# The existing KEYMARK scheme for Thermal Insulation

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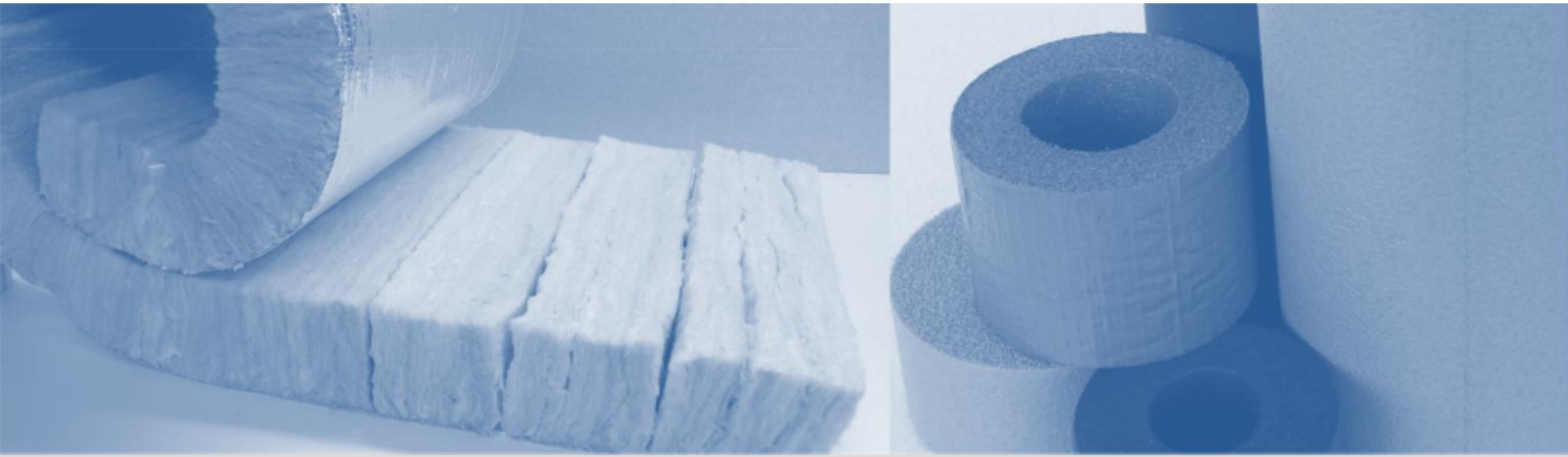


# Content

## The Keymark scheme for thermal insulation?

- Remember “2002”: from national scheme to pan-European scheme
- Why?
- What? scope - targets – objectives – planning - status
- Who? Focus ⇒ FPC & 3rd party involvement & registered labs & expert group
- VDI-cooperation

# Remember “2002”: from national scheme to pan-European scheme

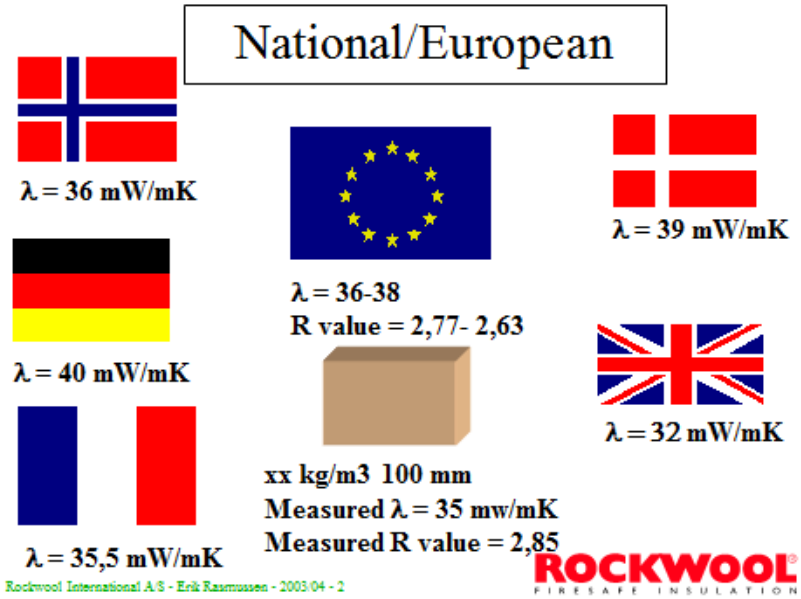
- **1988** CEN TC 88 decision ⇒ EN product standards for thermal insulation products
- **1995** EC-Mandate from Commission on content of EN-standards
- **1998** EC-Decision on AoC procedures for thermal insulation
- **1998** Keymark SDG-5 established by CEN to write the Keymark rules. Rules published December 2001. Expert Group established in 2000.
- **2001** OJEU-publication of building insulation standards
- **2002** CE marking possible, 12 months later mandatory *(in most countries)*
- **2003** Work started on VDI-Keymark for industrial insulation

  *(2009 EN standards published with CE marking mandatory in 2012).* Scheme approved in 2011.

