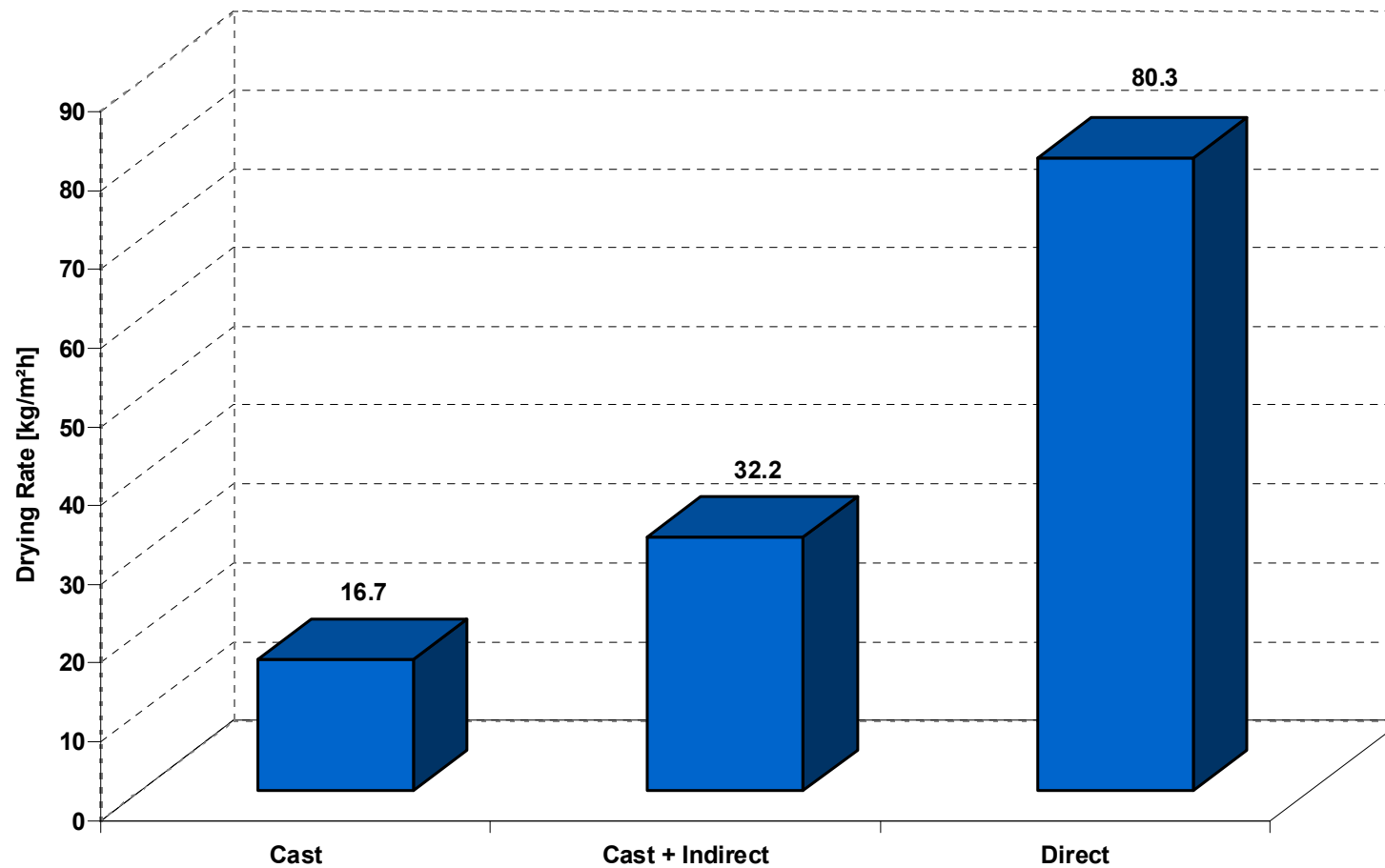
Impingement direct

Comparison sheet temperature vs. sheet dryness



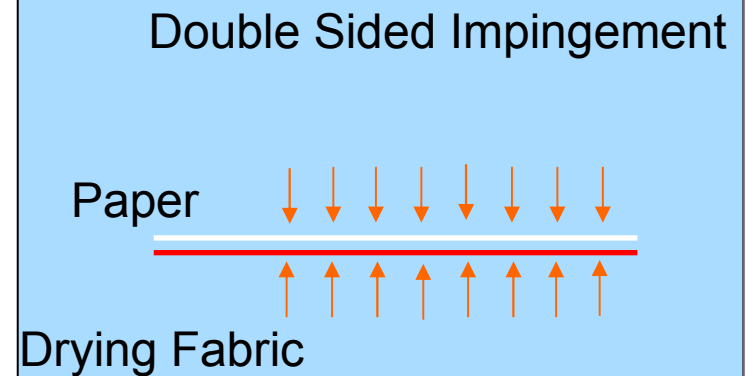
Comparison drying rates from simulation

