

# NEWTECHWOOD CONTRIBUTION

TO LEED, WELL, BREEAM, HQE

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## We are NewTechWood

NewTechWood has pioneered the development of composite decks and railings and has been a leader in wood-plastic composite technology since 2004. With every product we develop and manufacture, NewTechWood is committed to creating beautiful, useful and dependable products that enhance your outdoor living space.

### **Sustainability is in our DNA**

Sustainability sits at the heart of our research and development. By using recycled goods for manufacturing composite timber products, every year NewTechWood saves over 30,000 tons of plastic from being buried in landfills forever.

We want to bring this knowledge on sustainability to our customers and show how NewTechWood's products and their characteristics can help you earn more credits in building rating schemes.

# Leadership in Energy and Environmental Design v4.1



Leadership to deliver the triple bottom line returns of **people, planet and profit.**

LEED is the world's leading green building project and performance management system, delivering a comprehensive framework for green building design, construction, operations and performance.

## Assessment Categories

LEED Building Design and Construction rating system (New Construction) covers the following categories:

- Integrative Process
- Location & Transportation
- Sustainable Sites
- Water Efficiency
- Energy & Atmosphere
- Materials & Resources
- Indoor Environmental Quality
- Innovation

**LEED v4.1**, raises the bar on building standards to address energy efficiency, water conservation, site selection, material selection, day lighting and waste reduction. It provides more possibilities to demonstrate LEED compliance of the building products and materials by introducing in more practical ways to disclose the environmental life-cycle performance in the category Materials & Resources (M&R).

There are four levels of excellency that can be achieved by exceeding defined credit point thresholds:



Certified

40 – 49 points



Silver

50 – 59 points



Gold

60 – 79 points



Platinum

≥ 80 points



The following gives an overview of the ways in which we help you achieve your **LEED v4.1 BD+C** green building performance goals through NewTechWood solutions.

## 01 Heat Island Reduction

NewTechWood has Solar Reflectance (SR) test performed on 6 colors according with ASTM C1549. The Solar Reflectance Index (SRI) values were calculated according to ASTM E1980. The initial SR value of “Sand”, and “White Dew” meet the threshold value of 0.33. Therefore, they can contribute to reducing the heat island effect. The other three colors contribute to weighted area for the purposes of credit achievement calculation. Official test reports are available on request.

Color	Initial SR value
Sand	0.441
White Dew	0.579
Red Cedar	0.316
Antique	0.227
Oak	0.257

## 02 Building product disclosure and optimization - environmental product declaration

NewTechWood has product-specific third-party verified Type III EPDs for WPC cladding and WPC decking respectively. The EPDs conform to ISO 14025 and EN 15804 and has a cradle-to-grave scope. Each product with EPD can be valued as 1.5 products according to this LEED criteria's requirement.

See [WPC Cladding EPD](#), [WPC Decking EPD](#).

## 03 Building product disclosure and optimization - sourcing of raw materials

### Wood Products

NewTechWood is Chain of Custody certified to purchase FSC 100% wood flour, manufacture and sell FSC 100% wood-plastic composite products. The assessments have been conducted by SGS in accordance with the following standards: FSC-STD-40-003, FSC-STD-40-004, and FSC-STD-50-001. See certificate [FSC-C124802](#).

### Recycled Content

NewTechWood wood plastic composite products are manufactured with up to 60% of recycled content (pre-consumer and post-consumer). See detailed calculation on next page for more information.

## 04 Building product disclosure and optimization - material ingredients

NewTechWood wood plastic composites are compliant with the EU REACH regulation (EC) No. 1907/2006. No substances of very high concern (SVHC) exceed 0.1% (w/w) in the articles of the submitted sample from NewTechWood. Official test reports are available on request.

## Calculation of product contribution and the weighted degree of fulfillment:

### Heat Island Reduction

NewTechWood WPC can contribute to reducing the heat island effect. An SRI and SR weighted average approach may be used to calculate compliance. Here below additional detailed information about the SR values of different colors and the weighted percentage of the materials.