# Before “2002” = still national schemes

- Mandatory or semi mandatory quality marks and 3rd party surveillance systems, in order to protect consumers, and secure a fair market. *(e.g. Ü mark; ATG; ACERMI; KITE; KOMO; VIK etc.)*
- Only one or very few national testing laboratories.
- Non-harmonized national lambda levels *(⇒ chaos)*

***As from 2002*** ⇒ CE-marking-obligatory & KEYMARK-voluntary



# As from “2002 - actual”: CE-marking

- Depending on Reaction to Fire classification, there are no or only minimal requirement for 3rd party surveillance.
- Limited requirements for notified laboratories on EU level.
- Any notified laboratory in EU can be used for testing and/or certification.
- No strictly defined/checked European lambda level on thermal conductivity.

  *(The same product could be measured as lambda 37 mW/mK in one laboratory and lambda 34 mW/mK in another)*

## *Risks & consequences:*

- “Level of playing field” labs ⇒ fair competition between labs ?
- “Unfair declarations” by producers ⇒ “Pirates” giving false claims on product properties are allowed to disturb the market.

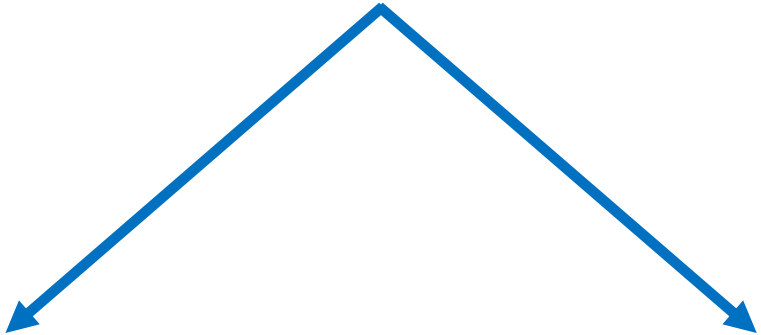
# Fair competition ⇒ Why Keymark?

- To secure a fair competition
- To protect consumers in using/designing/installing quality construction

***There for:***

- A common European lambda level
  - pan-european wide in respect of best practices and EN ISO standards
  - ensuring ±1,5% on results between registered labs
- A certification scheme respecting accreditation-rules
  - first SDG-5 meeting march 1999 with 22 participants (& 4 apologies).
  - 4 meetings a year with several sub group meetings in between
  - Final scheme rules published well in advance of CE marking

