

# Der wohltemperierte Ofen

# The well tempered oven

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# Content

- Designing the oven
- Building the oven
- Testing the oven
- Heat treating & breaking
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# Designing the oven

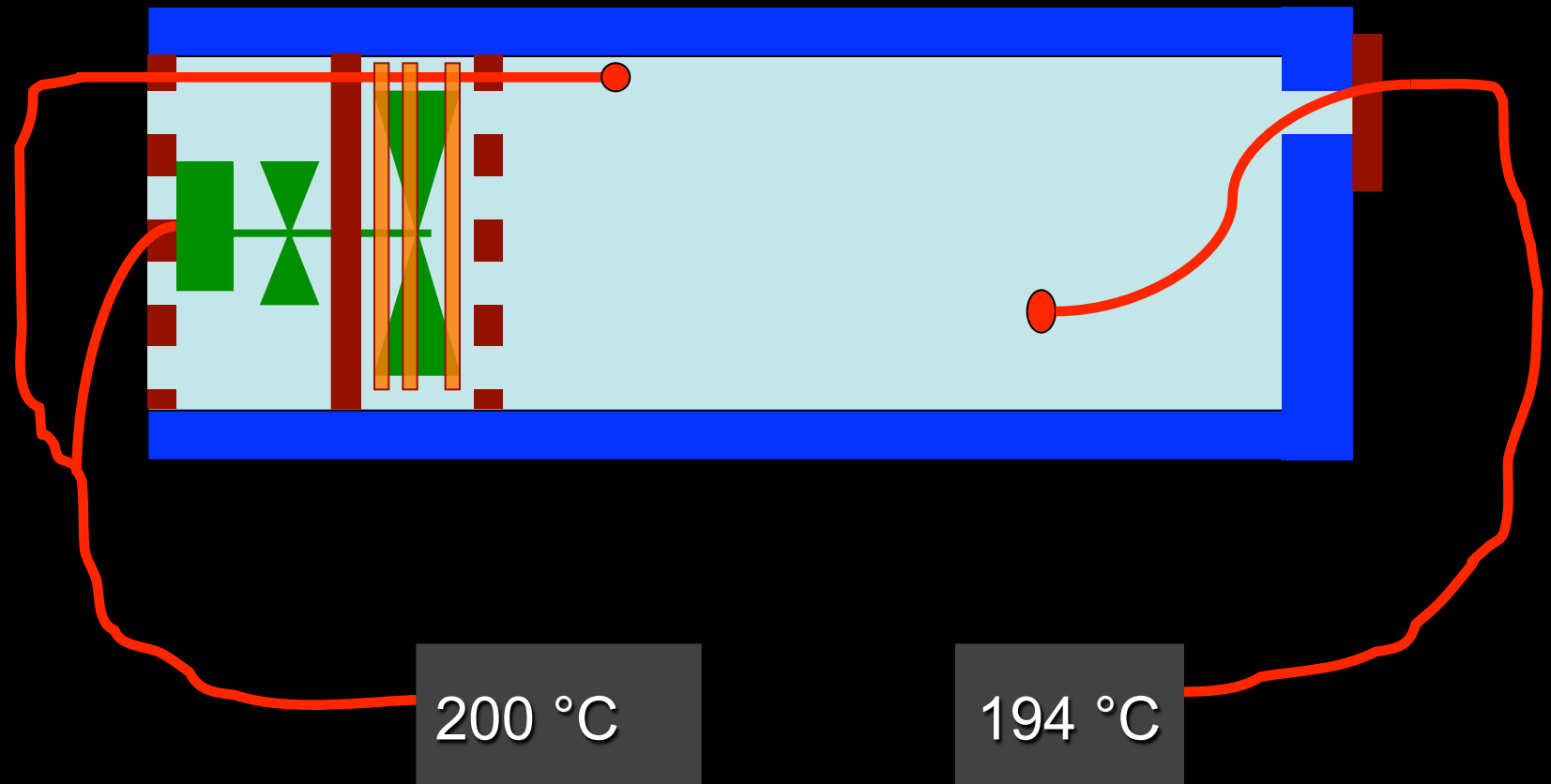
## Aims

- Construct a better oven
- Well insulated
- Stainless steel -> bad heat conductor
- Heating chamber with constant Temperature