Impingement direct



New technologies for drying sections

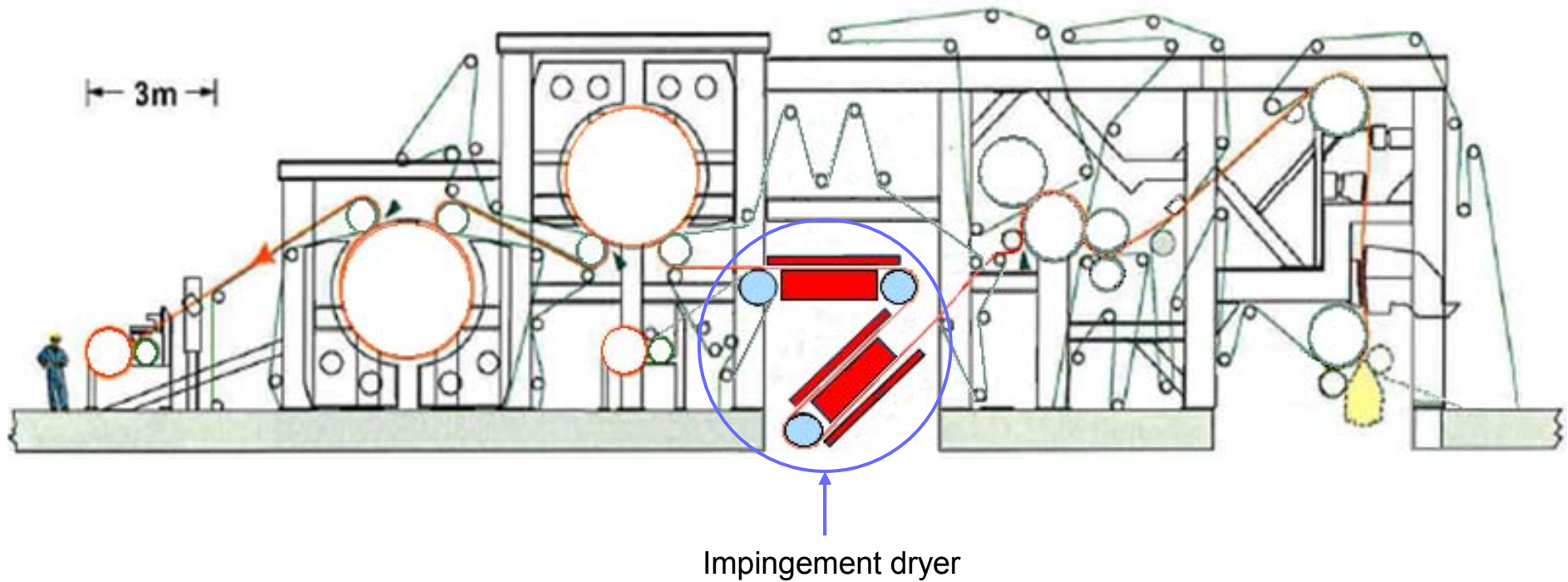
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Impingement double sided