# The Keymark scheme for thermal insulating products



**Minimum declared performance within the CE-marking.**

**An additional tool conformity by 3rd party certification of all declared performances**

# KEYMARK ⇒ Scope-targets-objectives

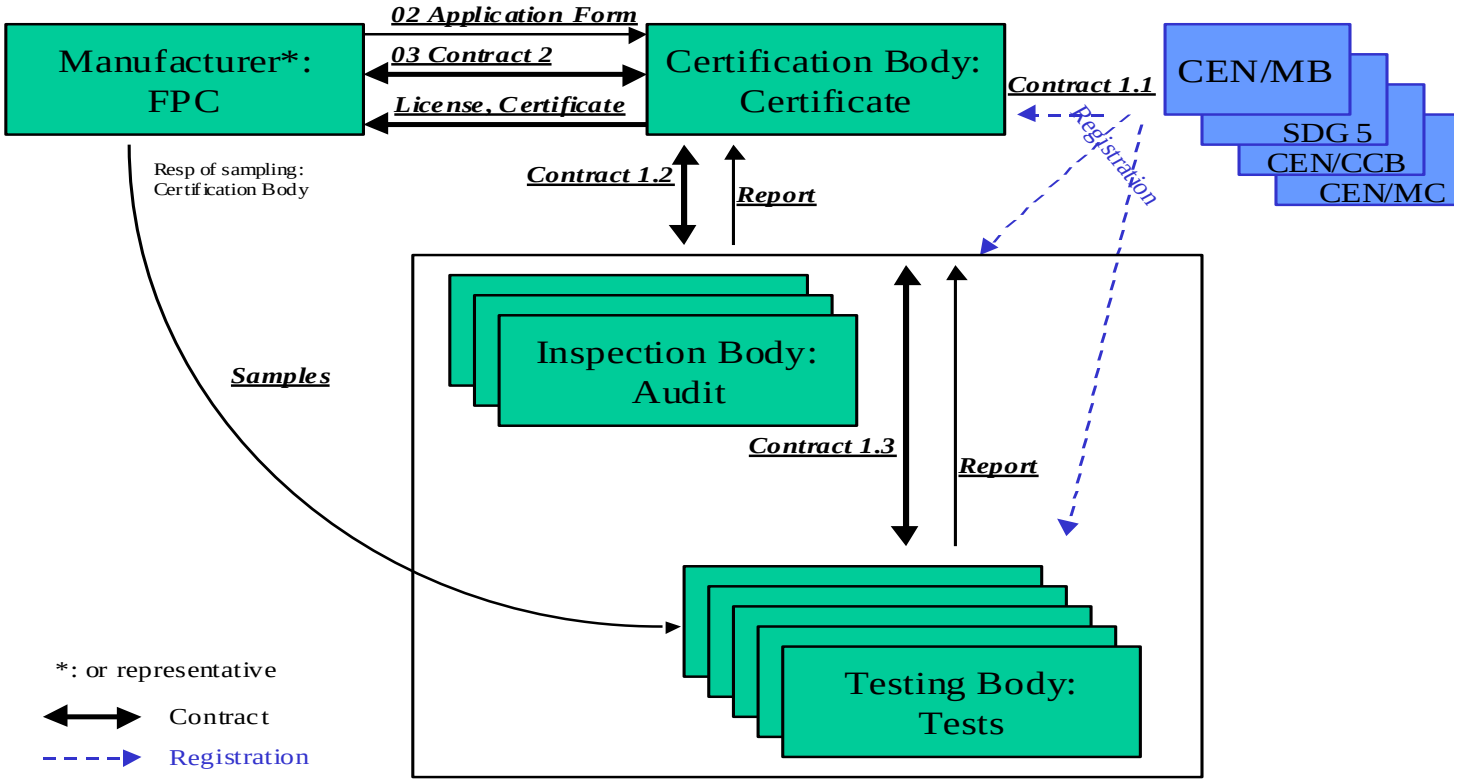
- An **European Quality** Mark and Product Certification Scheme
- Keymark is **a supplement** to CE-marking, in order to certify that product claims are controlled by an independent laboratory
- Keymark **secures** that testing laboratories are controlled and measuring correct
- Communication ⇒ **KEYMARK web site** with information on products and institutes available and transparent

# In concreto: Keymark ⇒ on top of CE marking

- All product characteristics declared are included
- All ITT/PTD shall be done by the 3rd party
- A real product certification
- FPC-testing per line/unit
- 3rd party audit testing per factory
- specific rules for λ - test equipment & calibration
- clear and strict rules for 3rd parties, especially for registered labs

