Decorative vinyl wall coverings companies that are members of

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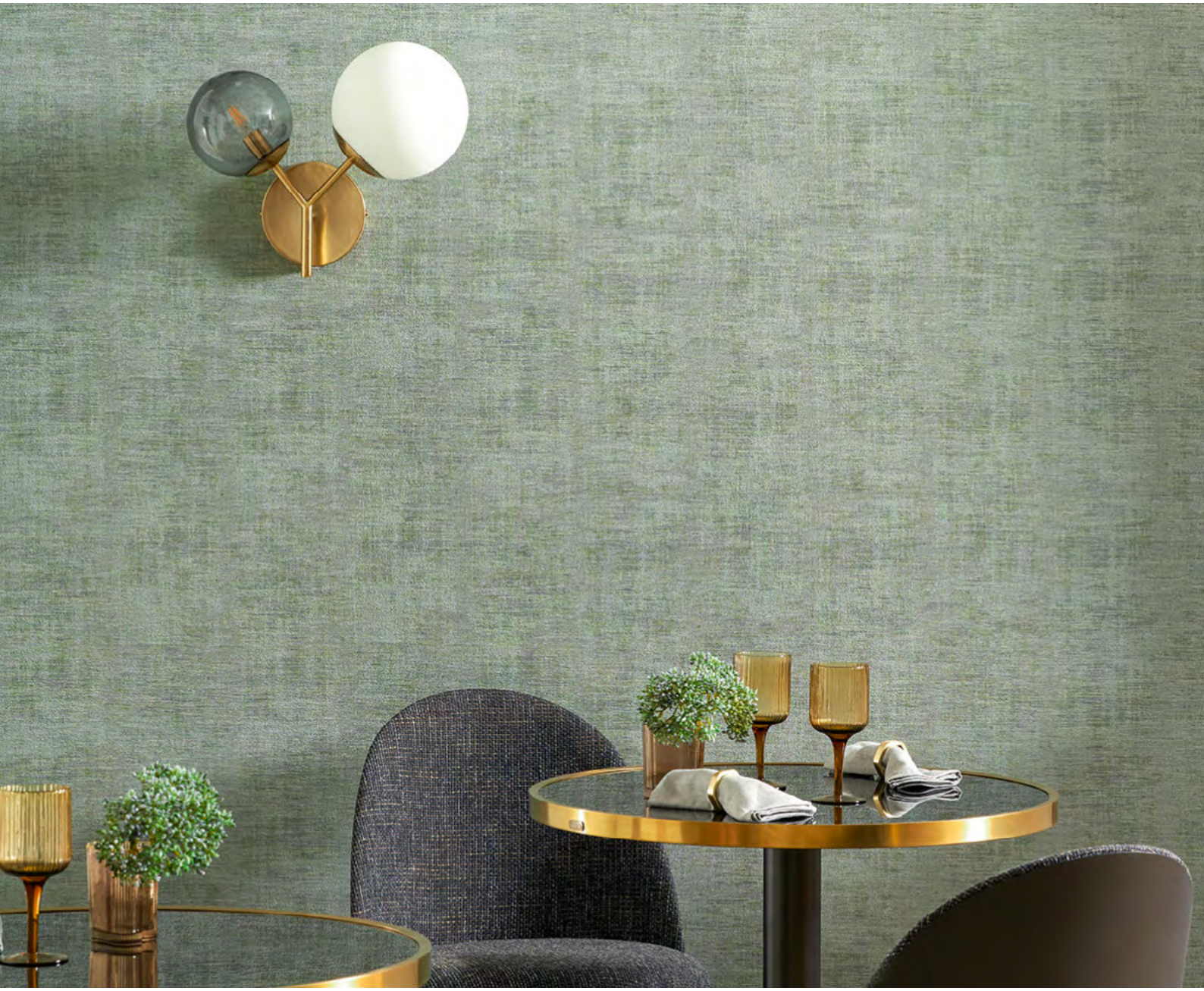


Supporting document for the **Environmental and Health Product Declaration** for **Decorative vinyl wall coverings < 1 kg/m²**

INTRODUCTION

Decarbonisation is now a major priority for the construction sector, which must comply with the targets set by the Energy Transition for Green Growth Act (TECV), the Housing, Planning and Digital Development Act (ELAN) and the National Low-Carbon Strategy (SNBC). Therefore, the sector must be comply with the RE2020 requirements, which will be strengthened in 2025 and are set to be even more intensified. These regulatory changes are part of a gradual ramp-up, with the target to achieve carbon neutrality by 2050.