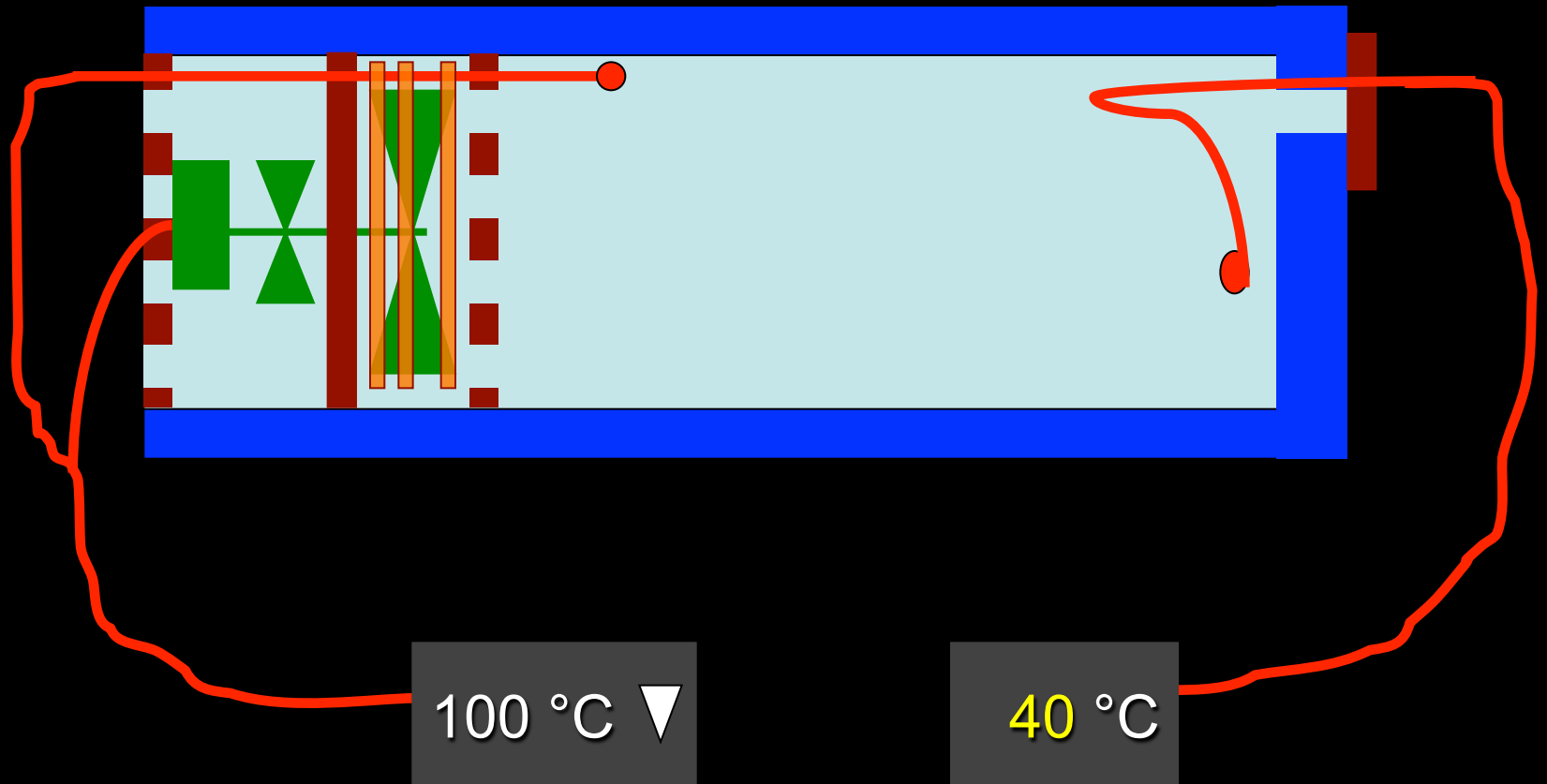
# Designing the oven



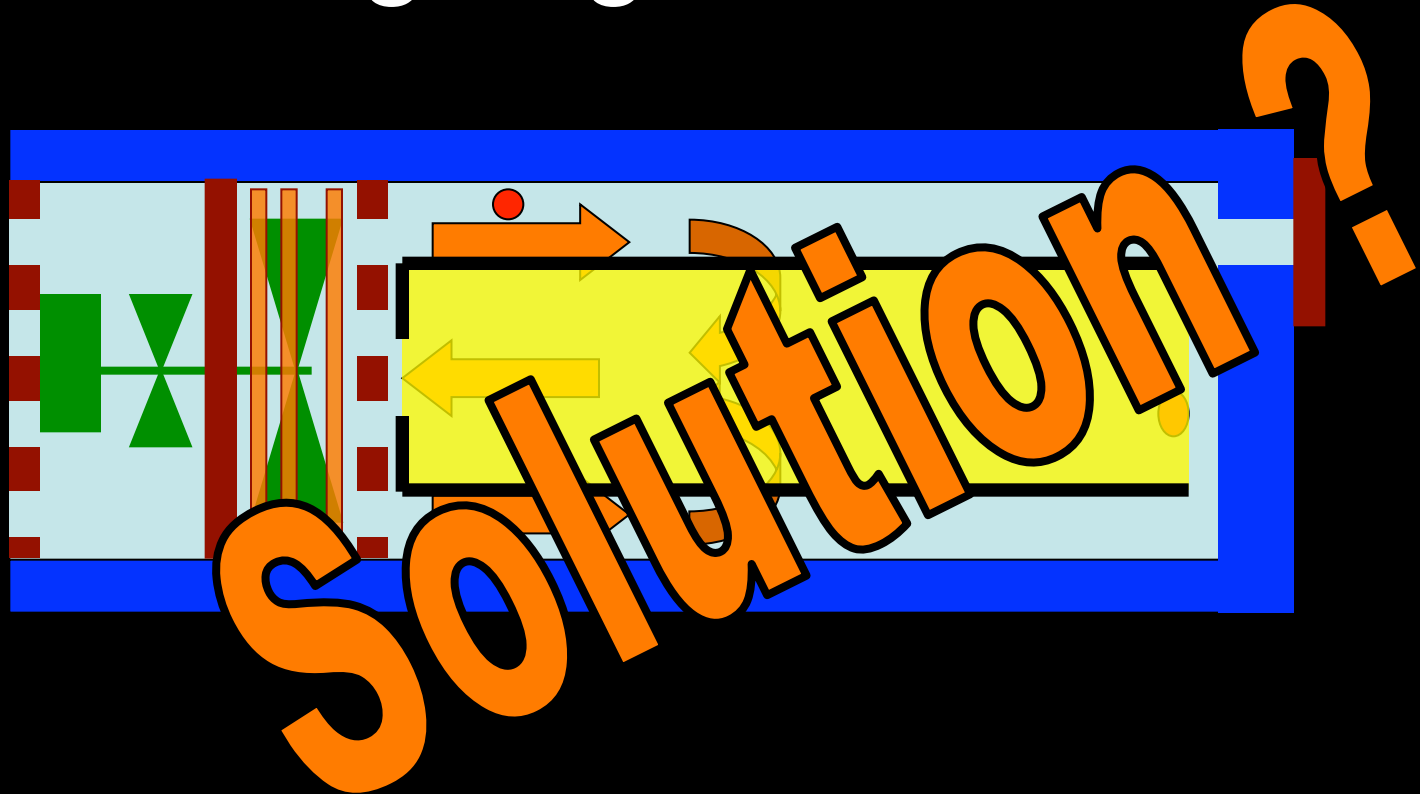
# Designing the oven



# Designing the oven



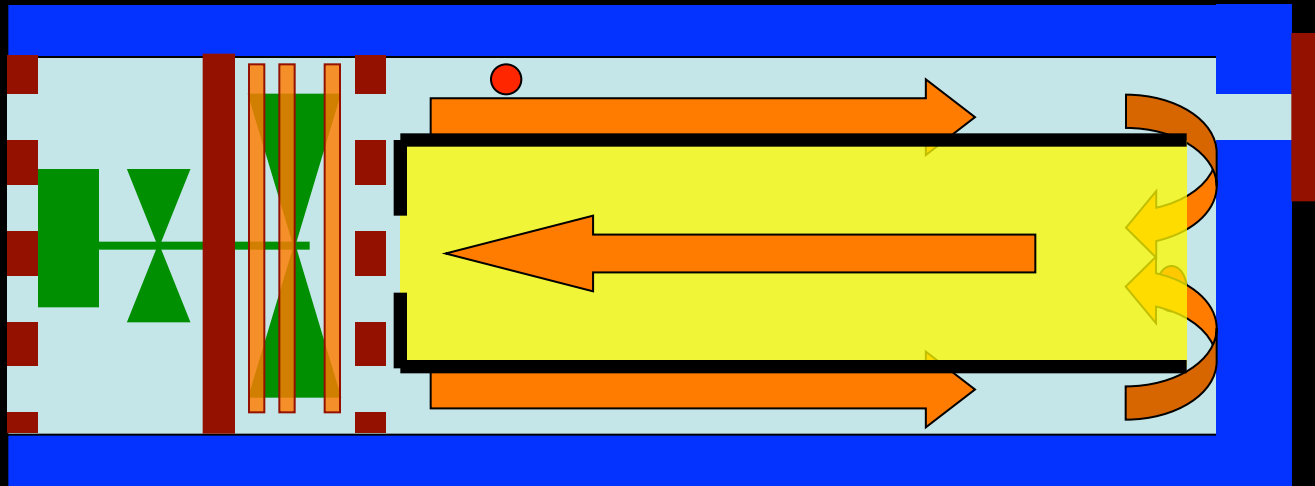
# Designing the oven



100 °C

40 °C

# Designing the oven

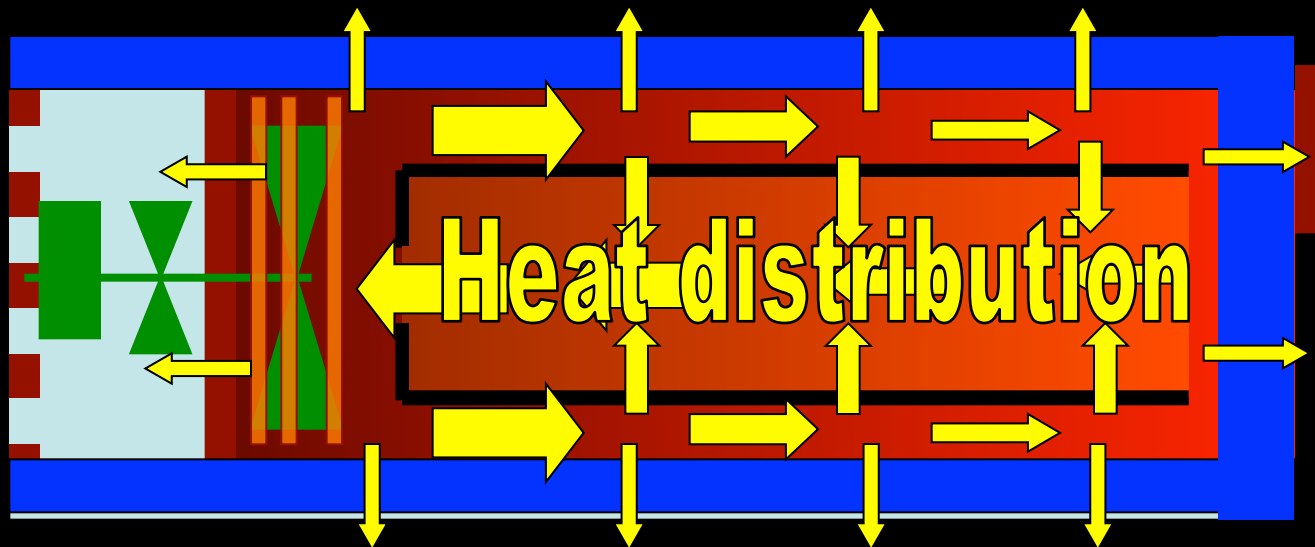