Color	Initial SR Value	Weighted Percentage of the area covered by the WPC
Sand	0.441	134%
White Dew	0.579	175%
Red Cedar	0.316	96%
Antique	0.227	69%
Oak	0.257	78%

### Building product disclosure and optimization - sourcing of raw materials

Here below additional detailed information about pre-consumer recycled content and post-consumer recycled content. NewTechWood uses select, recycled, high-density PE (post-consumer), combined with recycled wood fiber from furniture cut-offs, shavings, sawdust etc. (pre-consumer), to manufacture wood plastic composite products.

In LEED, total recycled content is the sum of **50% of the pre-consumer** recycled content plus **100% post-consumer** recycled content.

	Percentage by weight
Pre-consumer recycled content (wood)	58%
Post-consumer recycled content (HDPE)	31%
<b>Total recycled content (50% pre-consumer+ 100% post-consumer)</b>	<b>60%</b>

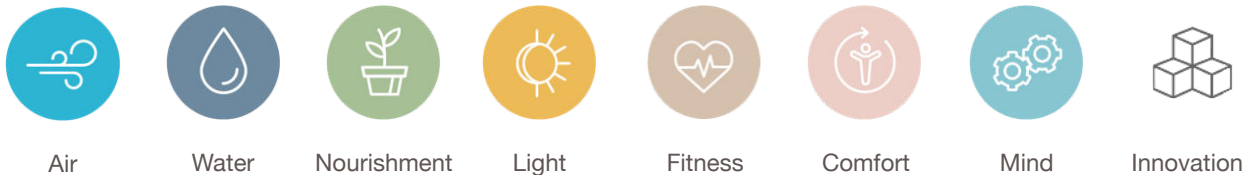
# The WELL Building Standard®



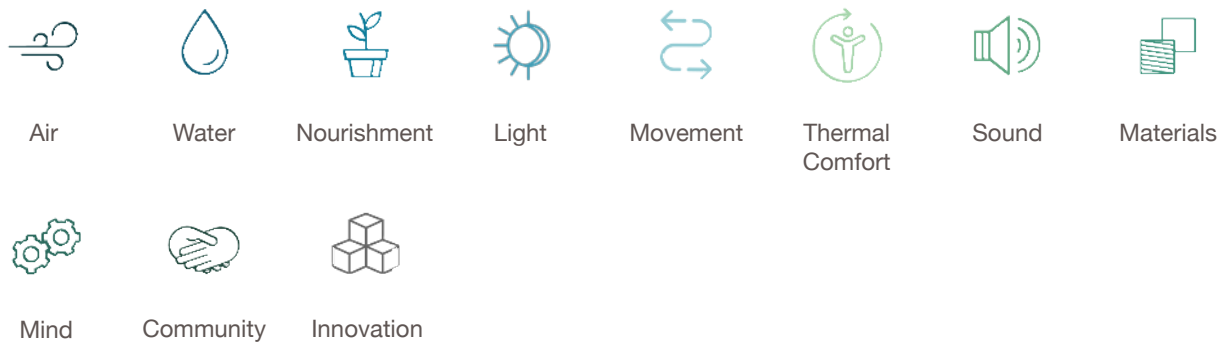
The WELL Building Standard focuses on the **people** in the building.

WELL is designed to comprehensively cover the various individual needs of building occupants while also building a common foundation for measuring wellness in the built environment. It draws from multiple disciplines of scientific study, and presents an integrated approach that reinvents the built environment around its occupants, transforming the places we live, work, and learn into systems intended to promote and improve human health and well-being.

**WELL v1™** is organized into eight categories of wellness called Concepts: Air, Water, Nourishment, Light, Fitness, Comfort, Mind, and Innovation. The eight Concepts are comprised of 105 features.



**WELL v2™** is the latest updated certification requirement that holds 11 concepts. It's *dynamic, resilient, and validated*. It operates on a points-based system, with 110 points available in each project scorecard.





The following gives an overview of the ways in which we help you achieve your **WELL v1** green building performance goals through NewTechWood solutions.

## 01 Feature 11 Fundamental Material Safety

This feature intends to reduce or eliminate occupant exposure to lead, asbestos, and polychlorinated biphenyls (PCBs) from building materials.

NewTechWood wood plastic composites are compliant with the EU REACH regulation (EC) No. 1907/2006. No substances of very high concern (SVHC) exceed 0.1% (w/w) in the articles of the submitted sample from NewTechWood. Official test reports are available on request.