Manufacturers have already stepped up to the challenge. Their progress in eco-design, supply chain optimisation and manufacturing processes have already significantly reduced the buildings ecological footprint. The available data that helps specifiers help to make even more responsible choices.

In this regard, Environmental and Health Product Declaration (French EHPD) play a crucial role in reducing carbon emissions and impacts on health throughout the entire project life cycle. They are also essential to obtain environmental and health certifications and labels such as HQE®, BREEAM®, LEED®, BBCA® (Low Carbon Building), DGNB, WELL Building Standard® and E+C- for new buildings.

As a construction product, vinyl wall coverings must rise to these challenges. To this end, wall coverings companies have developed the FDES decorative vinyl wall weighing for less than 1 kg/m^2. This French EHPD was produced according to the NF EN 15804+A2 standard and its national supplement NF EN 15804+A2/CN. It has been validated by an authorised INIES program auditor and is valid until December 31, 2030.

Construction of a sustainable building involves improving energy performance, reducing costs and environmental impact, and ensuring optimal comfort for occupants. ***Choosing vinyl wall covering is fully in line with this objective.***

DECORATIVE VINYL WALL COVERING

An ally for attractive, functional and comfortable spaces

Vinyl wall coverings are the go-to decorative solution for dressing up and enhancing interior spaces. Available in a wide range of colours, patterns and textures, including smooth, grainy and textured finishes, they **help creating unique atmospheres tailored for each environment**, while improving the user's comfort.

Beyond its aesthetic role, decorative vinyl wall covering optimises indoor well-being. By **reducing ambient noise thanks to its acoustic properties**, it promotes a more peaceful and pleasant atmosphere on a daily basis.

Through a subtle combination of materials and colours, it also **makes it easier for occupants to find their way** around, especially for retirement homes or healthcare facilities, where visual impairments can hinder mobility.

Furthermore, its proven **resistance to fading under the effects of light** guarantees long-lasting, harmonious durability.

A reliable solution for healthy, safe and sustainable spaces

Due to its specific composition, decorative vinyl wall covering is heavier than other wall coverings, which **ensures enhanced strength and durability over time**.

It **complies with fire safety regulations** and, meets in particular, the most stringent requirements of Article U23 relating to wall coverings in hospital corridors, thus offering optimum protection in sensitive areas.

According to the indoor environmental quality, the three companies participating in this French EHPD offer **low-emission vinyl coverings, classified A+ according to French regulations**, the highest classification available. To minimise these emissions even more, they recommend to use water-based vinyl adhesives during installation. Their coverings also have no odour impact when they are put into service after ventilation and remain neutral throughout their lifetime.

Easy to maintain, decorative vinyl wall coverings are distinguished by their **super washability and ability to be brushed**. Cleaning operations, whether using water, steam, detergent or non-aggressive disinfectants, do not alter the structure of the product or its aesthetic qualities.

Therefore, Vinyl wall coverings are an innovative solution that combines aesthetics, safety and environmental performance to meet the needs of living spaces.

Did you have any idea?

Kaléi factories members which are in Europe, are certified ISO 14001. This certification guarantees that environmental impacts are rigorously considered at every step of the manufacturing process: internal recycling optimisation, waste reduction, controlled management of water and air emissions. All these practices reflect a sustainable and eco-responsible vision.

THE FDES, ESSENTIAL SUPPORT FOR ANY DECARBONISATION INITIATIVE

The FDES for decorative vinyl wall coverings weighing less than 1 kg/m² was developed by Kaléi. This FDES, adding to the commercial references it covers, is available in the INIES database (www.inies.fr).