100 °C ▼

**90 °C**



# Designing the oven

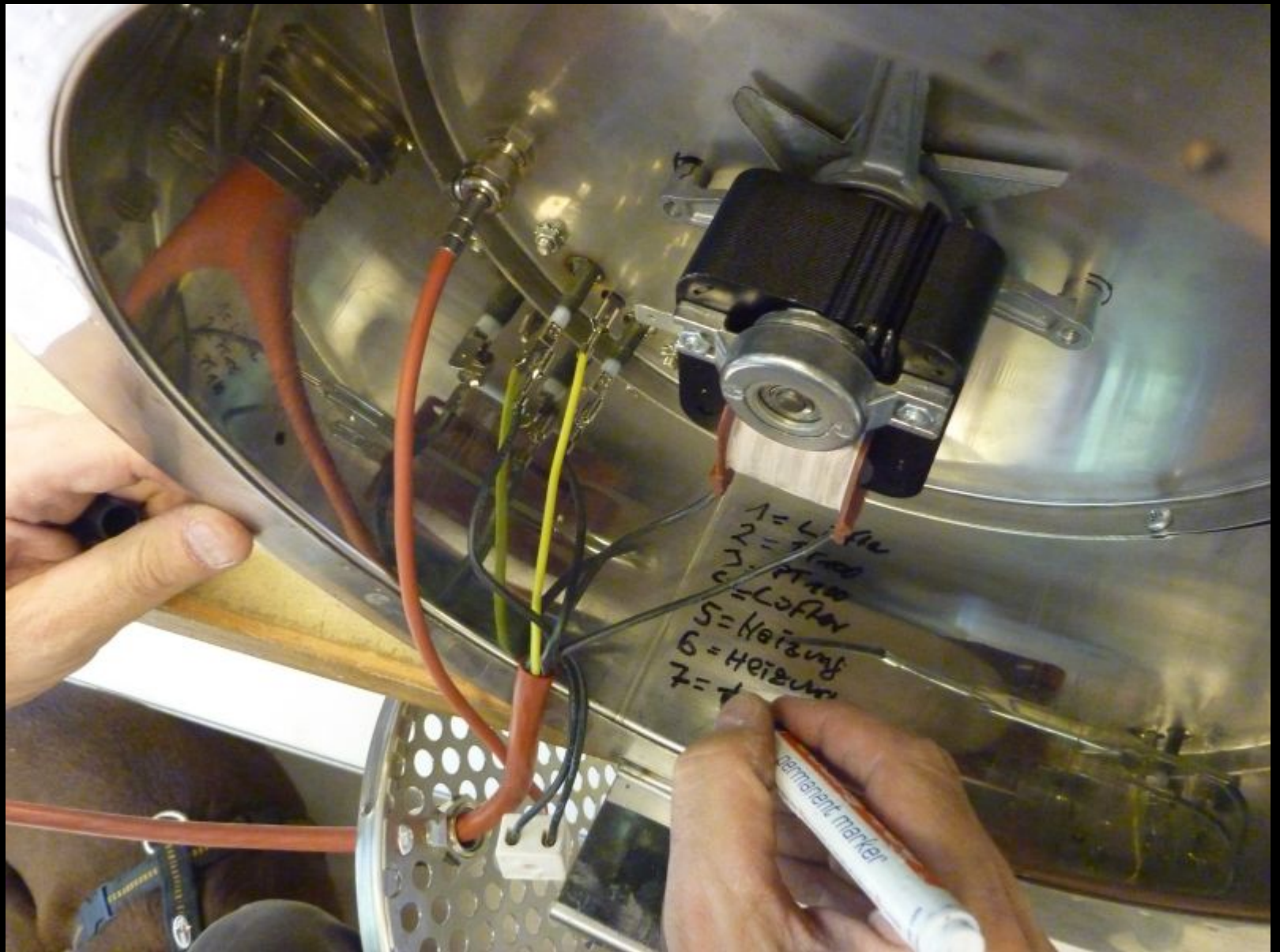


100 °C ▼

90 °C

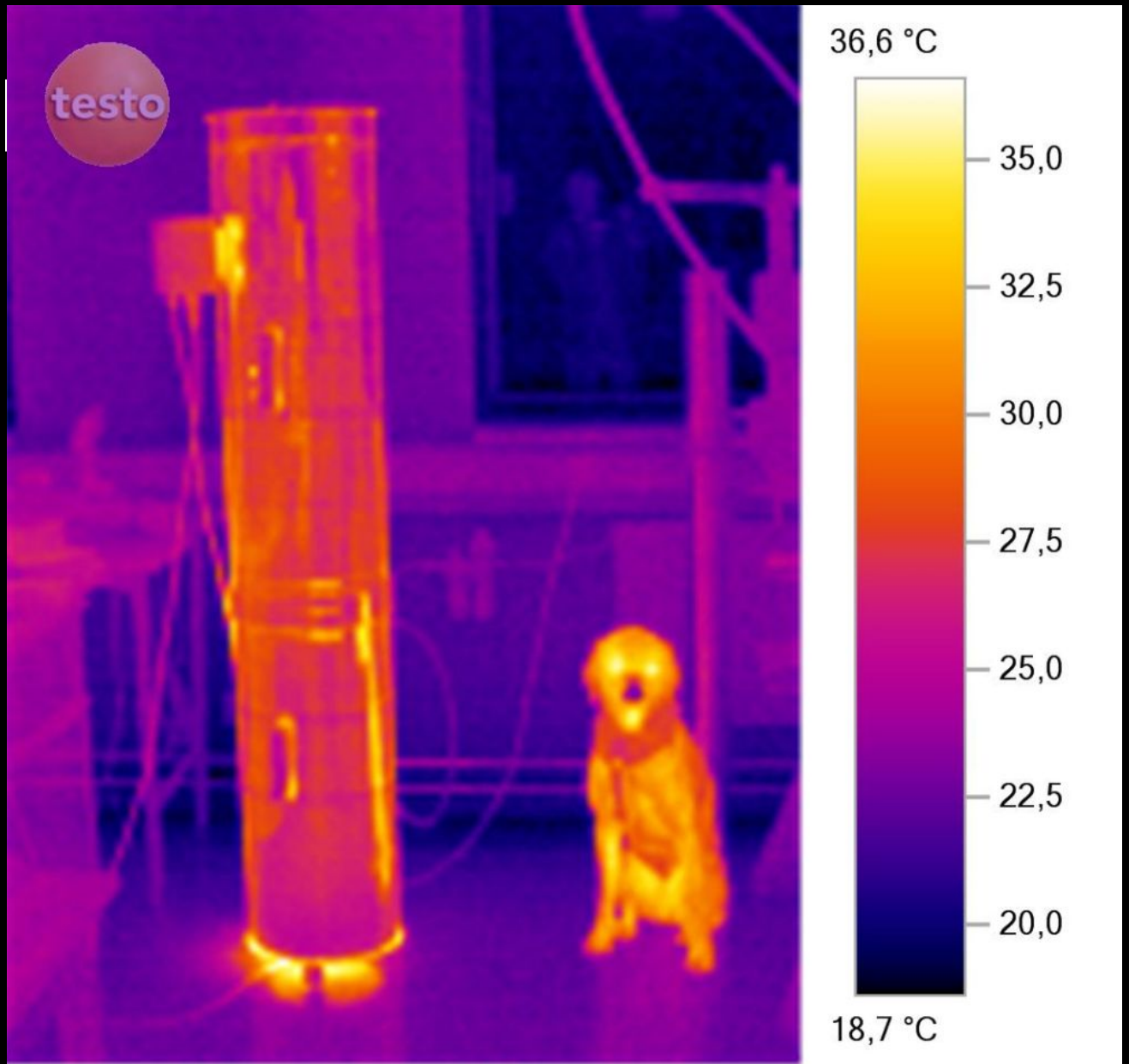
# Building the oven

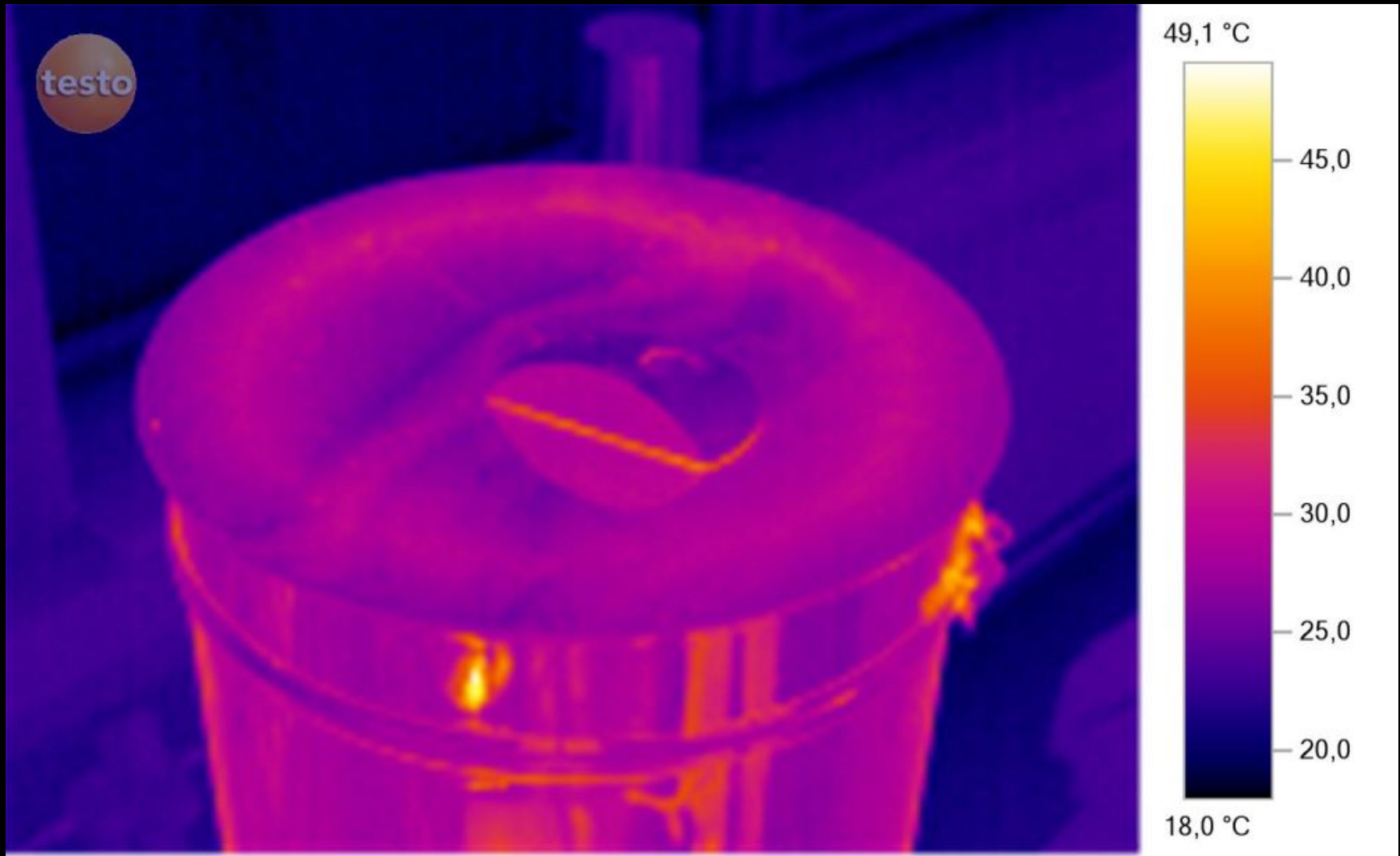


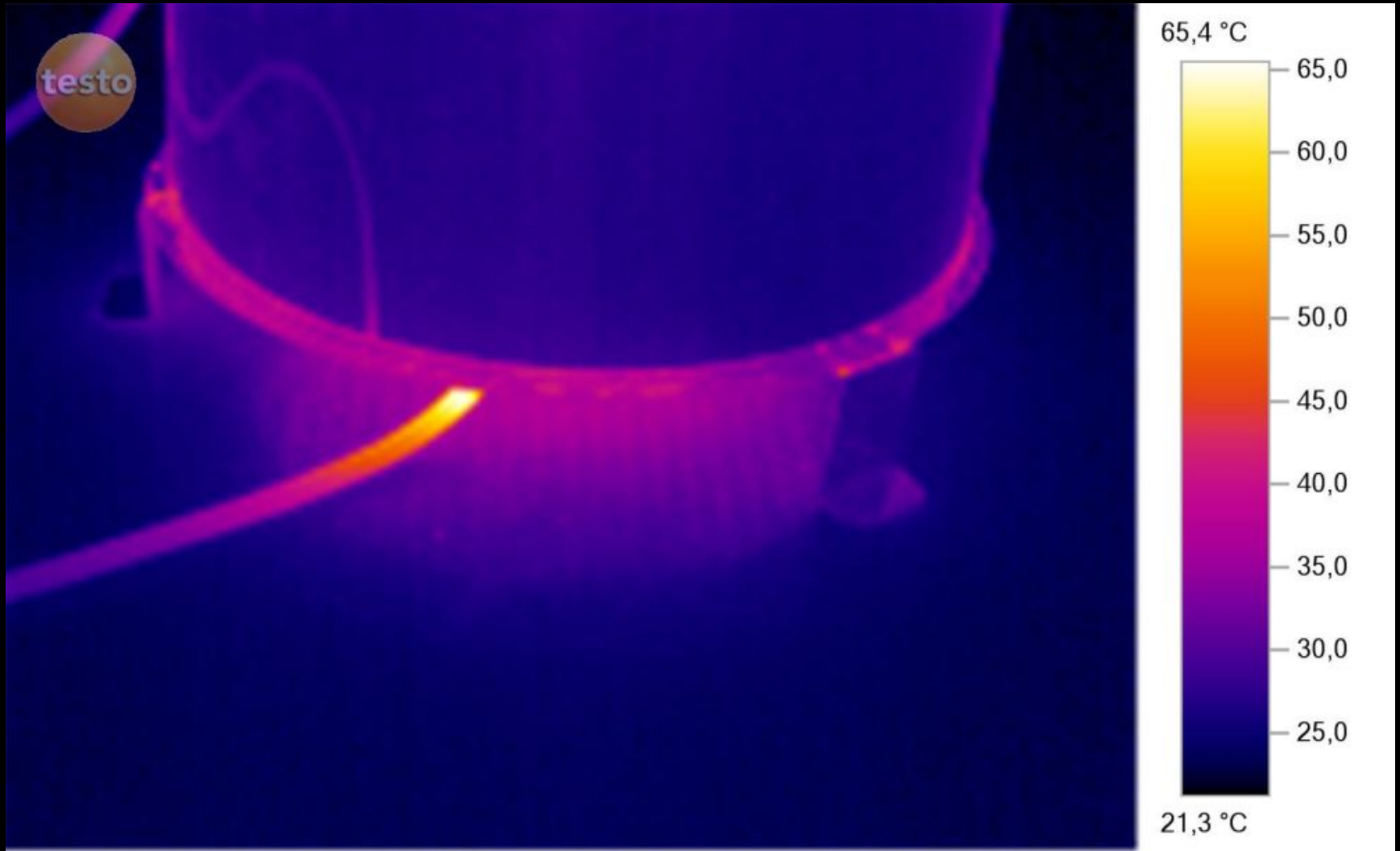