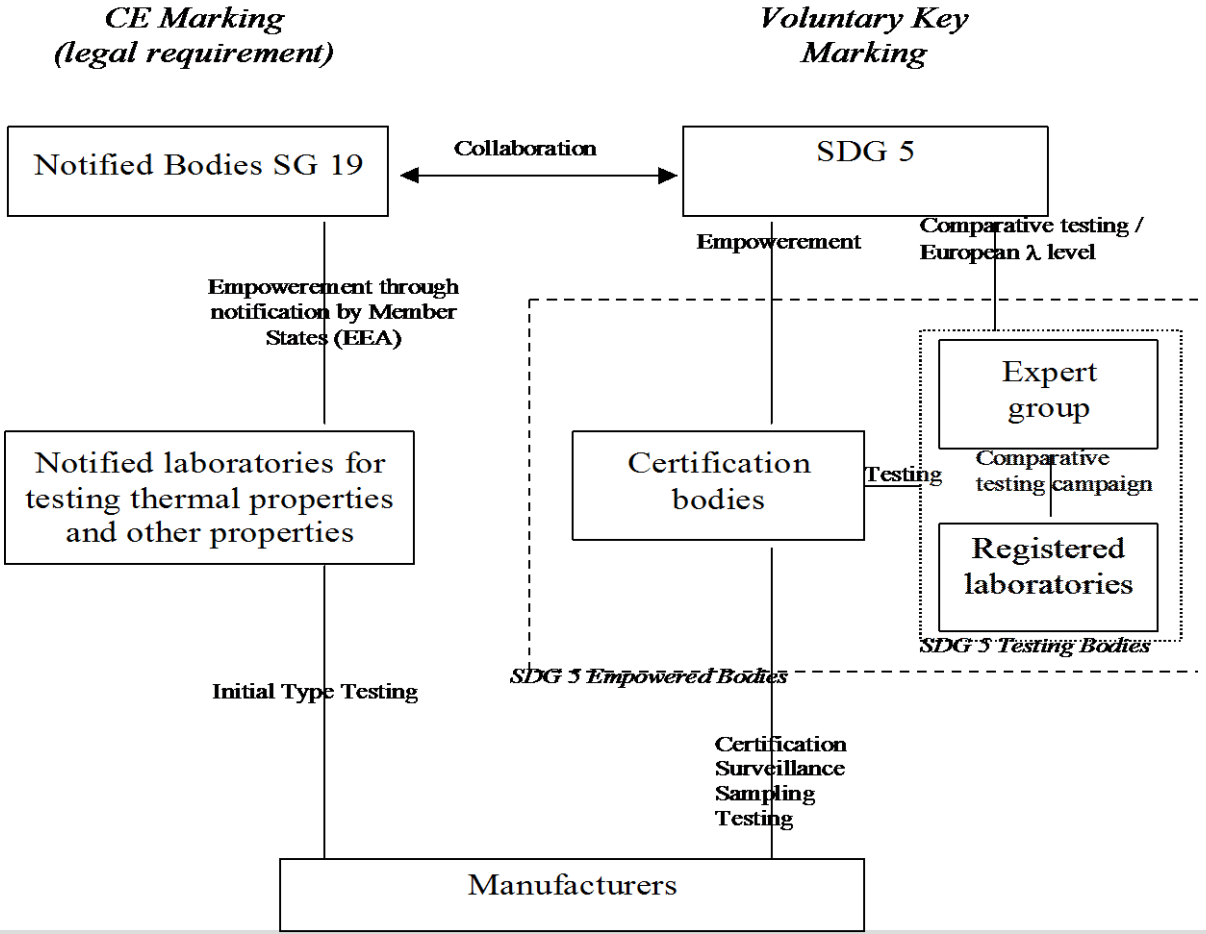
# Flowchart SDG5

***Extract SDG5-rules fig1. dd 2001***



# Flowchart Labs

***Extract SDG5-rules fig1. dd 2001***



# As for registered Laboratories

## Keymark rules for laboratories has proven very efficient and robust

- **Combination of:**
  - Audits on technical details
  - Comparative testing on thermal conductivity to within ± 1.5 %
- **European acceptance**
  - Strong group of experts
  - Great effort by many official labs – 23 registered laboratories
  - Conferences 2009 and 2012

# Expert Group – realisations on thermal conductivity testing

- www.insulation-keymark.org *website contains important documents of the Expert Group*
- Insulation Keymark - Expert Group - Thermal Conductivity Testing
- Member list with “top experts & labs”
- Guidance to notified bodies within CE marking of thermal insulation products for buildings
- Comparative testing of thermal conductivity - European Keymark experience
- Audit visit of candidate registered laboratories: Check list for auditors
- Guidance documents for insulation manufacturers and inspection bodies
- Calibration of HFM equipment
- Manual "Lasercomp Fox 600"
- Compliance requirements for thermal conductivity testing (Paper)
- Uncertainty assessment of GHP-Apparatus
- Certified Reference Material IRMM-440
- IRMM-440 Report & IRMM-Addendum to Certification

