



Environmental Product Declaration of Insulated Concrete Forms

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The business of sustainability



About ERM



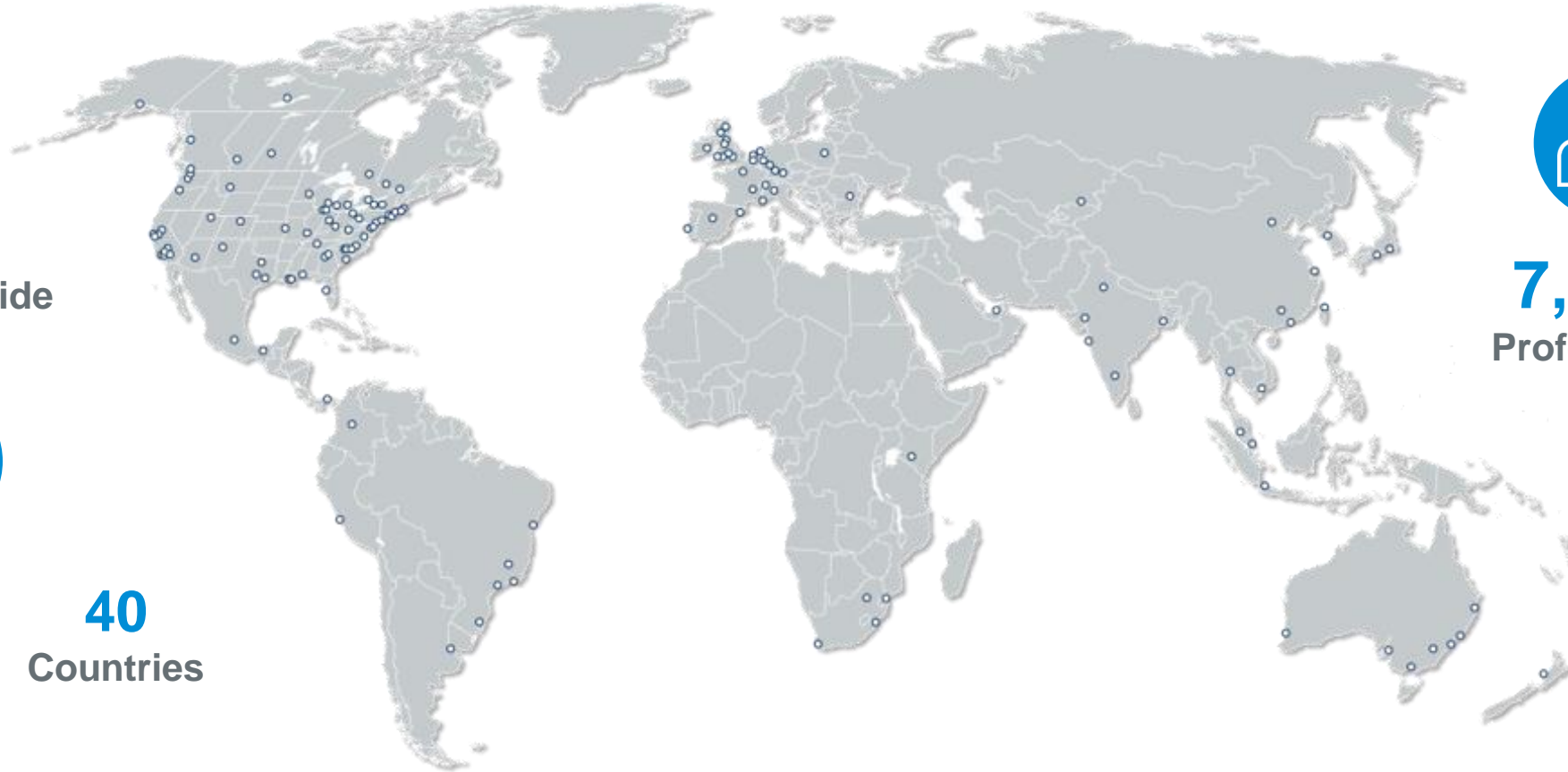
170
Offices Worldwide



40
Countries



7,000+
Professionals



○ ERM office locations

EPDs and the Built Environment

- 39% of global GHG emissions contributing to climate change arise because of the built environment
- EPDs are standardised documents - transparent, robust, reliable, independently verified environmental declaration
- Publicly available through EPD platforms.
- Green building certification - BREEAM, LEED, Green Star credits
- Increasing requirements for embodied carbon disclosure for new buildings