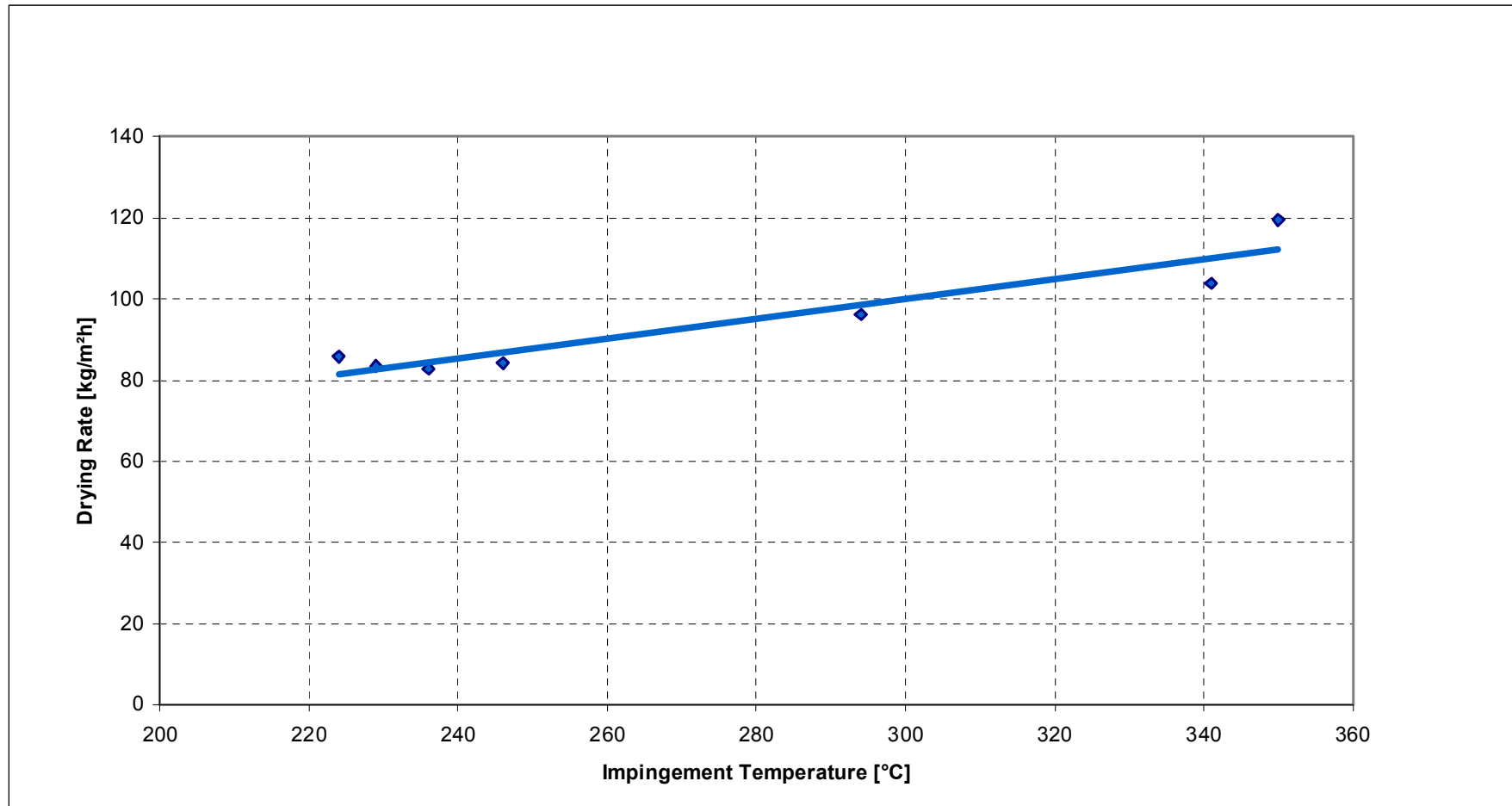
Test arrangement

Pilot machine



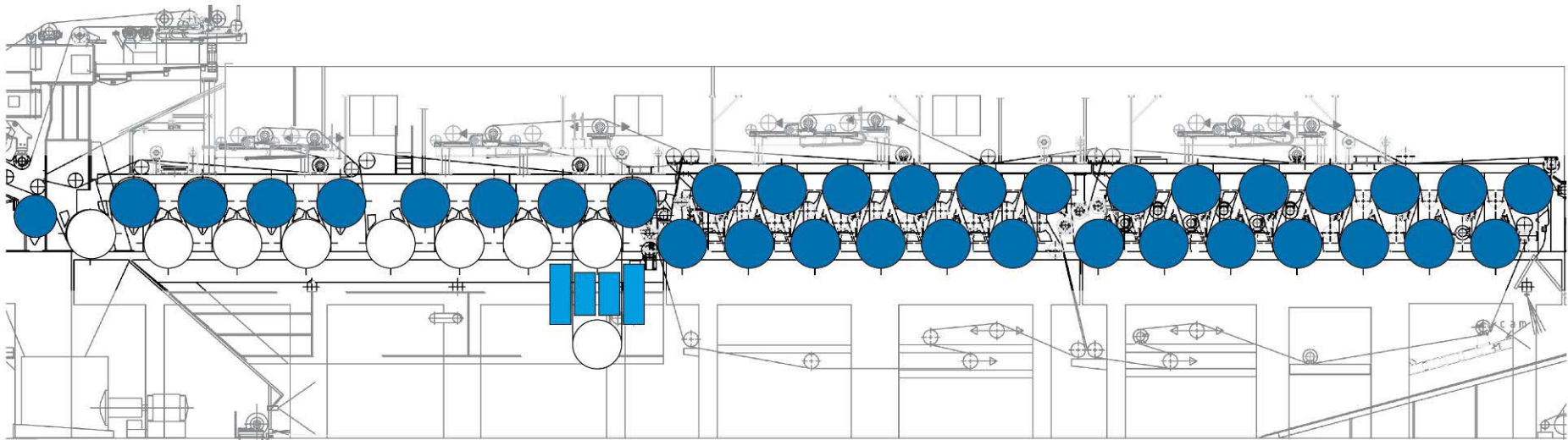
Impingement double sided

Results



