

## Technical Datasheet

### 1. About RECOMA

RECOMA manufactures construction boards from recycled material with a unique combination of properties; strong and durable, protected against moisture and mold, as well as superior thermal and sound insulation. RECOMA manufactures its products from 100% recycled composite packaging in a process generating 0 waste, 0 emissions and using 0 water and 0 additives. The product is also 100% recyclable, contributing to the transition to a circular economy. RECOMA uses 100% food-grade material in its production, without adding any glues or other chemicals, making it safe to handle.



### 2. Teknisk beskrivning av Produkt

RECOMA PackWall is a construction board designed for use in construction and furniture manufacturing. The boards can be custom ordered but are offered as standard in dimensions 1200x2500 mm. Thickness of the boards vary between 8 and 18 mm depending on variant of the product (see table under headline 3). The surface of the boards is laminated with LDPE (low density polyethylene, 25 g / m<sup>2</sup>) and paperboard (205 g / m<sup>2</sup>) which contributes to a smooth surface ready for treatment. Density of the boards vary between cca 750-850 kg / m<sup>3</sup>. Tolerance of thickness +/- 0.7 mm.

The product is made from recycled beverage cartons, a majority of which are "post-consumer" food packaging that have been diverted from the waste flow to avoid incineration. This means that our product does not contribute to deforestation or mining of natural resources but fits into the future of circular material usage in construction. The composite core of crushed beverage cartons (septic and aseptic) is composed of 60-65% carton, 30-35% LDPE and 1-5% aluminum (film).

RECOMA PackWall is manufactured according to patented technology; the raw material is crushed in a grinder to bits of about 30 x 30 mm size and compressed under high pressure and temperature to form construction boards. No additives, glues or water is used in this process, it is powered by 100% electricity from renewable sources. Manufacturing takes place in Hässleholm, Scania, Sweden.



### 3. Variants

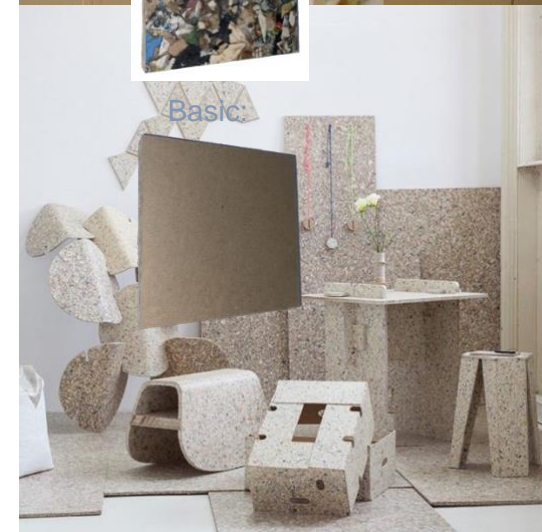
RECOMA PackWall is manufactured and sold in 3 standard variants. The properties of the final product are the same with the exception of thickness and other qualities that are directly correlated with density; for example, hardness, insulating properties, and permeability. The boards are offered in standard dimensions 1200 x 2500 mm and 600 x 2500 mm, the manufacturing process is the same except a saw cut down the middle to create two 600 mm boards from a 1200 mm wide board. Density varies between 750 and 850 kg / m<sup>3</sup>.

- **Universal:** 11-13 mm thick construction board for interior usage. Can be ordered with beveled edges for easy plastering to achieve seamless surfaces with invisible joints.
- **Cover:** 8-10 mm thick board for exterior sheathing or interior renovation. Joints can be taped with water resistant tape to achieve a weather-proof construction quickly.
- **Solid:** 15-18 mm thick board for furniture manufacturing and other interior details. Can be painted, veneered, or treated in other manners.

