

# „Round Robin Test of Sandwich Panels 2014“

Compression Test acc. EN 14509 A.2:2013

PPA-Europe Congress 2015  
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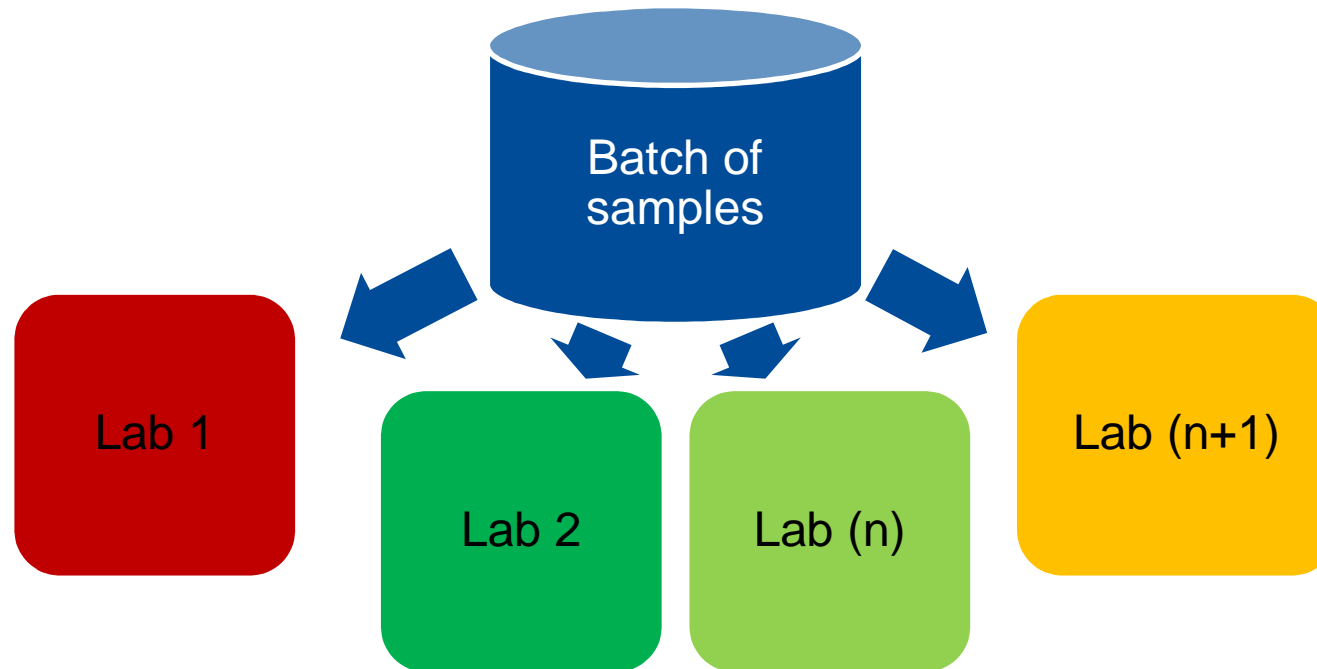
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1. Motivation
2. Definition
3. Participants
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6. Samples
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9. Outlook



“In experimental methodology, a round robin test is an interlaboratory test (measurement, analysis, experiment) performed independently several times. This can involve multiple independent scientists performing the test with the use of the same method in different equipment.” [source: ISO/IEC 17043]

- Participation in interlaboratory tests is recommended by ISO/IEC 17025



■ Participants



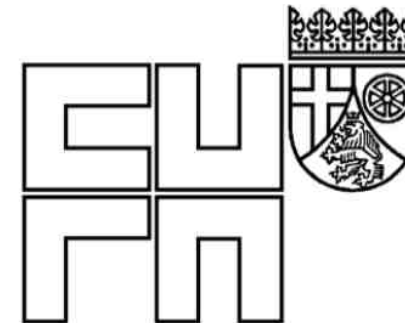
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UNIVERSITÄT  
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DRESDEN



MPA **NRW**.   
Materialprüfungsamt Nordrhein-Westfalen  
PRÜFEN ■ ÜBERWACHEN ■ ZERTIFIZIEREN



