green
greener
greenest

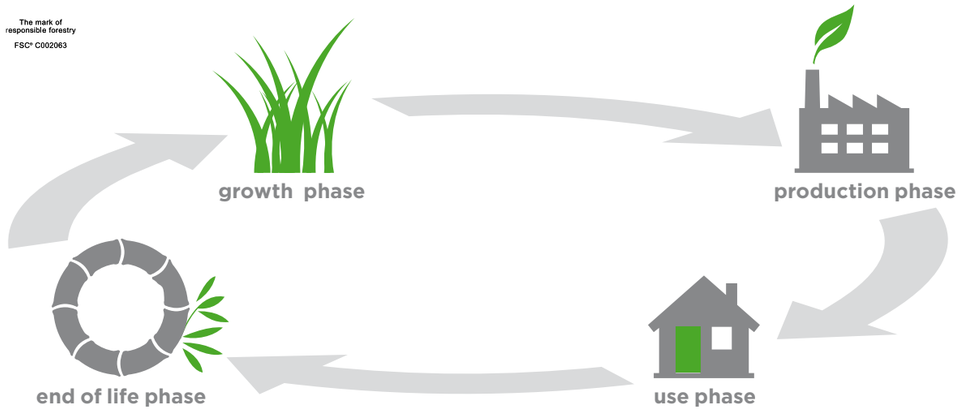
MOSO bamboo products: a sustainable choice!

To determine the eco-impact of a product, every phase of the life cycle should be taken into account. MOSO bamboo products offer clear sustainability advantages in each phase and are even proven CO_2 neutral over the full life cycle (see also right page)!

growth phase

- Made from the extremely rapidly renewable giant bamboo species “Moso”, renowned for its CO_2 absorbing and O_2 producing capacity.
- Abundantly available in China (approx. 7 mio ha) and always sourced from sustainably managed forests and plantations.
- The Moso bamboo plant consists of multiple stems. As a result, several stems may be harvested each year without killing the mother plant.
- **Optional**: MOSO bamboo FSC®-certified (most important ecolabel for sustainable wood sourcing).

FSC www.fsc.org — The mark of responsible forestry — FSC® C002063



production phase

- The MOSO bamboo products are made in production facilities that are ISO 9001 and ISO 14001 (important quality standards) certified.
- **Optional**: use of eco-friendly adhesive with no added formaldehyde, complying with the strictest emissions norm: E0 (EU requisite = E1).

E0 HCHO

end of life phase

- As a non toxic, natural material, MOSO bamboo products offer no restrictions in the end-of-life phase.
- If maintained well, MOSO bamboo products may be reused in similar applications (upcycling). If this is not possible, MOSO products may be safely used as input material for the chipboard industry (downcycling).
- If up- or downcycling is not possible, it is recommended to use the bamboo material as sustainable substitute for fossil fuels in a biomass energy plant for the production of green energy.

use phase

- Durable = Sustainable: because of the high hardness, density and stability, MOSO bamboo products last very long (less replacement) even in tough circumstances.
- Proven Quality: all MOSO bamboo flooring products are CE marked and guaranteed up to 30 years.
- Healthy indoor climate: very low emissions of volatile organic compounds (VOCs); MOSO floors have been rated A and A+ in France with respect to VOC emissions: the best classification possible!
- Extra credits for sustainable building eco-labels, such as BREEAM and LEED (see backpage for details).