# VDI – Keymark for industrial insulation

## Remember “2003”

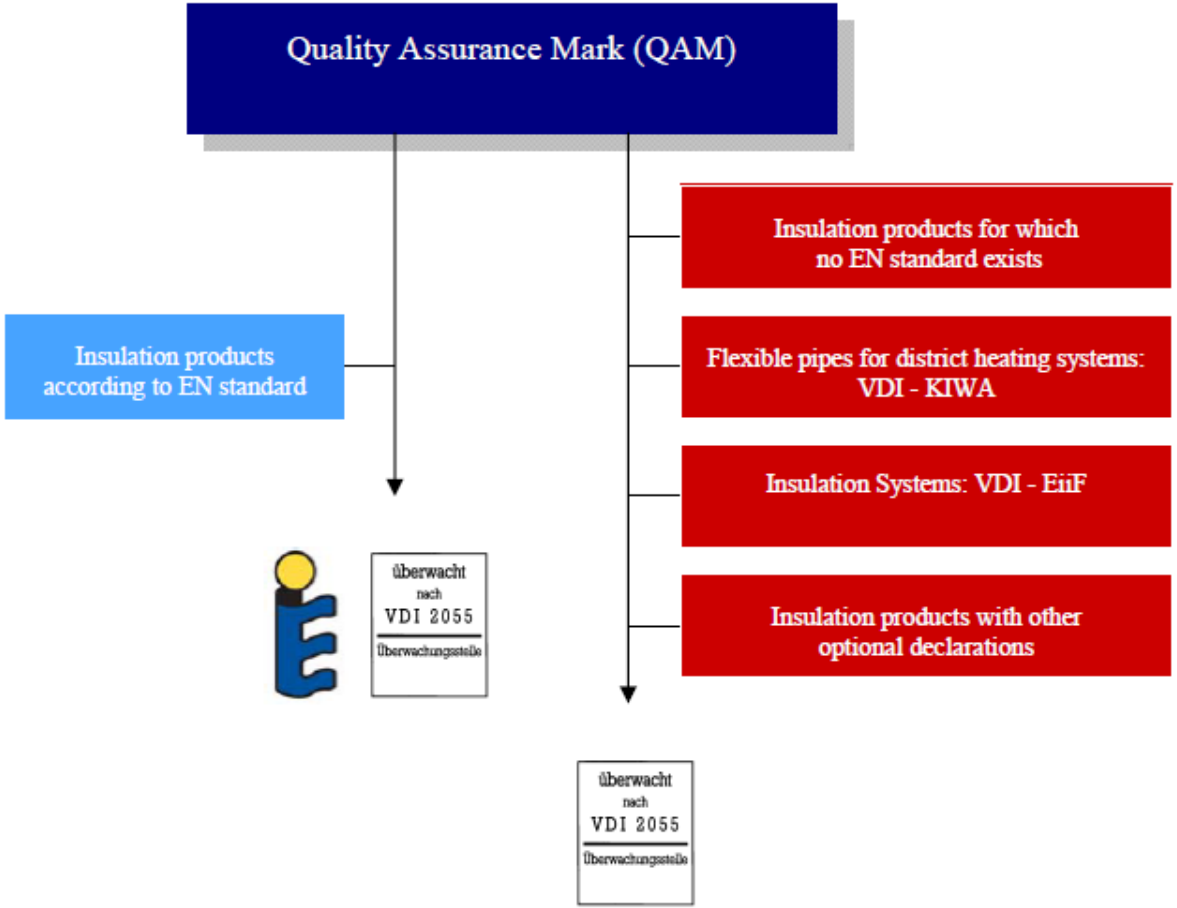
- **2003**: proposal from VDI to a “marriage”
- **……** : using VDI-experiences
- **2009:** EN product standards for industry available
- **2011:** VDI-KEYMARK scheme approved by VDI & CEN-CCB
- **2012:** CE-marking mandatory for EN product standards for industry

## *As a result*

- QAC & SDG5 work together

# VDI - Keymark

***Extract VDI KEYMARK rules appendix G***



# Conclusions

- Very successful harmonisation between official labs on thermal conductivity testing
- Strong cooperation with Notified Bodies Sector Group 19 and CEN TC 88

***However***

- Need for more market recognition: still too limited manufacturers
- “Old national” certifications still operating in some countries

***Next step:***

Keymark scheme rules update *(version 2.0)* joining the rules for building and industrial insulation into one organisation

# Thank you

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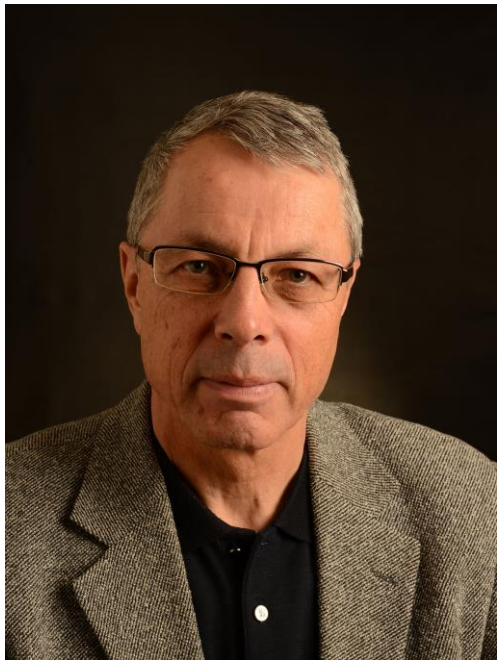

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