**KIT**  
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Manufacturer of samples: **Romakowski GmbH & Co. KG**  
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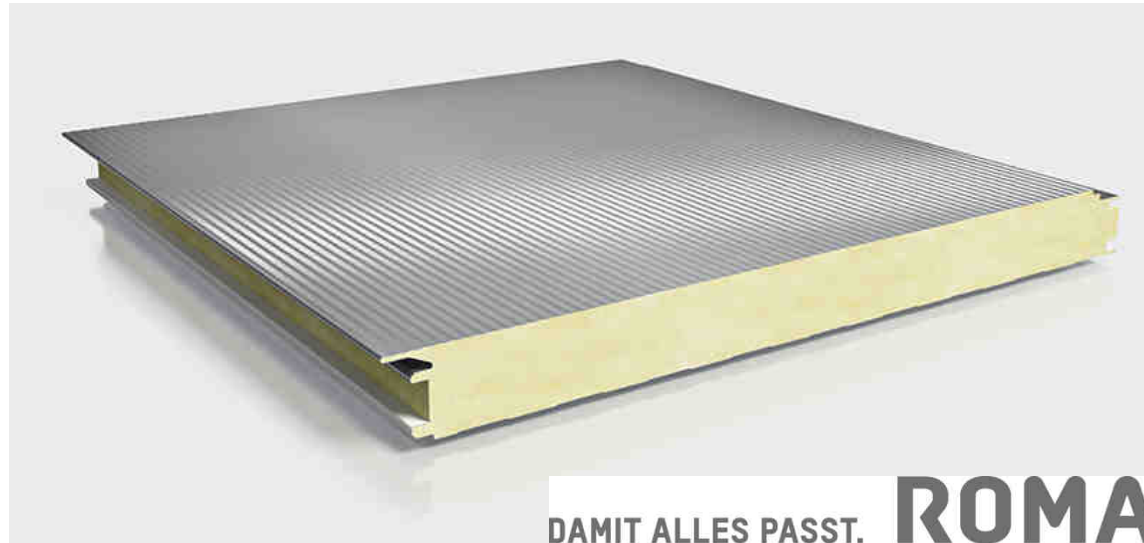
**ROMA**

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**ipu**

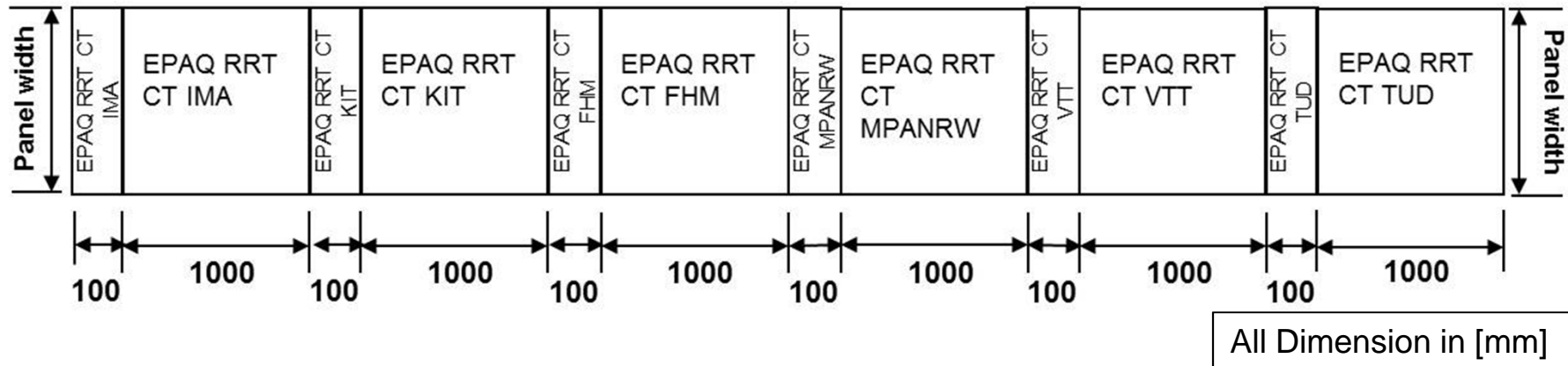
April 2014	Sample production by manufacturer; Shipment of marked panels to test laboratories
July 2014	Arrival of the panels at every test laboratories
September 2014	All test laboratories had finished measurements and reported the results
July 2015	Data assessment is completed and final reporting