CE — breeam — EMISSIONS DANS L'AIR INTÉRIEUR A+ A B C


MOSO Bamboo Forest

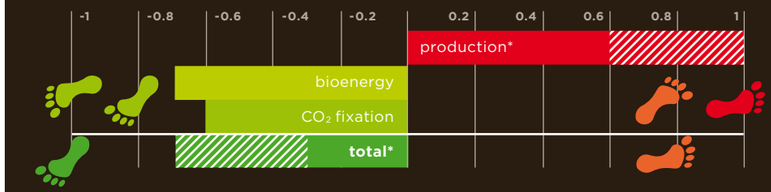

MOSO plain pressed / side pressed


MOSO high Density®


MOSO Bamboo X-treme

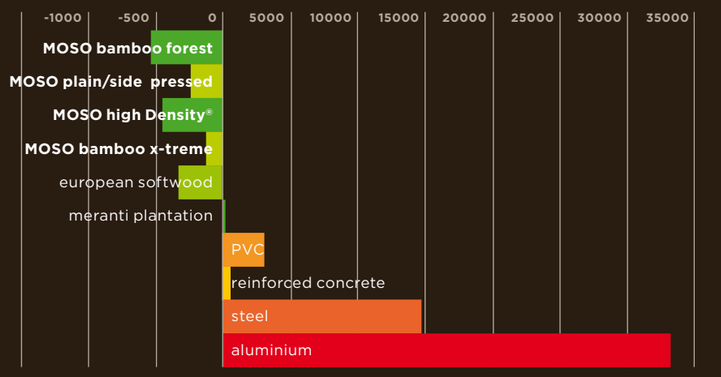
carbon footprint

MOSO bamboo products: CO_2 neutral or better over full life cycle - Life-cycle Assessment (ISO 14040/44) and carbon footprint studies executed by Delft University of Technology have confirmed that all assessed MOSO products (all solid bamboo flooring, decking, beams, panels and veneer) are CO_2 neutral or better over the full life cycle. The same study shows that MOSO bamboo products have a low environmental impact compared to other commonly used building materials (hardwood, PVC, aluminium, steel) and that from environmental point of view the MOSO Bamboo Forest floor is even the best performing floor in the market. In this result the high growing speed of Moso bamboo (see graph below) has not even been taken into account, and can be perceived as additional enviromental benefit. For more information about the official report please refer to our website: **www.moso.eu**



in kg CO_2 eq/kg product

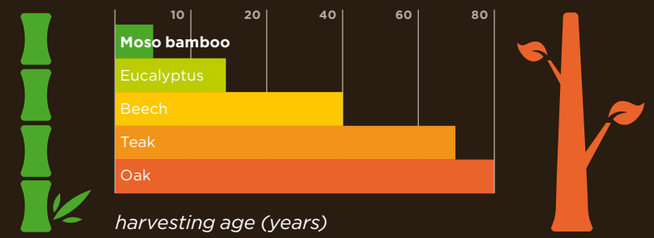
** result depending on MOSO product assessed*



carbon footprint over life cycle (kg CO_2 eq/m^3 material)

unsurpassed growing speed

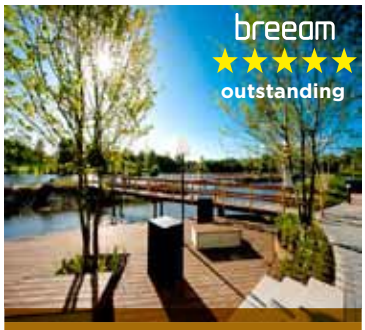
Moso bamboo: the fastest growing plant in the world - Because of the fast growth, giant bamboo is managed as an agricultural crop: the annual harvest of the 4-5 year old stems – compared to 80 years for tropical hardwood! - provides a steady annual income to farmers and stimulates the bamboo plant to reproduce even faster. Therefore, in contrast to tropical hardwood, there is no deforestation taking place for production of MOSO bamboo products.



harvesting age (years)