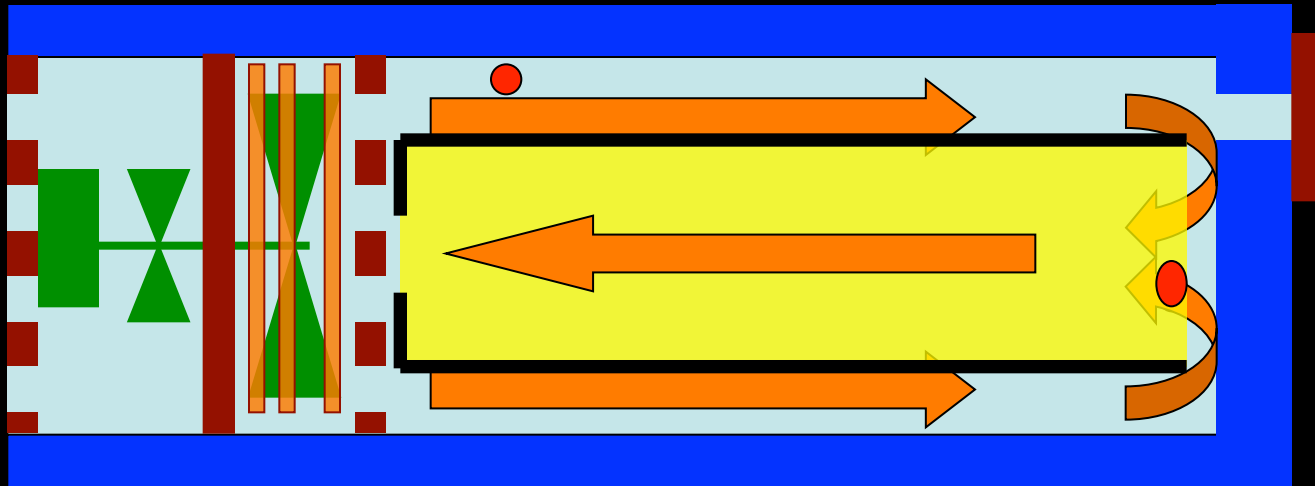




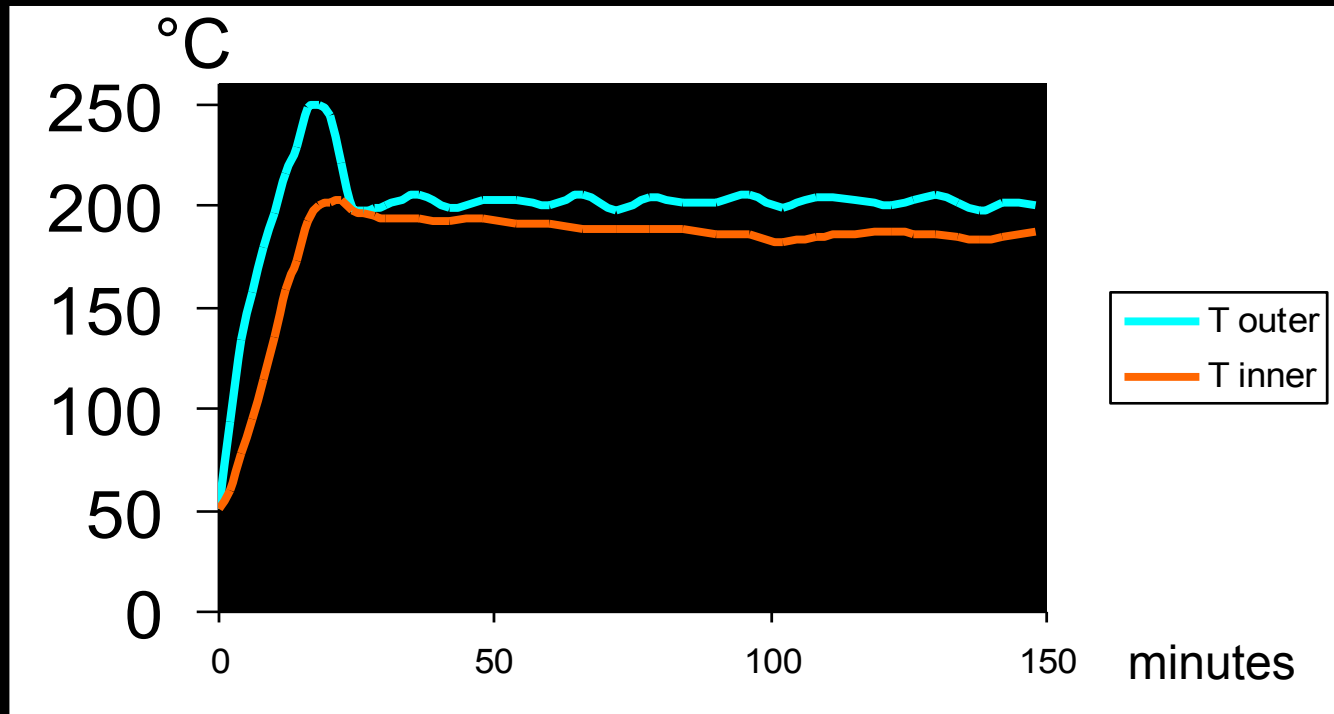


# Testing the oven

# Heating Results

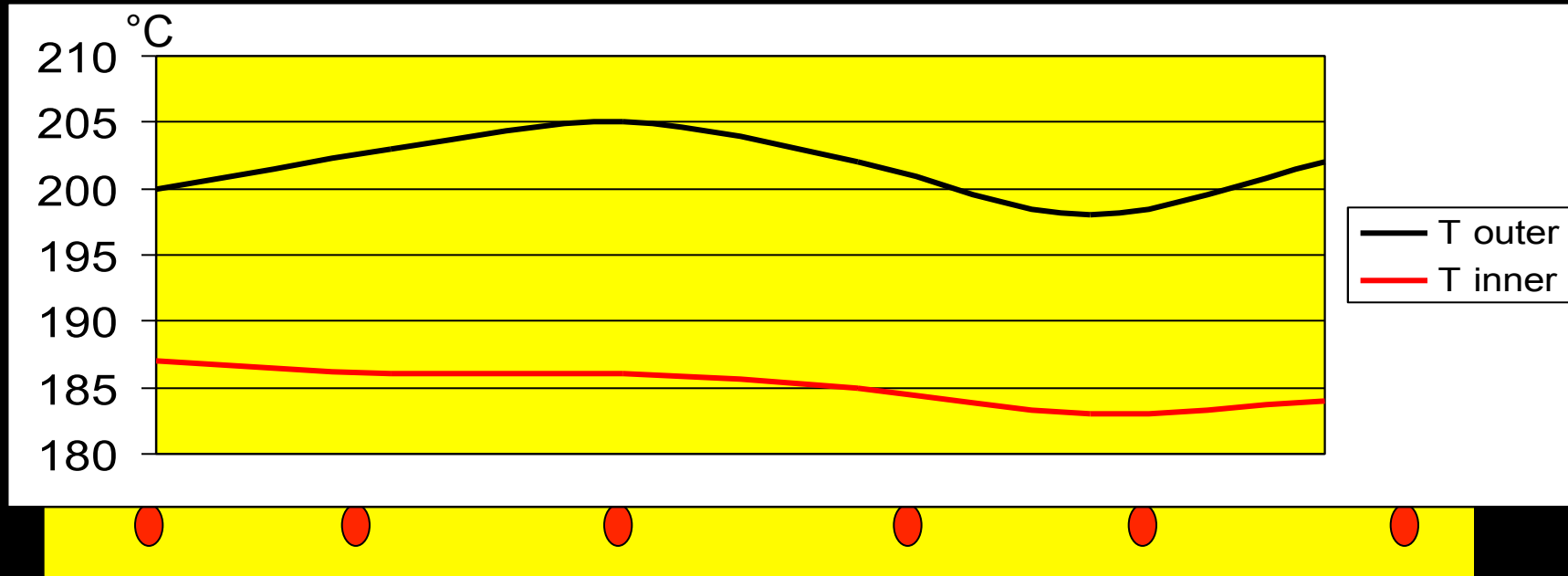


# Heating Results



200 °C ▲

# Heating Results



200 °C ▲

**T inner: 4 °C drop-off**

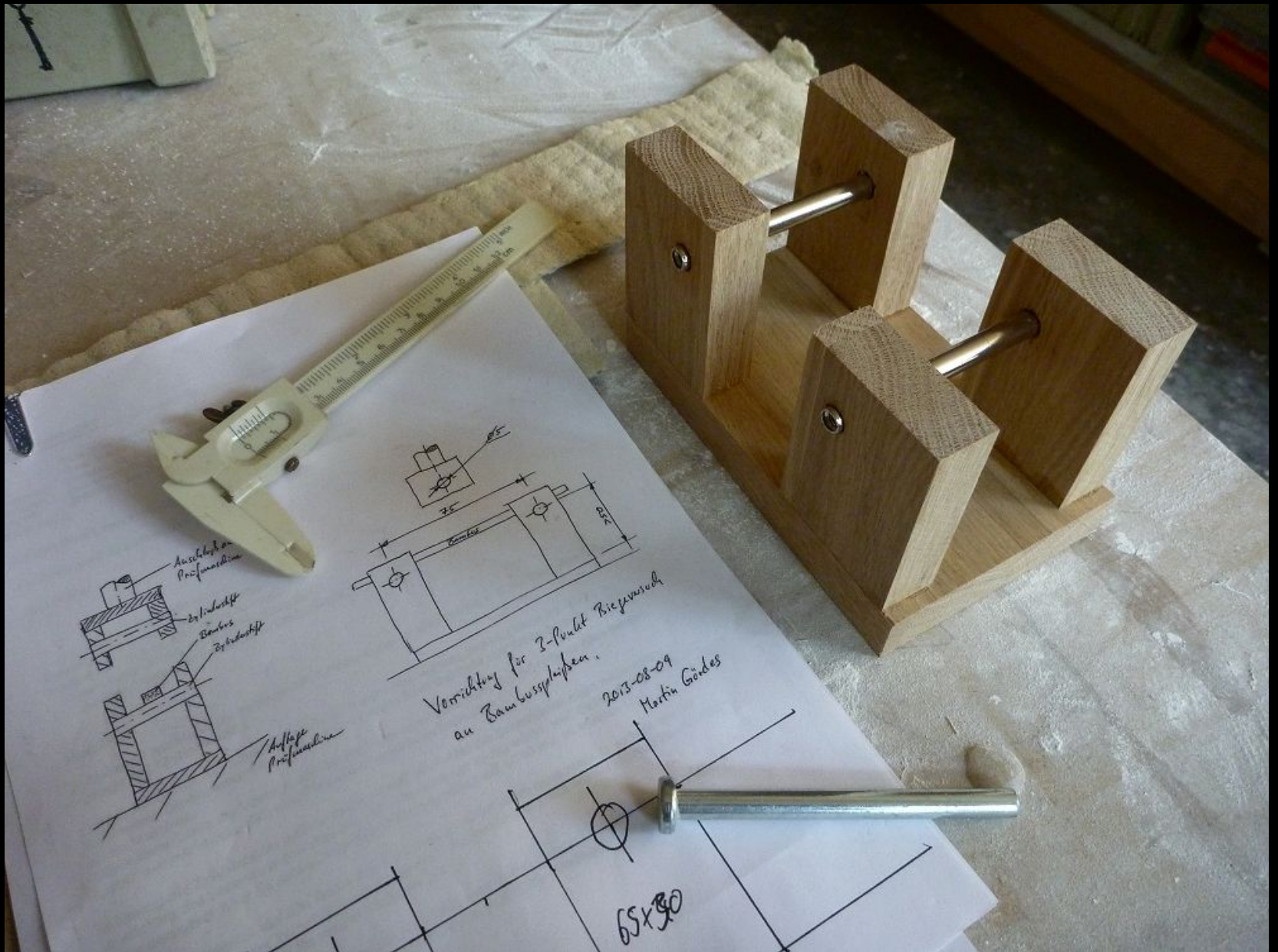