Product	Thickness	Dimensions	Variant	Edge	Front	Back
RECOMA PackWall Cover	8-10 mm	1200 x 2500 mm 900 x 2500 mm 600 x 2500 mm	Basic	Straight Beveled	Paperboard 205 g / m <sup>2</sup> ±10% LDPE film 25 g / m <sup>2</sup> ±10%	Paperboard 205 g / m <sup>2</sup> ±10% LDPE film 25 g / m <sup>2</sup> ±10%
			Design	Straight Beveled	LDPE -film 25 g / m <sup>2</sup> ±10%	Paperboard 205 g / m <sup>2</sup> ±10% LDPE film 25 g / m <sup>2</sup> ±10%
RECOMA PackWall Universal	11-13 mm	1200 x 2500 mm 900 x 2500 mm 600 x 2500 mm	Basic	Straight Beveled	Paperboard 205 g / m <sup>2</sup> ±10% LDPE film 25 g / m <sup>2</sup> ±10%	Paperboard 205 g / m <sup>2</sup> ±10% LDPE film 25 g / m <sup>2</sup> ±10%
			Design	Straight Beveled	LDPE -film 25 g / m <sup>2</sup> ±10%	Paperboard 205 g / m <sup>2</sup> ±10% LDPE film 25 g / m <sup>2</sup> ±10%
RECOMA Packwall Solid	15-18 mm	1200 x 2500 mm 900 x 2500 mm 600 x 2500 mm	Basic	Straight Beveled	Paperboard 205 g / m <sup>2</sup> ±10% LDPE film 25 g / m <sup>2</sup> ±10%	Paperboard 205 g / m <sup>2</sup> ±10% LDPE film 25 g / m <sup>2</sup> ±10%
			Design	Straight Beveled	LDPE -film 25 g / m <sup>2</sup> ±10%	Paperboard 205 g / m <sup>2</sup> ±10% LDPE film 25 g / m <sup>2</sup> ±10%
<i>Custom</i>	<i>8-18mm</i>	<i>0-1200 x 0-2500 mm</i>	<i>Any</i>	<i>Any</i>	<i>Any</i>	<i>Any</i>

### 4. Intended Use

RECOMA PackWall is designed as a high performing sustainable substitute for construction and carpeting, replacing traditional



materials such as OSB, MDF, Plywood, cement fiber boards as well as gypsum products as the surface is smooth and treatment-ready.

Even though the product contains cellulose fibers, considered a living material, movement of the board due to temperature and moisture changes are minimal as the fibers are surrounded by solidified LDPE.

RECOMA PackWall is suitable for construction of interior and exterior walls (although not as an outermost layer), roofing substrate, floor underlayment, concrete molds, site barriers and SIP-panels.

Due to its moisture resistant properties, the board is considered semi-permeable, but not waterproof. Usage in bathrooms and other wet areas is therefore not recommended without waterproofing treatment.

For exterior sheathing the joints should be taped with waterproof tape to achieve weatherproofing. Panel can be mounted directly on the boards. Primer and mesh usage is recommended for plastering.

**Interior and exterior non-structural application: (EN 335)**

**UC1:** inside a construction, not exposed to the weather and wetting.

**UC2:** under cover and not exposed to the weather (particularly rain and driven rain) but where occasional, but not persistent, wetting can occur.

## 5. Performance of the Product

(Based on ETA 20/0861 & EAD 210138-00-0504)

Basic Works Requirement 1: Mechanical Resistance and Stability		Standard
1.1.	Modulus of elasticity in bending	> 393 N/mm <sup>2</sup> EN 310, EN 13986+A1, EN 326-1
1.2.	Bending strength	> 3,58 N/mm <sup>2</sup> EN 310, EN 13986+A1, EN 326-1

