



PAROC[®]

Better built environment

MINERAL WOOL – WHERE THE INDUSTRY IS GOING

Advancement for Metal buildings 19 – 20.10.2017, Hamburg

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PAROC IN BRIEF

Paroc is one of Europe's leading manufacturers of energy-efficient and fire-proof stone wool insulation solutions.



PAROC'S MISSION is to be an innovative and trusted partner for a sustainable built environment.



PAROC'S OPERATIONS are based on the company's values: customers, respect, innovation and performance.



PAROC'S PRODUCTS are manufactured in Finland, Sweden, Lithuania, Poland and Russia and delivered in our familiar red-and-white-striped packages through sales network in 14 European countries.

THROUGHOUT OUR 80-YEAR HISTORY

WE HAVE EARNED A REPUTATION FOR HIGH PRODUCT PERFORMANCE, TECHNICAL EXPERTISE AND SUSTAINABILITY AMONG BUILDERS OF SINGLE-FAMILY HOMES, ARCHITECTS, CONTRACTORS, DEALERS AND INDUSTRIAL BUILDERS.



PAROC GROUP IS OWNED BY FUNDS ADVISED BY CVC CAPITAL PARTNERS AND PAROC EMPLOYEES AS MINORITY OWNERS.

NET SALES BY AREA 2016 (2015)



| | |
|--------------------|----------------------------|
| ● Finland 22% (22) | ● Lithuania 4% (5) |
| ● Sweden 26% (25) | ● Russia 5% (6) |
| ● Poland 10% (10) | ● Other countries 33% (31) |

LOCATION MAP

○ Headquarters: Helsinki
● Plants
▲ Sales companies and rep. offices



1,835
PERSONNEL



375 MEUR
NET SALES
(2015: 375 MEUR)



77 MEUR
EBITDA
(2015: 73 MEUR)

CONTENT

1. Megatrends affecting business environment
2. Resource efficiency
3. Fire Safety
4. Trends for Mineral Wool Metal Panel Core
5. Paroc low lambda product



MEGATRENDS AFFECTING BUSINESS ENVIRONMENT

Consequences for Mineral wool business

SUSTAINABILITY REQUIRES HIGHER ENERGY EFFICIENCY

- Growing requirements for resource efficiency, EU Green public procurement
- Energy efficiency, EU 2020 strategy targets
- Waste directive, 70% of building site waste recycled.
- Development of new, more efficient insulation solutions and materials
- New business models will develop.