**T outer: 7 °C fluctuation**

# Heat treating & breaking



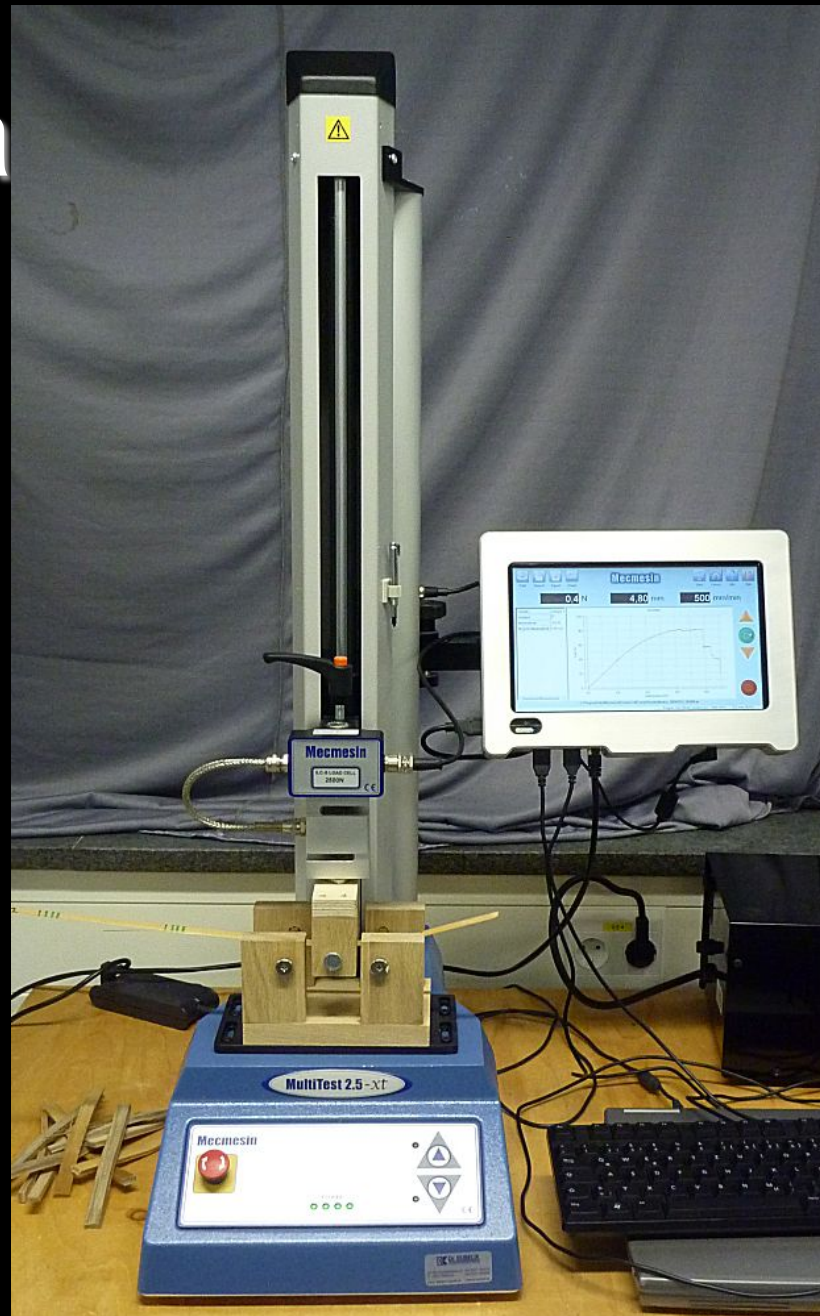
Heat t







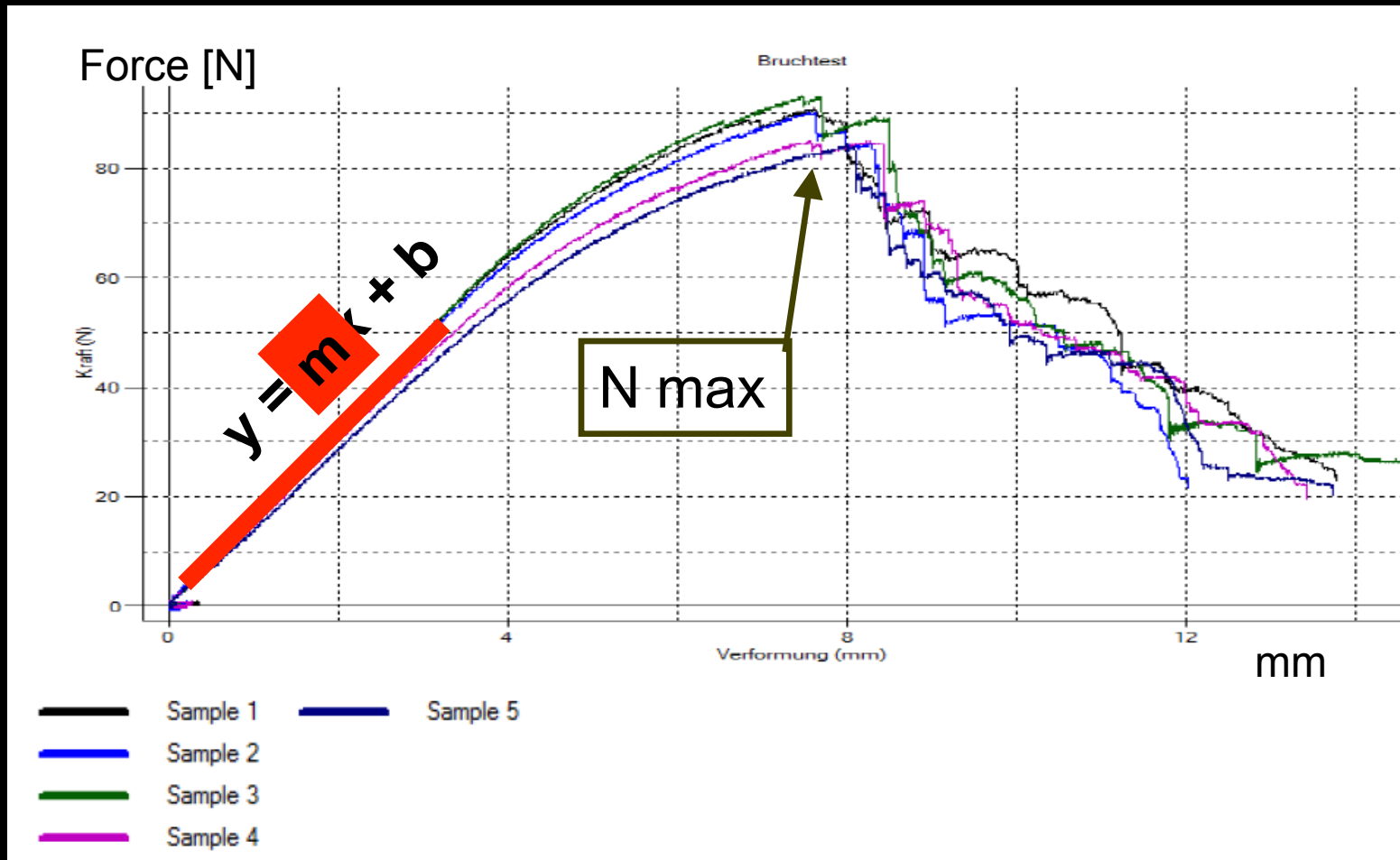
# Heat treat



# Heat treating & breaking

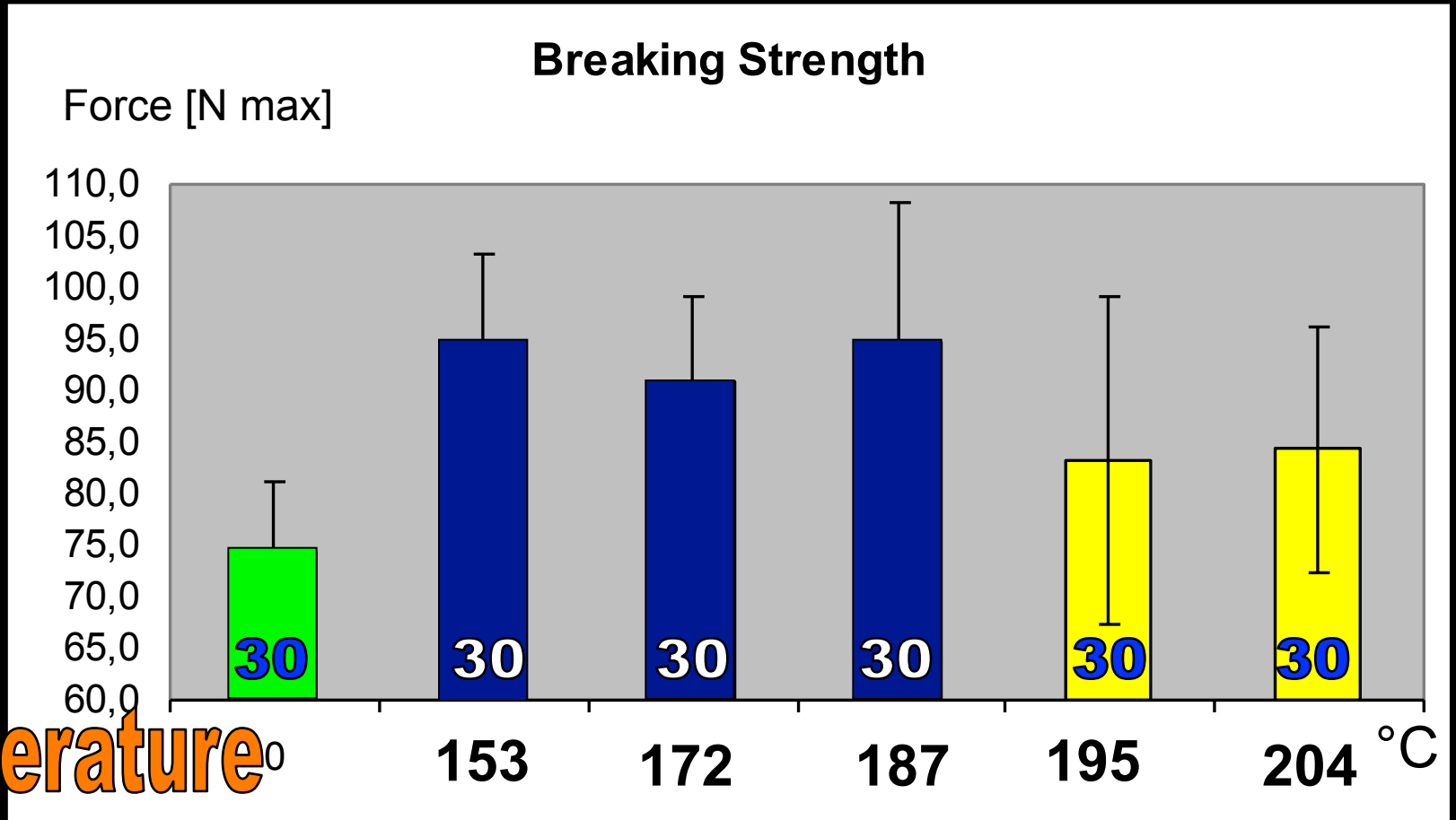
- Zum Film wechseln

# Heat treating & breaking



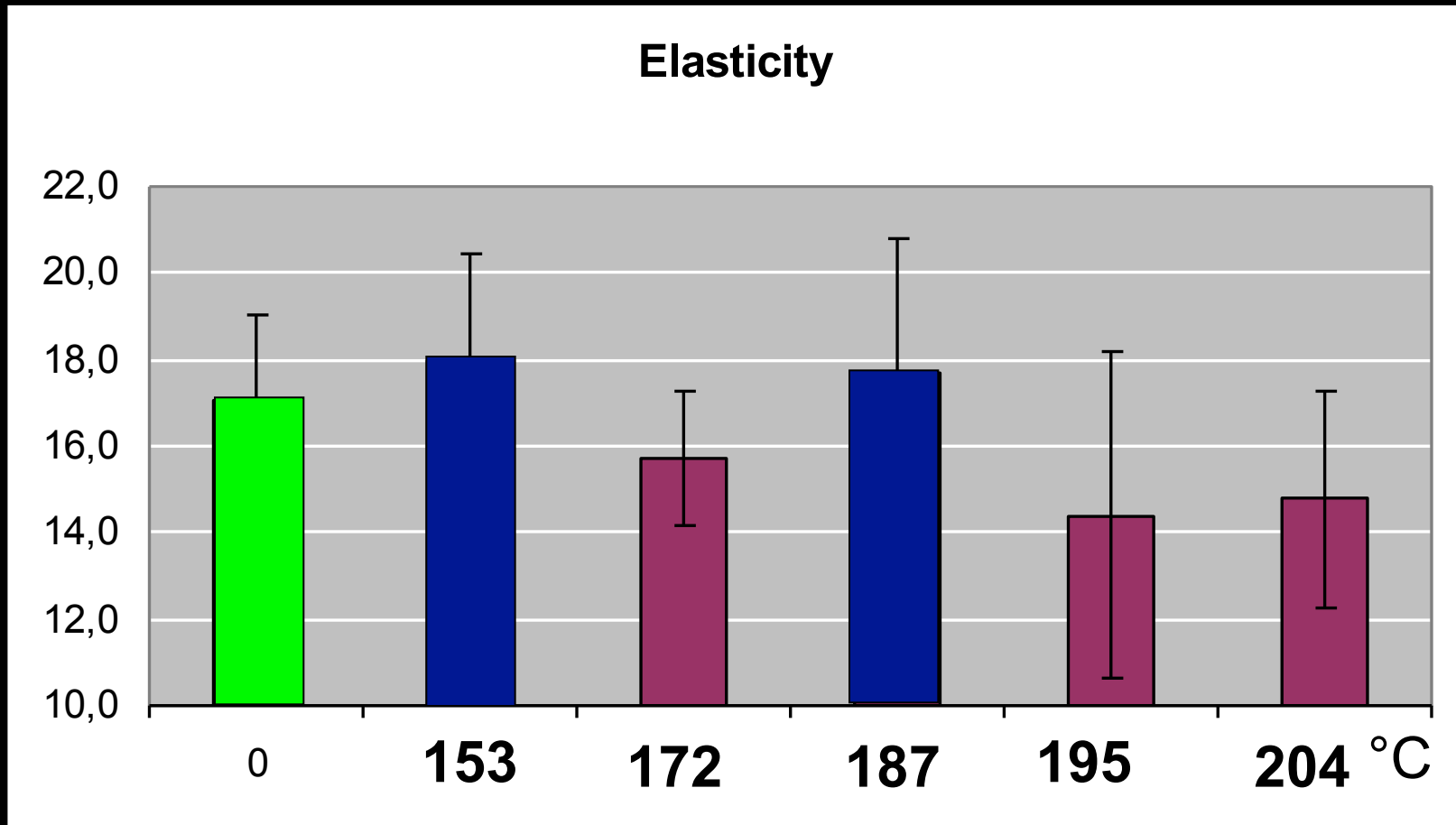