## ROMA Schnellbau-Wandpaneel Typ ML 100



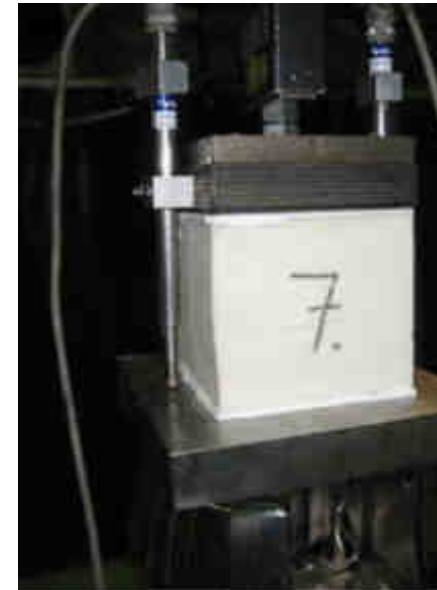
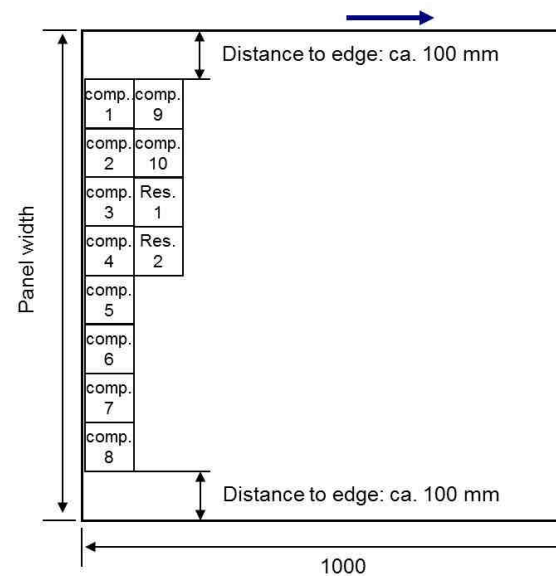
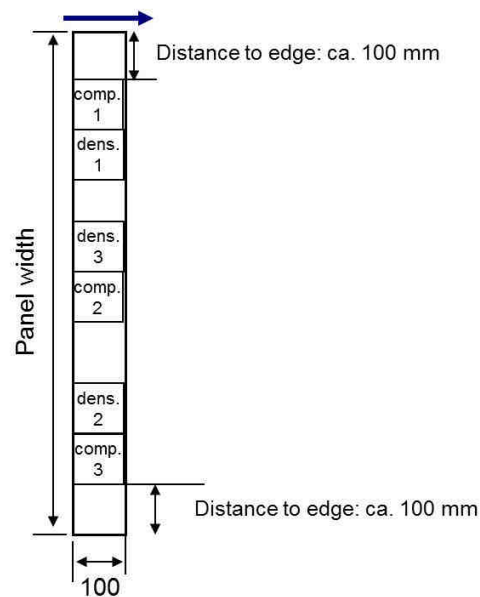
Source: Romakowski GmbH & Co. KG