The Functional Unit (FU)

The functional unit is to « **Cover 1 m² of wall** with a vinyl wall covering weighing less than 1 kg/m² while ensuring the performance described in standards NF EN 15102[1] and NF EN 233[2] for a reference service life of 20 years. »

(1) Standard for decorative wall coverings in rolls

(2) Standard for wall coverings in rolls - Specification for finished wallpapers, vinyl wall coverings and plastic wall coverings

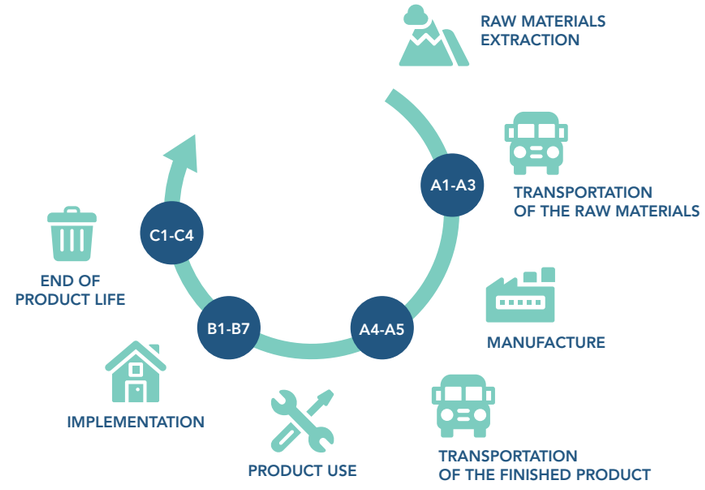
This UF includes wall covering, adhesive and distribution packaging.

Reference Service Life (RSL)

The total service life of the product is also referred to as the «Reference Service Life» (RSL).
Based on field observations, **the reference service life** of decorative vinyl wall coverings **is 20 years** when used and maintained according to manufacturer's recommendations.

Product Life Cycle Assessment (LCA)

The French EHPD was produced considering the environmental impacts at all stages of the products' life cycle, **from the extraction and/or manufacture of the constituent materials to the end of the products' life**.



Comparison of FDES

The NF EN 15804+A2/CN standard stipulates that « *Outside the context of the environmental assessment of a building, FDES are not tools for comparing construction products and services* » because it is necessary to ensure that equivalent products (mass, technical performance, functions, etc.) are compared using identical scenarios.

Therefore, it is recommended to compare construction systems rather than products and to ensure that all FDES are compliant with the same standard: NF EN 15804+A2/CN and its national supplement NF EN 15804+A2/CN.