1.3.	Tensile strength for structural use	N/A	EN 789, EN 13986+A1, EN 1058
1.4.	Compressive strength for structural use	N/A	EN 789, EN 13986+A1, EN 1058
1.5.	Shear strength for structural use	N/A	EN 789, EN 13986+A1, EN 1058
1.6.	Duration of load factor and creep factor for structural	N/A	EN 1156, EN 13986+A1, EN 1995-1-1
1.7.	Impact resistance	N/A	EN 1195, EN 12871, EN 596
<b>Basic Works Requirement 2: Safety in Case of Fire</b>			
1.8.	Reaction to fire	D - s1, d1	EN 13501-1
1.9.	Propensity to undergo continuous smouldering	N/A	EN 16733
<b>Basic Works Requirement 3: Hygiene, Health and the Environment</b>			
1.10.	Vapour permeability	705	EN ISO 12572
1.11.	VOC emissions	0	EN 16000
<b>Basic Works Requirement 4: Safety and Accessibility in Use</b>			
1.12.	Tensile strength perpendicular to faces	> 0,06 N/mm <sup>2</sup>	EN 319, EN 13986+A1, EN 326-1
1.13.	Pull through resistance to fasteners	> 3,43 N/mm <sup>2</sup>	EN 1383, EN 14358
1.14.	Indentation hardness by means of a durometer	43,5	EN ISO 868
1.15.	Durability - swelling in thickness after immersion in water	< 13,4%	EN 317, EN 326-1, EN 13986+A1
1.16.	Durability - Moisture resistance	≥ 0,061 N/mm <sup>2</sup>	EN 326-1, EN 319, EN 317, EN 321
1.17.	Durability to biological agents	N/A	EN 350, ENV 12038
<b>Basic Works Requirement 5: Protection against Noise</b>			
1.18.	Airborne sound insulation	> 32 dB	EN ISO 10140-2, EN ISO 10140-4
<b>Basic Works Requirement 6: Energy Economy and Heat Retention</b>			
1.19.	Thermal conductivity	< 0,19 W/(m*K)	EN 12664

## 6. Material Composition

RECOMA PackWall construction boards are 100% made from recycled material, the composite core is composed of composite packaging from the food industry. The surface layer of paperboard is made from recycled paper and attached to the core by a thin film of recycled LDPE (low density polyethylene). Beverage cartons and other composite packaging are difficult to recycle in traditional technologies. RECOMA combines the advantageous qualities of this



material with the demand for sustainable solutions in the construction industry. We give new life to a material that is otherwise viewed as waste, and a significant portion of it ends up being incinerated.



- Kartong (pappersfiber) **60-65%**
- Polyeten (LDPE) **30-35%**
- Aluminium **1-5%**

## 7. Manufacturing Process

RECOMA's manufacturing is located in Hässleholm, Scania, Sweden. The construction boards are produced with patented technology. The raw material is dried, sterilized, shredded, and pressed under high temperatures to form high quality boards. In the process no water, chemicals, glues, or other additives are added. Heat and pressure is generated by 100% renewable energy. No waste or spill is generated in the production process, everything is reintroduced to the process to become new construction boards. The manufacturing process does not contribute to emissions of greenhouse gases.

## 8. Environment and Health

RECOMA's manufacturing complies with relevant policy and local regulations and RECOMA possesses the necessary permits for its operation. RECOMA works towards both the EU's and UN's climate goals and considers environment and health in every aspect of operations.

RECOMA PackWall is not hazardous to humans, animals, or the environment. The product is made from 100% food grade material. No dangerous substances are included in the composition, and no adverse symptoms arise from normal handling of the product.



The boards are inherently protected against mold and bacterial growth. The raw material is sterilized during production and the product is not emitting volatile organic compounds.

#### a. Under tillverkning

No adverse effects on health or environment as a result of the manufacturing process.

#### b. Under installation

No adverse effects on health or environment as a result of the manufacturing process.

#### c. Oförutsedda händelser

**Fire:** No abnormal effects on health or environment. The product consists of cca 65% carton (cellulose) and 35% LDPE (polyethylene) which is a type of plastic consisting of carbon and hydrogen. Incineration of such plastic results in the same emissions as with incineration of natural polymers such as paper and wood.