# Results



Temperature °C

# Results

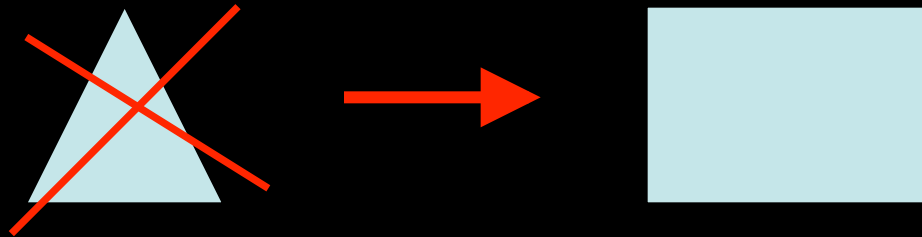


# Summary

- Test prerequisites achieved
  - Heating chamber with constant temperature
  - Almost even heat distribution
- Optimal tempering temperature
  - Breaking strength increases with heat 153 – 187 °C
  - Unclear results for Elasticity

# Summary

- Outlook – remaining questions
  - Optimal temperature?
  - More tests needed



- Is anybody interested to provide test samples ?



# Acknowledgements











***BAMBOO***  
***Fact, Fiction and Flyrods - II***

*A technical review and guide for the amateur  
and professional rod builder  
by*

***R.E. Milward***

# Acknowledgements

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Thank you  
for your  
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Merci !

Grazie !

Danke !