MOSO Flooring
Tel-Aviv University, Israel
LEED Platinum

MOSO Beams, Panels & Veneer
IDOM Headquarters Bilbao, Spain
LEED Platinum



MOSO Outdoor
Venco Campus, The Netherlands
BREEAM Outstanding

MOSO Unlimited Solutions
Campus Palmas Altas, Spain
LEED Platinum

contribution MOSO products to LEED & BREEAM

LEED version 4 (2013 -)	contribution	flooring	beams, panels & veneer	outdoor (bamboo x-treme)
MR Credit 1 - Building life-cycle impact reduction	direct	yes (if solid)	yes	yes
MR Credit 2 - Building product disclosure and optimization - environmental product declarations	direct	yes (if solid)	yes	yes
MR Credit 3 - Building product disclosure and optimization – sourcing of raw materials	direct	yes (if requested with FSC®)	yes (if requested with FSC®)	yes (if requested with FSC®)
EQ Credit 2 - Low Emitting Materials	direct	yes	yes	
IN Credit 1 - Innovation	direct	yes (if used in innovative applications or if helps to meet twice the criteria limit)	yes (if used in innovative applications or if helps to meet twice the criteria limit)	yes (if used in innovative applications or if helps to meet twice the criteria limit)
EQ Credit 6 - Interior Lighting	indirect	yes (if natural colour)	yes (if natural colour)	
EQ Credit 9 - Acoustic performance	indirect		yes (optional)	
LEED version 2009	**contribution**	**flooring**	**beams, panels & veneer**	**outdoor (bamboo x-treme)**
MR Credit 6 – Rapidly Renewable Materials	direct	yes	yes	yes
MR Credit 7 – Certified Wood	direct	yes (if requested with FSC®)	yes (if requested with FSC®)	yes (if requested with FSC®)
IEQ Credit 4.3 – Low Emitting Materials: Flooring Systems	direct	yes		
IEQ Credit 4.4 – Low Emitting Materials – Composite Wood and Agrifiber Products	direct		yes (if requested with E0 glue)	
ID Credit 1 - Innovation in Design	direct	yes (if helps to meet twice the criteria limit)	yes (if helps to meet twice the criteria limit)	yes (if helps to meet twice the criteria limit)
EQ Credit 8.1 - Daylight	indirect	yes (if natural colour)	yes (if natural colour)	
BREEAM International credit	**contribution**	**flooring**	**beams, panels & veneer**	**outdoor (bamboo x-treme)**
HEA 2 - Indoor Air Quality	direct	yes	yes	yes (if used indoors)
MAT 1 - Life Cycle Impacts	direct	yes (if solid)	yes	yes
MAT 3 - Responsible Sourcing of Materials	direct	yes (if requested with FSC®)	yes (if requested with FSC®)	yes (if requested with FSC®)
MAT 5 - Designing for Robustness	direct	yes (if high Density®)	yes (if high Density®)	yes
Innovation	direct	yes (if used in an innovative application)	yes (if used in an innovative application)	yes (if used in an innovative application)
MAN 5 - Life cycle cost and service life planning	indirect	yes (if high Density®)	yes (if high Density®)	yes
HEA 1 - Visual comfort	indirect	yes (if natural colour)	yes (if natural colour)	
HEA 5 - Acoustic performance	indirect		yes (optional)	

MOSO: World Leading in Bamboo
Through its experience, innovative attitude and worldwide network MOSO is recognised as the global A-brand in bamboo products. There is no other company worldwide with an equal – and still expanding - broad assortment in high quality bamboo products, permanently available from stock. either in Barcelona (office MOSO Europe), Hangzhou (office MOSO China) or at the main office near Amsterdam (MOSO International). Furthermore, MOSO works with several franchise companies and leading distributors worldwide to guarantee the availability of MOSO products in each region.

Besides our exceptionally broad assortment in building solutions for indoors & outdoors, we are able to go even further. For industrial clients we develop unique customized solutions such as the 200.000m² ceiling panels at Madrid International airport.

Furthermore, MOSO bamboo products have been installed in leading green building projects worldwide such as Tel-Aviv University (The Porter School of Environmental Studies) and IDOM head office in Bilbao (both LEED Platinum), the Venco Campus in Eersel (BREEAM Outstanding) and in the head office of NIBE, ranked as the greenest building in the Netherlands and Belgium following the Green building software tool GreenCalc (GreenCalc score of 1029).

Be inspired on our website for more examples of application possibilities for leading clients such as BMW, Shell, Madrid International Airport, Toyota, Philips, Guggenheim Museum, ING, Rabobank, Randstad, Salomon skis, Zara, Starbucks, Dell, CitizenM Hotels, Bodyshop and many others.

www.moso.eu

moso® bamboo products

201409