THE INTERNATIONAL EPD® SYSTEM

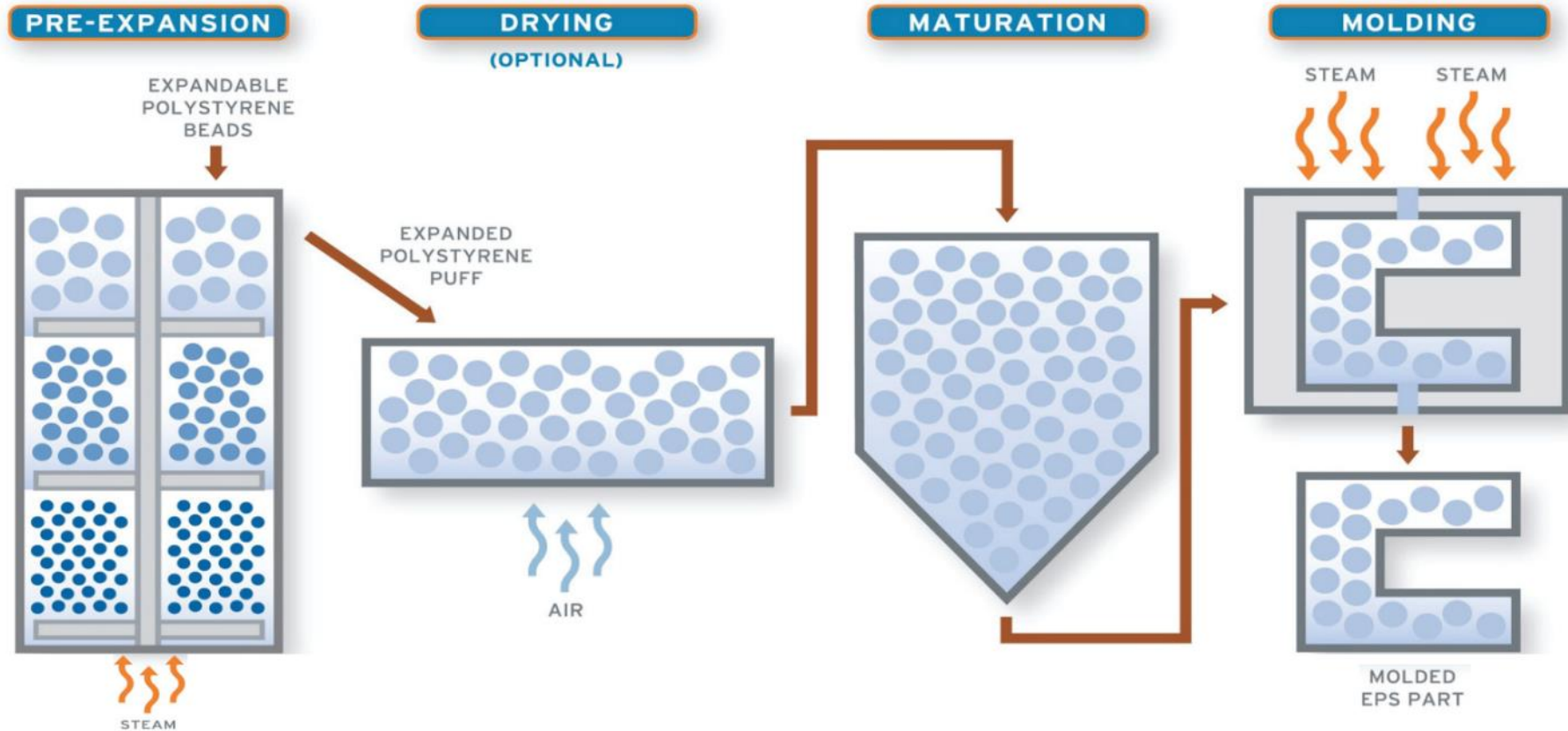


Nudura Insulated Concrete Forms

- The form blocks resemble “LEGO bricks”, with interlocking features on the top and bottom of each piece.
- Insulated concrete form products are dry stacked and filled with concrete for the building of walls.
- Nudura wanted to better understand the environmental performance of their 6” standard ICF.



Manufacturing Process



Scope of Study

An LCA and EPD were conducted in accordance with ISO 14040/44, *PCR 2019:14 Construction products* and EN15804+A2 and published through the International EPD system.