DAMIT ALLES PASST. **ROMA**

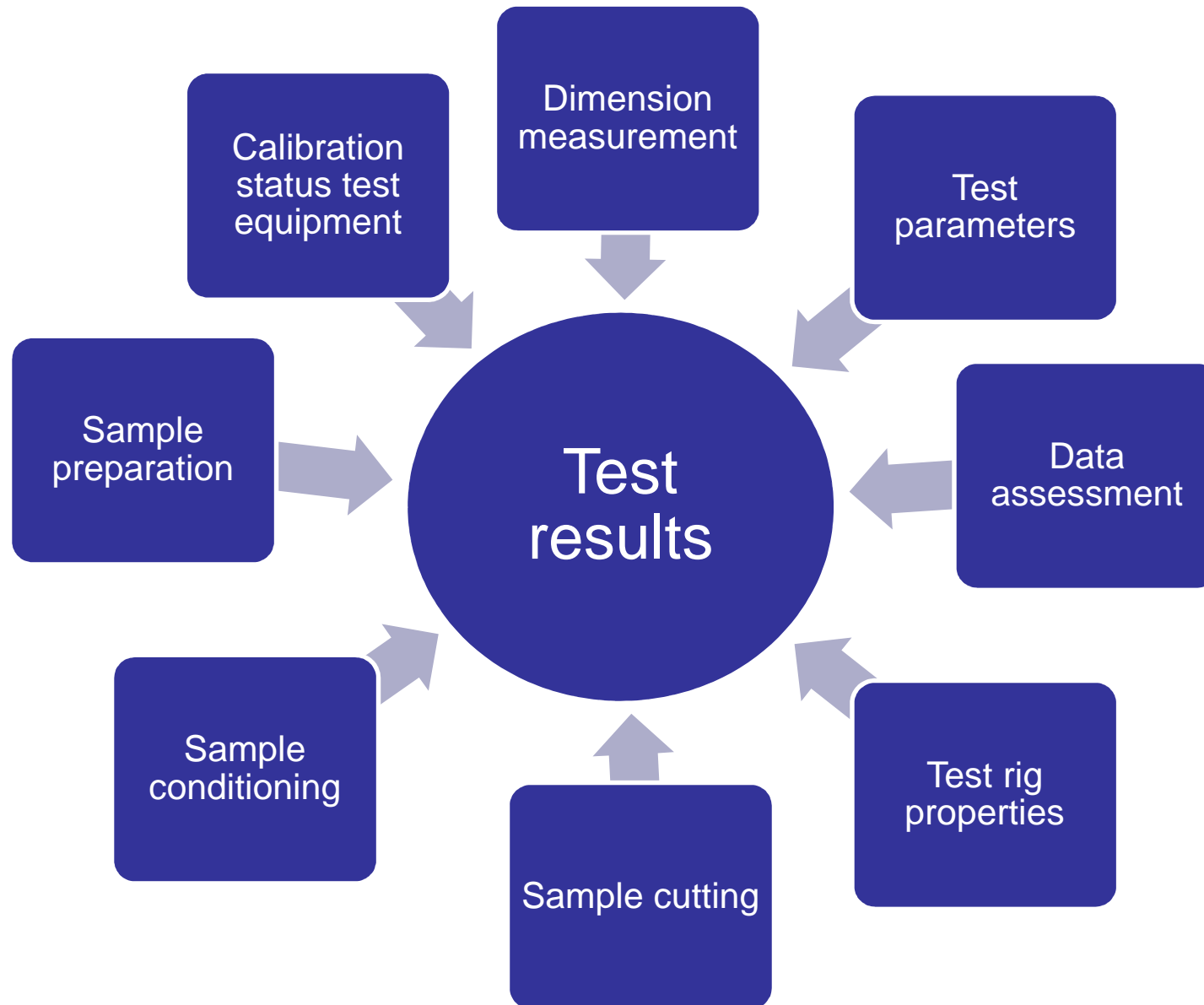




- Cutting of panel sections by manufacturer
- Homogeneity test of samples provided to participants (at IMA Dresden): (18 samples tested, standard deviation close to 2%)
- Cutting for final sample dimension and sample conditioning by test lab
- Compression test of 10 samples acc. EN 14509 A.2:2013 by test lab
- Data Assessment and RRT-statistics by IPU, anonymous Documentation
- Validation of results by each lab, if necessary: root cause analysis



Source: VTT Expert Services Ltd



- Only few participants
  - poor basis for RRT-statistics (impact to z-score)
- Deviation of foam properties along panel cross section
  - measurement data scattering vs. deviation in results between participants
- No information of measurement range for modulus calculation
  - questionable comparison of compression modulus results
- Differences in test dates (6-8 weeks), time frame until testing up to 5 months
  - influence of sample aging

- Clarification between participants: delays and deviations
- Cooperation with RRT provider: improvement of assessment and reporting
- Continue round robin tests :
  - cross panel tensile test (23°C; 80°C)
  - density of core material
  - shear test at short beam
  - single span test (full scale tests)

# Contact

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