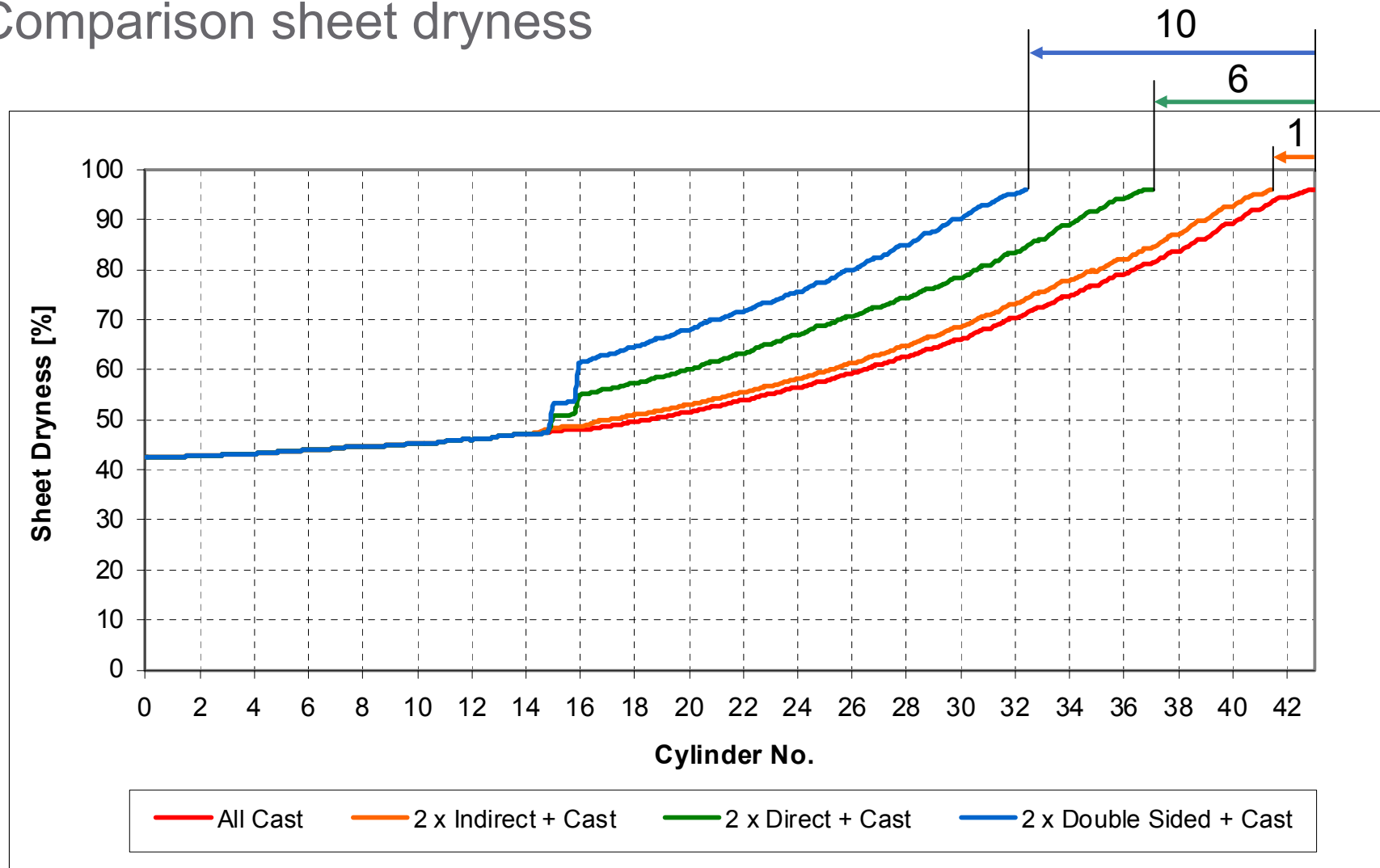
Impingement double sided

Layout drying section for simulation



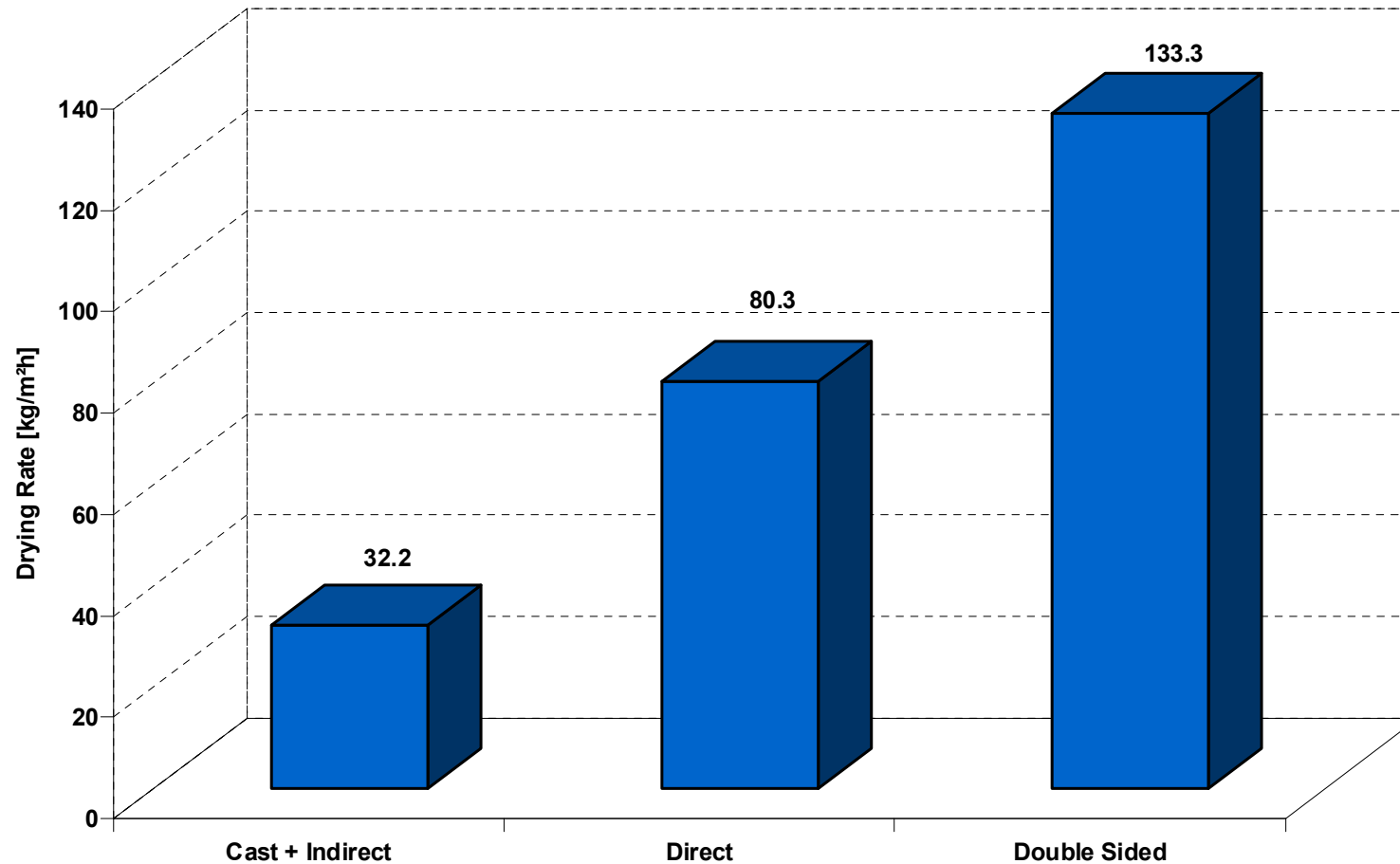