## 02 Feature 25 Toxic Material Reduction

This feature aims to minimize the impact of hazardous building material chemicals. NewTechWood has conducted third-party test on flame retardants in the WPC products. Non of the following items are detected in the sampled product: TetraBDE, PentaBDE, HexaBDE, HeptaBDE, DecaBDE, short chain chlorinated paraffins, HBCDD, which contributes to Part 2 requirement of this WELL feature "*Flame retardant limitation*". Chemicals in the Substances of Very High Concern (SVHC) list have been tested as well. DEHP, DBP, and BBP are not detected in the sampled WPC product, which contributes to Part 3 requirement of this WELL feature "*Phthalate (Plasticizers) Limitation*".

## 03 Feature 88 Biophilia I -Qualitative

This feature intends to nurture the innate human-nature connection within the project. NewTechWood delivers WPC derived more than 50% from nature fiber with nature inspired pattern designs. We offer natural looking composite in the industry with an outstanding range of various colors.

## 04 Feature 97 Material Transparency

This feature intends to promote material transparency along the supply chain.

NewTechWood wood plastic composites are compliant with the EU REACH regulation (EC) No. 1907/2006. No substances of very high concern (SVHC) exceed 0.1% (w/w) in the articles of the submitted sample from NewTechWood. Official test reports are available on request.



The following gives an overview of the ways in which we help you achieve your **WELL v2 (Q1-Q2, 2024)** green building performance goals through NewTechWood solutions.

## 01 V05 Site Planning and Selection

This feature requires that exterior building walls facing the pedestrian network incorporate some combination of the required design elements on the street level façade, among others, biophilic design elements (e.g., plants, water features, nature patterns, natural building materials).

NewTechWood delivers WPC derived more than 50% from nature fiber with nature inspired pattern designs. We offer natural looking composite in the industry with an outstanding range of various colors.

## 02 X01 & X05 Material Restrictions X08 Material Optimization

X01 and X05 restrict widely known hazardous ingredients in newly installed building materials, specifically asbestos, mercury, lead, and halogenated flame retardant etc.. X08 requires screening and labeling of products in accordance with programs that audit and restrict the use of hazardous ingredient contents in materials and products.

NewTechWood WPC are compliant with the EU REACH regulation (EC) No. 1907/2006. No substances of very high concern (SVHC) exceed 0.1% (w/w) in the articles of the submitted sample from NewTechWood. Official test reports are available on request.

## 03 M02 Nature and Place

This feature requires that the project integrates natural materials, patterns, shapes, colors, images or sounds throughout the space.

NewTechWood offers natural looking composite with wood grain surface in the industry with an outstanding range of various colors.

## 04 I06 Carbon Disclosure and Reduction

This innovation feature encourages the project owner to conduct assessment of carbon emissions across their entire organization, including scope 1, 2, and 3.

NewTechWood has conducted life cycle assessment on WPC products and has the study (including carbon footprint result) externally verified. This contributes to the disclosure of carbon emission of the whole building project (under category of scope 3).

# BREEAM International New Construction *version 6.0*



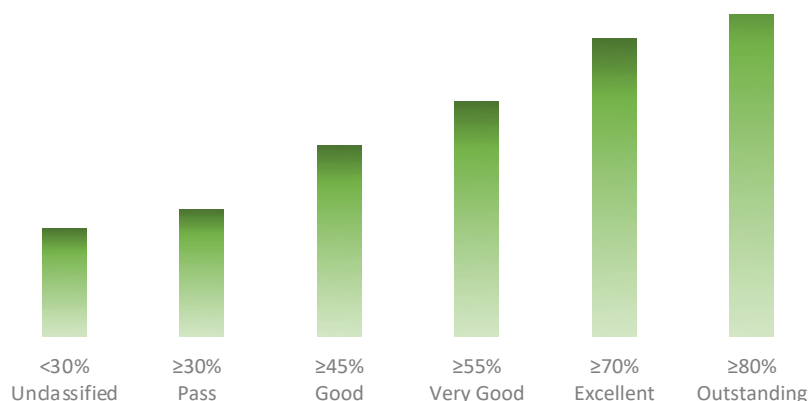
*Code for a sustainable built environment.*

BREEAM (Building Research Establishment's Environmental Assessment Method) is the world's leading and widely used environmental assessment method for buildings.