CONTRIBUTION TO ENVIRONMENTAL IMPACTS

Environmental impacts	Unit	Fabrication stage	Installation stage	Use stage	End of Life stage	Total life cycle	Benefits and loads beyond the system limits
Climate change - total	**kg CO_2 eq/UF**	**2.27E+00**	**5.28E-01**	**3.14E-03**	**1.17E-01**	**2.92E+00**	**0.00E+00**
Climate change - fossil	**kg CO_2 eq/UF**	**2.34E+00**	**4.79E-01**	**2.66E-03**	**4.95E-02**	**2.87E+00**	**0.00E+00**
Climate change - biogenic	**kg CO_2 eq/UF**	**-1.11E-01**	**4.57E-02**	**4.80E-06**	**6.78E-02**	**2.26E-03**	**0.00E+00**
Climate change - land use and land use change	**kg CO_2 eq/UF**	**4.08E-02**	**3.58E-03**	**4.75E-04**	**3.39E-06**	**4.48E-02**	**0.00E+00**
Ozone depletion	**kg CFC 11 eq/UF**	**6.50E-07**	**5.90E-08**	**6.26E-11**	**3.40E-10**	**7.10E-07**	**0.00E+00**
Acidification	mole of H+ eq/UF	1.29E-02	2.03E-03	1.31E-05	5.70E-05	1.50E-02	0.00E+00
Eutrophication, aquatic freshwater	kg P eq/UF	2.21E-04	2.55E-05	1.40E-07	1.03E-07	2.47E-04	0.00E+00
Eutrophication, aquatic marine	kg de N eq/UF	8.42E-03	8.58E-04	6.19E-06	2.95E-05	9.31E-03	0.00E+00
Eutrophication, terrestrial	mole of N eq/UF	3.81E-02	5.06E-03	3.31E-05	2.29E-04	4.34E-02	0.00E+00
Photochemical ozone formation	kg NMCOV eq/UF	9.19E-03	1.94E-03	9.81E-06	1.05E-04	1.13E-02	0.00E+00
Depletion of abiotic resources (minerals and metals)	kg Sb eq/UF	4.04E-03	3.25E-04	3.40E-08	3.62E-08	4.37E-03	0.00E+00
Depletion of abiotic resources (fossils fuels)	MJ/UF	3.97E+01	9.03E+00	4.35E-02	2.39E-01	4.90E+01	0.00E+00
Water use	m^3 world eq deprived/UF	6.66E+00	6.54E-01	1.02E-02	-2.91E-03	7.32E+00	0.00E+00
Particulate matter emissions	Disease incidence/FU	1.12E-07	2.22E-08	1.46E-10	1.49E-09	1.36E-07	0.00E+00
Ionising radiation (human health)	kBq of U235 eq/UF	7.90E-02	1.47E-02	1.15E-04	1.23E-04	9.39E-02	0.00E+00
Ecotoxicity (freshwater)	CTUe/UF	3.03E+01	4.61E+00	4.33E-02	4.10E+00	3.90E+01	0.00E+00
Human toxicity (cancer effects)	CTUh/UF	8.63E-09	1.68E-09	1.45E-11	8.34E-11	1.04E-08	0.00E+00
Human toxicity (non-cancer effects)	CTUh/UF	3.59E-08	8.16E-09	4.80E-11	1.87E-10	4.43E-08	0.00E+00
Land use related impacts / Soil quality	Dimensionless/ FU	2.42E+01	3.05E+00	4.68E-02	4.18E-01	2.77E+01	0.00E+00
Use of renewable primary energy excluding the renewable primary energy resources used as raw materials	MJ/UF	4.21E+00	6.75E-01	2.04E-02	5.54E-03	4.91E+00	0.00E+00
Use of renewable primary energy resources used as raw materials	MJ/UF	1.48E+00	-2.43E-01	0.00E+00	0.00E+00	1.24E+00	0.00E+00
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ/UF	5.69E+00	4.32E-01	2.04E-02	5.54E-03	6.15E+00	0.00E+00
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	MJ/UF	3.17E+01	6.57E+00	-1.08E-02	2.39E-01	3.85E+01	0.00E+00
Use of non-renewable primary energy resources used as raw materials	MJ/UF	7.92E+00	2.44E+00	5.48E-02	0.00E+00	1.04E+01	0.00E+00
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	**MJ/UF**	**3.96E+01**	**9.01E+00**	**4.40E-02**	**2.39E-01**	**4.89E+01**	**0.00E+00**
Use of secondary materials	kg/UF	3.25E-02	2.60E-03	0.00E+00	0.00E+00	3.51E-02	0.00E+00
Use of renewable secondary fuels	MJ/UF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	MJ/UF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water	m^3/UF	2.09E-01	1.98E-02	2.48E-04	-2.87E-03	2.26E-01	0.00E+00
Hazardous waste disposed	kg/UF	6.34E-03	7.36E-04	3.89E-06	1.74E-05	7.10E-03	0.00E+00
Non-hazardous waste disposed	**kg/UF**	**1.52E+00**	**3.57E-01**	**1.74E-03**	**6.50E-01**	**2.53E+00**	**0.00E+00**
Radioactive waste disposed	kg/UF	5.03E-05	1.01E-05	8.99E-08	7.93E-08	6.06E-05	0.00E+00
Components for re-use	kg/UF	0.00E+00	3.68E-03	0.00E+00	0.00E+00	3.68E-03	0.00E+00
Materials for recycling	kg/UF	2.47E-04	1.70E-02	1.71E-05	0.00E+00	1.72E-02	0.00E+00
Materials for energy recovery	kg/UF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy - Electricity	MJ/UF	5.96E-02	1.09E-02	1.40E-04	0.00E+00	7.06E-02	0.00E+00
Exported energy - Steam	MJ/UF	1.36E-01	2.38E-02	2.83E-04	0.00E+00	1.60E-01	0.00E+00
Exported energy - Gas & Process	MJ/UF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