Impingement double sided

Comparison sheet dryness



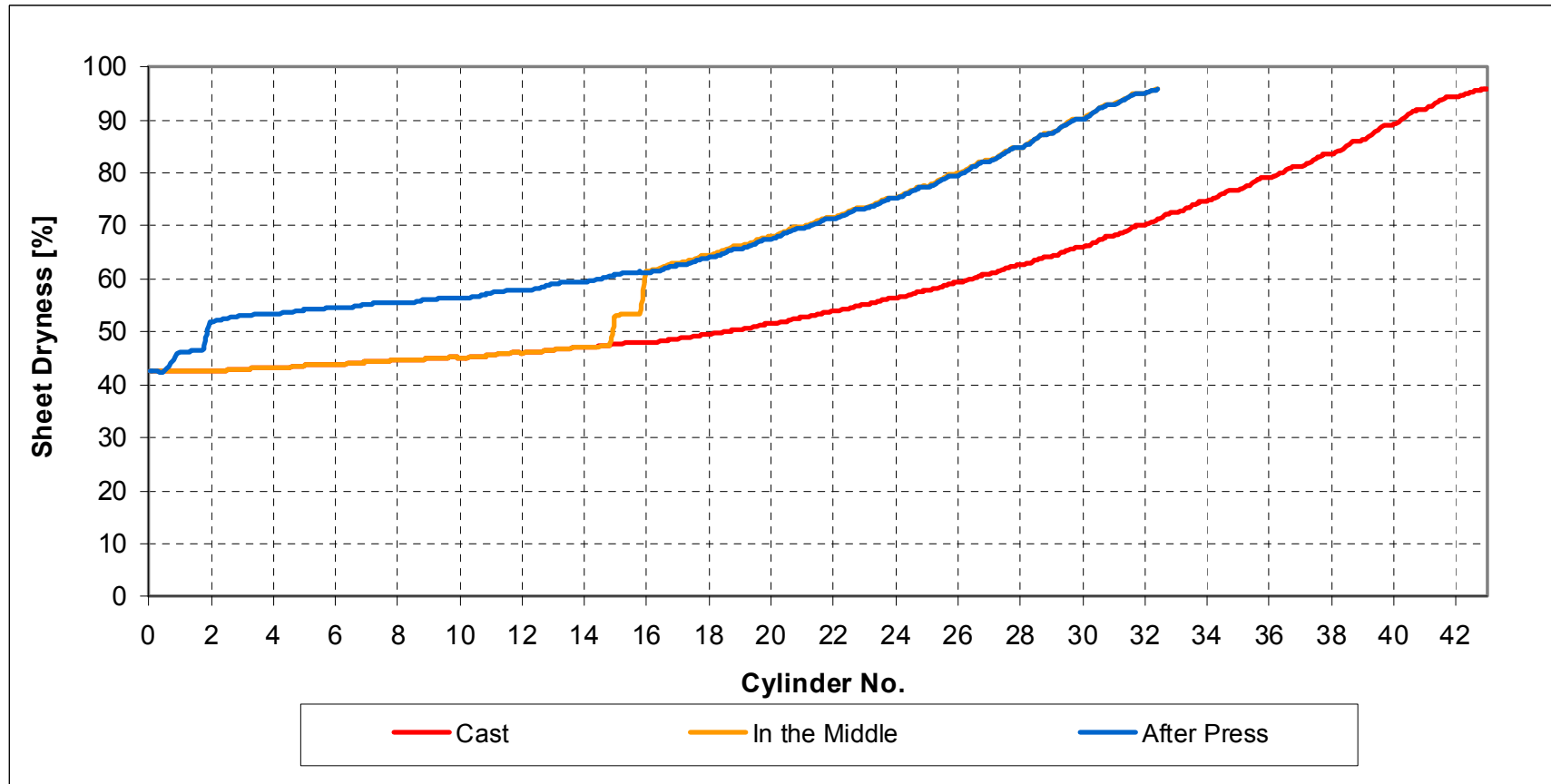
Impingement double sided

Comparison drying rates from simulation