The BREEAM International New Construction v6.0, released in 2021, is a performance based assessment method and certification scheme for new buildings. The performance is qualified by a number of individual measures and associated criteria stretching across a range of environmental issues:

- Management (MAN)
- Health and Wellbeing (HEA)
- Energy (ENE)
- Transport (TRA)
- Water (WAT)
- Materials (MAT)
- Waste (WST)
- Land use and ecology (LE)
- Pollution (POL)
- Innovation (INN)

## **BREEAM Rating Benchmarks**





The following gives an overview of the ways in which we help you achieve your **BREEAM International NC v6.0** green building performance goals through NewTechWood solutions.

## 01 Mat 01 Life cycle impacts

NewTechWood has product-specific third-party verified Type III EPDs for WPC cladding and WPC decking respectively. The EPDs conform to ISO 14025 and EN 15804 and has a cradle-to-grave scope.

See [WPC Cladding EPD](#), [WPC Decking EPD](#).

## 02 Mat 03 Responsible sourcing of construction products

The available responsible sourcing credits can be awarded where the applicable construction products are responsibly sourced in accordance with the BREEAM methodology.

The management system of NewTechWood has been assessed and certified as meeting the requirements of ISO 14001:2015.

NewTechWood is also Chain of Custody certified to purchase FSC 100% wood flour, manufacture and sell FSC 100% wood-plastic composite products. The assessments have been conducted by SGS in accordance with the following standards: FSC-STD-40-003, FSC-STD-40-004, and FSC-STD-50-001. See certificate [FSC-C124802](#).

## 03 Mat 06 Material Efficiency

"Material efficiency" indicates the process of undertaking a building project to enable the most efficient use of materials over the life cycle of the building and its components. This includes using fewer materials, reusing existing demolition and strip-out materials and, where appropriate, procuring materials with higher levels of recycled content.

NewTechWood WPC is made from 60% recycled content, and allows for easy installation with little material wastage. We recommend to discuss the detailed project installation plan with our experts.

## 04 Wst 06 Functional adaptability

This feature encourages that functional adaptation measures to be adopted in the design, and use of products or systems which allow easy replacements.

NewTechWood WPC is modular and adaptable to internal changes in physical space, refurbishment, repair, and can be manually removed without causing damage or affecting the critical structure of the building.

# HQE™ Sustainable Building under Construction



*The way to progress.*

Launched in June 2022, HQE Sustainable Building under Construction (HQE-SB Construction, Bâtiment Durable) v4 mainly addresses non-residential real estate stakeholders who are seeking to differentiate and add more value to their new-builds, improve their extra-financial rating and access the best financing conditions.

HQE SB Construction is structured around 4 categories developed into 22 sub-themes:

- Quality of life
- Respect the environment
- Economic performance
- Responsible management



The levels reached on the first 3 categories (resulting in a number of stars) allow the display of an overall level ranging from good to outstanding level.

The 4<sup>th</sup> category corresponds to the Responsible Management System (SMR). It is qualified by a level of maturity ranging from operational level to exemplary level. The overall level of the certificate is assessed as follows:

Number of Stars	HQE Level
1-3	Good
4-6	Very Good
7-9	Excellent
10-12	Outstanding



The following gives an overview of the ways in which we help you achieve your **HQE-SB Construction v4** green building performance goals through NewTechWood solutions.

## 01 Life cycle assessment ACV

This theme requires calculation of the environmental impacts of the building according to RE2020, assessing environmental performance of buildings throughout the entire life cycle, from procurement of raw materials to construction, use of the facility and the building's "end-of-life".

NewTechWood has conducted LCA study on WPC cladding and WPC decking respectively. Product-specific third-party verified Type III EPDs that conform to ISO 14025 and EN 15804 and has a cradle-to-grave scope are available.

See [WPC Cladding EPD](#), [WPC Decking EPD](#).

## 02 Local Economy *Economie locale*

This theme encourages using component from a supply chain that recovers material from waste.

NewTechWood uses select, recycled, high-density PE (post-consumer), combined with recycled wood fiber from furniture cut-offs, shavings, sawdust etc. (pre-consumer), to manufacture wood plastic composite products. The recycled content (pre-consumer and post-consumer) is up to 60%.



# Sustainability

We were green before green.

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LEED AP, WELL AP

Star Talers Environmental Technology

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