It is important to note that the change in reference between the old edition of the FDES decorative vinyl wall coverings weighing less than 1 kg/m² (compliant with NF EN 15804+A1 and its national supplement NF EN 15804+A1/CN) and the new edition (compliant with NF EN 15804+A2 and its national supplement NF EN 15804+A2/CN) may explain certain variations in impacts.

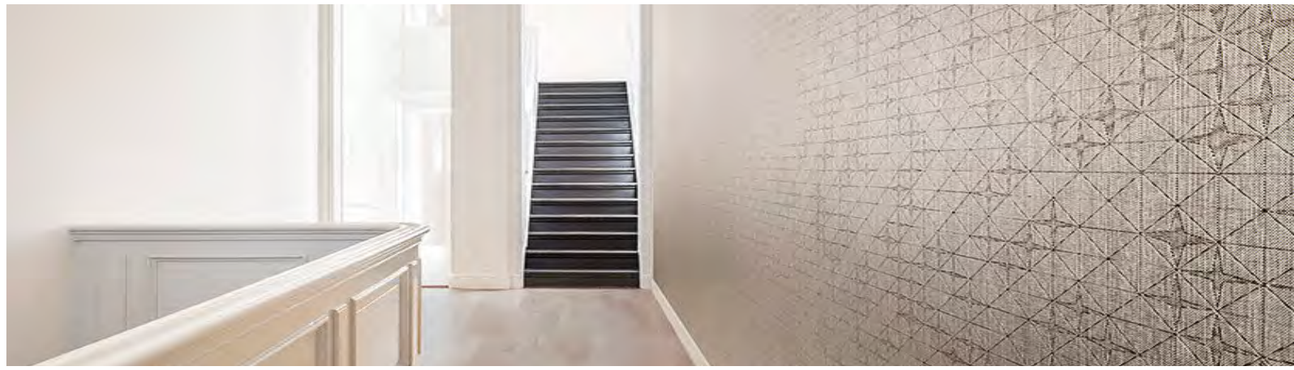
The impact of vinyl wall covering weighing less than 1 kg/m² is very low on a building-wide scale.
The total primary energy, for instance, represents less than 1%. By way of comparison, depending on the type of building, the materials used and the construction choices, the impact of certain items such as foundations, floors or roofing can represent more than 25% of the total primary energy.

At their level, vinyl wall coverings contribute to the sustainable development objectives of buildings by having moderate greenhouse gas emissions, low consumption of non-renewable primary energy resources, and low waste production.

Limited climate and atmospheric impacts

The manufacturing process, use of carbon-free or green energy and low maintenance, mean that decorative vinyl wall coverings have a limited climate and atmospheric impact.

By way of comparison, the annual CO_2 production for 1 m² of decorative vinyl wall covering is less than 1 kg/m², which is equivalent to the emissions produced by a journey of approximately 1.8 kilometres in a medium-sized petrol car.



Low impact on the use of non-renewable primary energy resources

Thanks to the way they're made, and used, decorative vinyl wall coverings do not consume few much of non-renewable primary energy resources.

By way of comparison, over a year, the consumption for 1 m² of decorative vinyl wall covering less than 1 kg/m² is 360 times less than a washing machine.

Responsible waste management

Waste from the production of vinyl wall coverings is reintroduced into the manufacturing process. Decorative vinyl wall coverings companies finance the end-of-life of their products by paying an eco-contribution and continue their eco-design efforts within the framework of the EPR (Extended Producer Responsibility) PMCB (Building Construction Products and Materials) scheme.

By way of comparison, the amount of waste produced per square metre of decorative vinyl wall covering is less than 1 kg/m² per year, which is ten times less than the amount produced daily by a person living in France.

Decorative vinyl wall coverings companies that are members of

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