- Product stage (A1-A3) and end-of-life (C1-C4, D)
- Declared unit selected for the study: 1 piece of ICF

Nudura **ECO PLATFORM** **EPD** **VERIFIED** **EPD**

Nudura® Insulated Concrete Form System

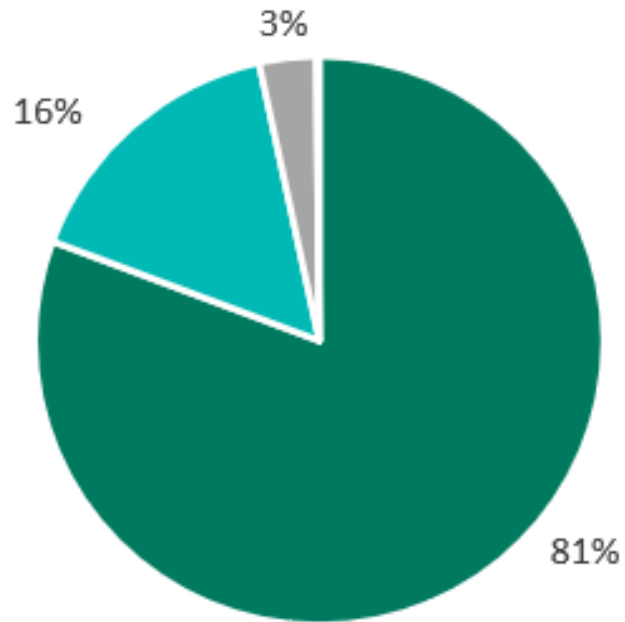
ISO 14020; ISO 14025; ISO 14040; ISO 14044; EN 15804; EN 16908; ISO 21930:
Edition 1; Revision 2: Jan. 2023

1. PROGRAM INFORMATION

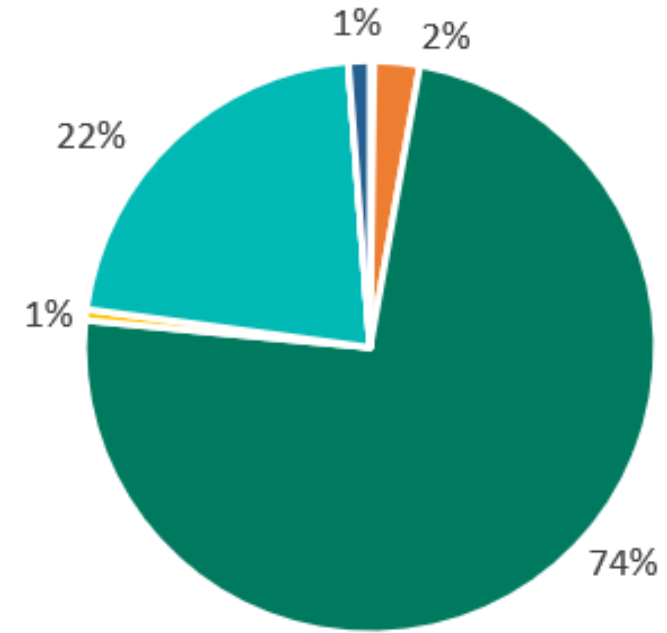
Program Operator	The International EPD® System EPD International AB Box 210 60 SE-100 31 Stockholm Sweden www.environdec.com info@environdec.com Tremco Canada, Division of RPM Canada 855 boul. Industriel, Granby, QC J2J 1A6
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Environdec: <https://www.environdec.com/library/epd7658> (Accessed: February 15, 2023)

Results



- Expandable polystyrene
- Polypropylene (Recycled)
- Steel wire
- Green tint



- Water
- Electricity
- Natural gas
- Other fuels
- Packaging
- Waste
- Waste water

Further Work

- This study did not assess the use phase of the lifecycle, further work would involve an extension of the scope of this study to include the use phase.
- A study published by the Massachusetts Institute of Technology's Concrete Sustainability Hub highlights the operational savings of ICF versus wood- or steel-based construction.
- The study showed that over 90% of the life cycle carbon emissions are due to the operational phase, hence emissions from initial construction and raw materials could be compensated within a few years, dependent on the usage of the building.¹

1. Oschendorf, J. et al. (2011) *Methods, Impacts, and Opportunities in the Concrete Building Life Cycle*, Concrete Sustainability Hub, Massachusetts Institute of Technology.

Benefits of ICF

- The frequency of natural disasters has increased significantly over the past 50 years due to climate change (World Meteorological Organization, 2021).¹
- ICF construction provides resilience to extreme weather events.
- Globally, a widespread use of ICF has the potential to contribute to cost-effective solutions for population growth, housing scarcity and climate-related equality, whilst avoiding extensive carbon emissions.



Nudura: <https://www.nudura.com/why-nudura/homeowner/disaster-resilient-homes/> (Accessed: February 15, 2023)

1. World Meteorological Organization: <https://public.wmo.int/en/media/press-release/weather-related-disasters-increase-over-past-50-years-causing-more-damage-fewer>. (Accessed: February 15, 2023)



Thank you

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