**Water Damage:** No abnormal effects on health or environment.

## 9. Montering / Installation

Handling and installation of RECOMA PackWall does not differ from traditional construction boards that are available and popular in the trade. The same tools and methods as are used with wooden materials are applicable to the products. No adaptation or special tools are needed.

- Cut with: circular saw, manual saw, jigsaw, or table saw (universal blades recommended).
- Screws for wood or nail gun is recommended for attachment / mounting
- Do not place screws closer than 9.5mm from the edge of the board
- Recommended stud distance max cc 610 mm.



- Can be installed horizontally or vertically
- Vertical carrying not necessary, but should not rest its weight on corners

Då skivorna är formfasta och släta så kan de ytbehandlas med valfri traditionell metod:

**Paint Plaster Wallpaper Tiles Fabric Veneer**

- Use suitable primer before plastering or tiling
- For exterior usage we recommend painting the edges with a waterproof paint to further increase the moisture resistance properties of the board.

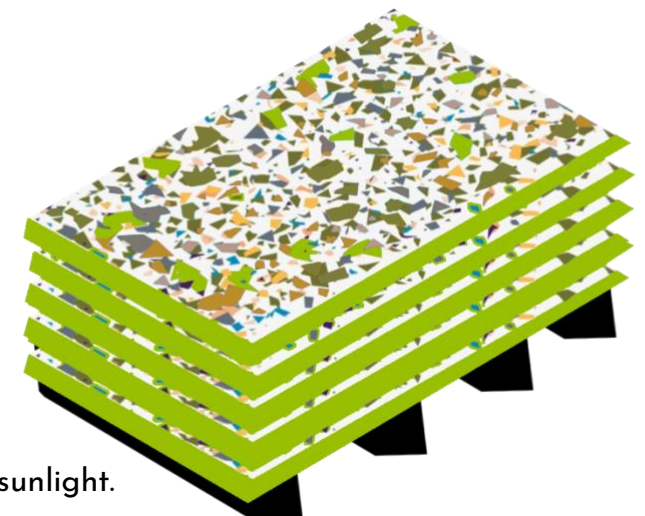
**Always use safety equipment such as protective glasses, gloves, and respirator when cutting the boards. Use fresh and sharp blades for best results.**



## 10. Packaging

RECOMA packages its products horizontally on a stand from its own recyclable composite material. The load is secured by plastic strapping made of recycled PET.

Product	Amount / pallet	Dimensions	Height	Weight
12 mm Universal	40	1200 x 2500 mm	595 mm	Ca 1100 kg
9 mm Cover	50	1200 x 2500 mm	595 mm	Ca 1100 kg
16 mm Solid	30	1200 x 2500 mm	580 mm	Ca 1100 kg



## 11. Storage

- Store dry on a plain surface, not directly on the ground outdoors or exposed to direct sunlight.



- Rain can miscolor the surface paperboard, this can bleed through later when painting
- Not recommended to handle boards outside during adverse weather conditions
- Not recommended to store the product more than 12 months before usage

## 12. Avfallshantering

Excess material, waste, and material from demolishing can be fully recycled to new boards at RECOMA's facility in Hässleholm.

With bulk orders RECOMA provides a "big bag" of 1 m<sup>3</sup> for the purpose of collecting and returning waste generated from its products.

Energy recovery is possible through deposit at Solid Waste Management Facilities, and the product should be sorted as: 17 09 04 "Annat bygg- och rivningsavfall".

## 13. Terms of Use / Purchase

RECOMA operates in accordance with the Byggtjänst **ABM 07** agreement for trade (general provisions for trade of goods in professional construction). No other terms apply.

## 14. Assumed Working Life

Based on the assumption that the product is handled, installed, and used according to the manufacturer's recommendations, an assumed working life of **30 years** can be expected.

This claim does not constitute a guarantee from the manufacturer but can be regarded as guidance for planning a project or purchase.

## 15. LCA (Life Cycle Analysis)





Will be published as part of the Environmental Product Declaration (EPD).



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