

Sicherheit in Technik und Chemie

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# HOW STANDARDS CAN BETTER REFLECT CONSUMER RELEVANCE ON THE EXAMPLE OF RANGE HOODS

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#### **Range Hoods - Market**



- Annual energy consumption in EU: 2-3 TWh<sup>[1]</sup>
- About half used in extraction mode and half in recirculation mode
- Large variety in design



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### **Energy label of range hoods**

- Range hoods have an energy label since 2015.
- Tests are based on standard EN 61591: which involves
  - i. volumetric airflow
  - ii. effectiveness of the lighting system
  - iii. grease absorption
  - iv. odour extraction
- Noise value is tested according to IEC 60704





## **Definition for Energy Efficiency Index (EEI)**



Definition EEI now:	Airflow
	Energy Consumption

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Challenges for new EEI: Test of grease absorption has low accuracy & little significance for performance of range hood.

**Reproducibility and repeatability of grease absorption** 





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#### **Modified Grease Absorption Factor (g<sub>f</sub>)**





#### **Tested methods to create oil mist**





#### **Potential of New Method for Grease Absorption**



Advantages:

- ✓ No weighing of big weights (absolute filter, range hood or ducts) → higher accuracy
- $\checkmark\,$  Reproducible amount of oil mist
- ✓ Leaks through cracks are rated negatively
- ✓ Filtered ratio of oil mist is known
- ✓ Allows new definition of energy efficiency