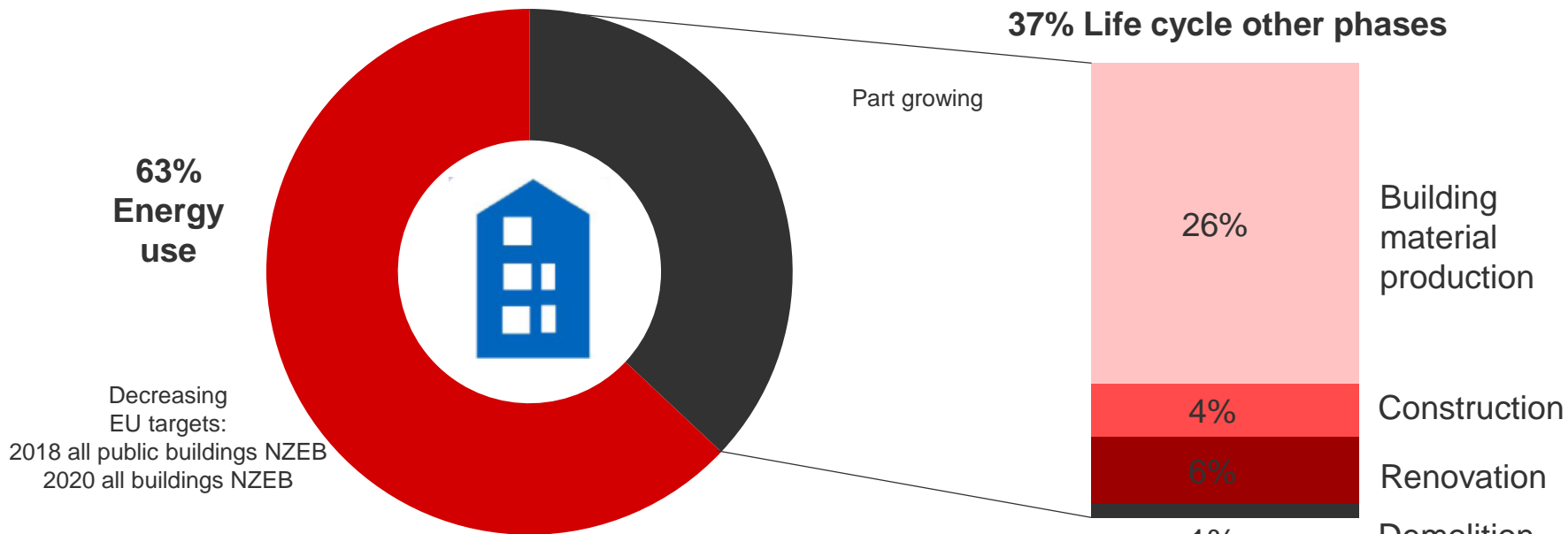
URBANIZATION & INCREASED STANDARD OF LIVING

- Increasing need for new building.
- High need for healthy and safe urban environments
- Insulating for comfort: against climate and noise, for fire safety and pure indoor air.

DIGITALIZATION & TECHNOLOGICAL ADVANCEMENT

- Current distribution channels will change
- Logistics fundamentals are not likely to change
- Pricing will become more transparent

TYPICAL BUILDING CARBON EMISSION FOOTPRINT



Decreasing
EU targets:
2018 all public buildings NZEB
2020 all buildings NZEB

Source: Ruuska & Häkkinen 2014

BUILDING MATERIAL PRODUCTION

- Resource efficiency will be a critical factor in the future:

TOOLS

- Environmental Product Declarations' according EN 15804, criteria's -> A Product Carbon Footprint describes the sum of greenhouse gas emissions accumulated during the full life cycle of a product in a specified application.

WHERE TOOLS ARE USED

- Green Public Procurement, support public green building
- Voluntary certification as example BREAM, LEED certification
- EU Framework of indicators (Level's. first draft out)



FIRE SAFETY

Very strong driver for Mineral wool business in coming future, safe living for people!

TWO PROJECT STARTED FROM EU:

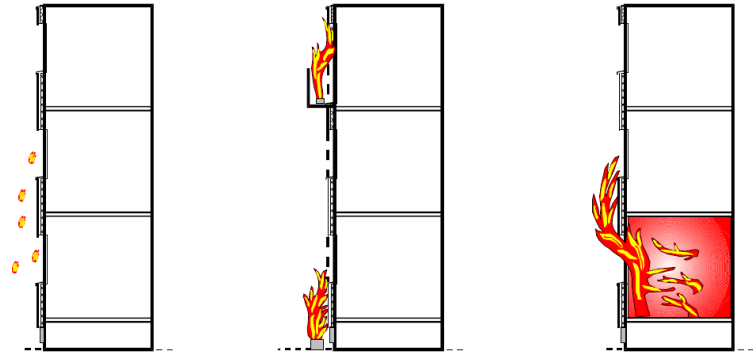
1. "Harmonized" Full Scale test for facades
2. Toxicity of smoke produced by construction products in Fire



PROJECT: FIRE TEST FOR FACADES

Project started from EU (EOTA), to develop a European approach to assess the fire performance of facades:

- RISE (SP) main Project leader with partners from Efectis, BRE, BAM, EMI.
- BS-8414-1 test & DIN 4102-20 specified as basis for a development of a new test.
- Testing for hole structure/construction, not only parts.
- First draft made by the project and comments given from stakeholders



TOXICITY OF SMOKE

Study to evaluate the need to regulate within the Framework of Regulation (EU) 305/2011 on the toxicity of smoke produced by construction products in fires.

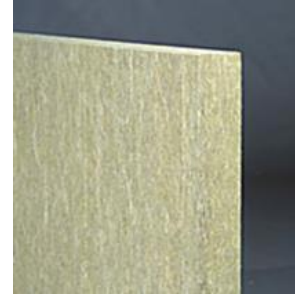
- Made by BRE
- First draft made of the study, but not yet concluded & approved.
- BRE got more time to finish study as they fully booked with testing related to the Greenfield tower fire in London.



MINERAL WOOL METAL SANDWICH PANEL CORE

Trends today:

- Lower density products (range: 65 – 90 kg/m³).
- Better lambda
- Panels today thicker due to U-value requirements -> allow lower density
- Fire safety, density & thickness
- Positive for green values



PAROC PANEL CORE, LAMBDA 0,038

PAROC offer today low density Sandwich Panel Core product:

- Nominal density 65 – 70 kg/m³
- Lambda 0,038 W/mK
- Targeting thicker panels, 120mm ->



A woman with blonde hair, wearing a light grey business suit, is standing in a meeting room. She is holding a white marker and drawing a diagram on a glass wall. The diagram consists of a horizontal line with an arrow pointing to the left, and a vertical line intersecting it. There are also some faint lines and a small triangle drawn. In the background, other people are visible but they are out of focus. The overall atmosphere is professional and collaborative.

THANK YOU

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