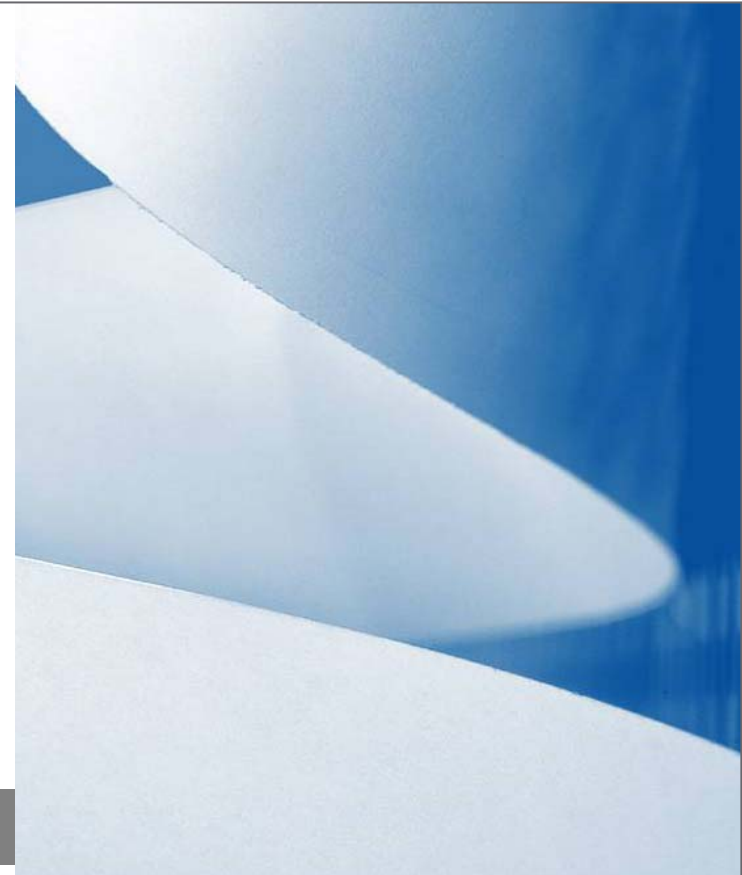
Sheet dryness

Different positions of double sided impingement

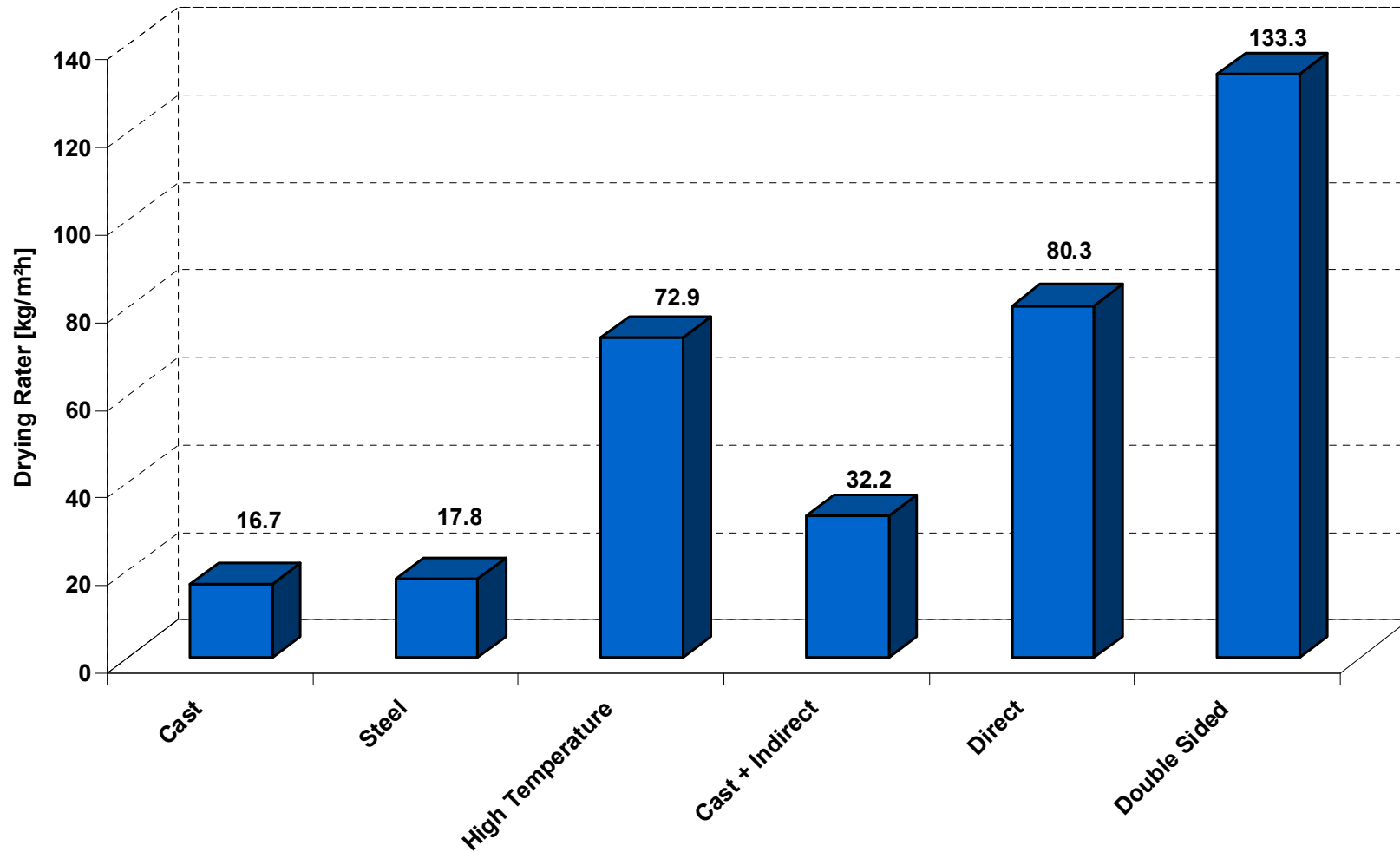


New technologies for drying sections

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Comparison all drying rates from simulation





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Pulp & Paper

New technologies for drying sections

Comparison of different concepts

