BLUE GREEN SOLUTIONS FOR THE SPONGE CITY

The path to the future is unsealed.

HÜBNER-LEE

THE ISSUE

Devastating floods. Glowing blazing heat. Sad grey. Is this what our future looks like? We can already feel that sealed surfaces are exacerbating the consequences of climate change. Let's put an end to it! There is a solution.

THE SOLUTION

Let's design living spaces with TTE® as they should be: green, healthy, in harmony with nature.

OUR GOAL - A GREEN FUTURE

THE SOLUTION - TTE®

- **100% infiltration**
- Material **harmless to water, soil and human**
- **Positive influence on the urban climate** - prevention of heat islands
- CO_2 compensated and **100% recycled post-consumer plastic**
- **Flexible combination** of greened, paved or mineral surfaces

MILLION SQUARE METRES TTE® SINCE 1995

TTE® MULTIDRAIN^{PLUS}

80 x 40 x 6.2 cm | 8.7 kg/pcs. ≙ approx. 27 kg/m²
1 m² ≙ 3,125 pcs.
Grid thickness: inner grid approx. 1.5 cm; outer grid 2 cm
TTE® - separation, support and seepage

Three solutions for maximum flexibility:
TTE® GREEN, TTE® PAVE and TTE® GRAVEL

TTE® GREEN

An innovative construction principle that opens up new dimensions for vegetation technology, stormwater management and load-bearing capacity. For TTE® is more than just a turf grid.

TTE® PAVE

An intelligent solution that combines permeable pavers with the water storage function of an infiltration trench. This allows even heavy precipitation to be absorbed in a fully decentralised manner.

TTE® GRAVEL

For gravel surfaces that are resilient, permanently level and permeable to water. Goodbye high maintenance and potholes.

FLEXIBLE COMBINATION

ⓘ Request detailed information on the solutions now at:

THE SOLUTION

TTE® FOR THE SPONGE CITY

INTELLIGENT LOAD DISTRIBUTION

Approx. 50% reduction in substructure due to interlocking connection system

Protection of the soil from compaction & preservation of the seepage capacity

100% INFILTRATION

High infiltration capacity & water storage of 100 l/m²

COOLING

Cooling effect through evaporation, lower thermal inertia and air circulation

Way cooler than bituminous concrete:
TTE® GREEN 5.9 °C
TTE® PAVE 3.5 °C
(in comparison: natural grass 7.7 °C)

VITAL GREEN

Capillary water and nutrient supply

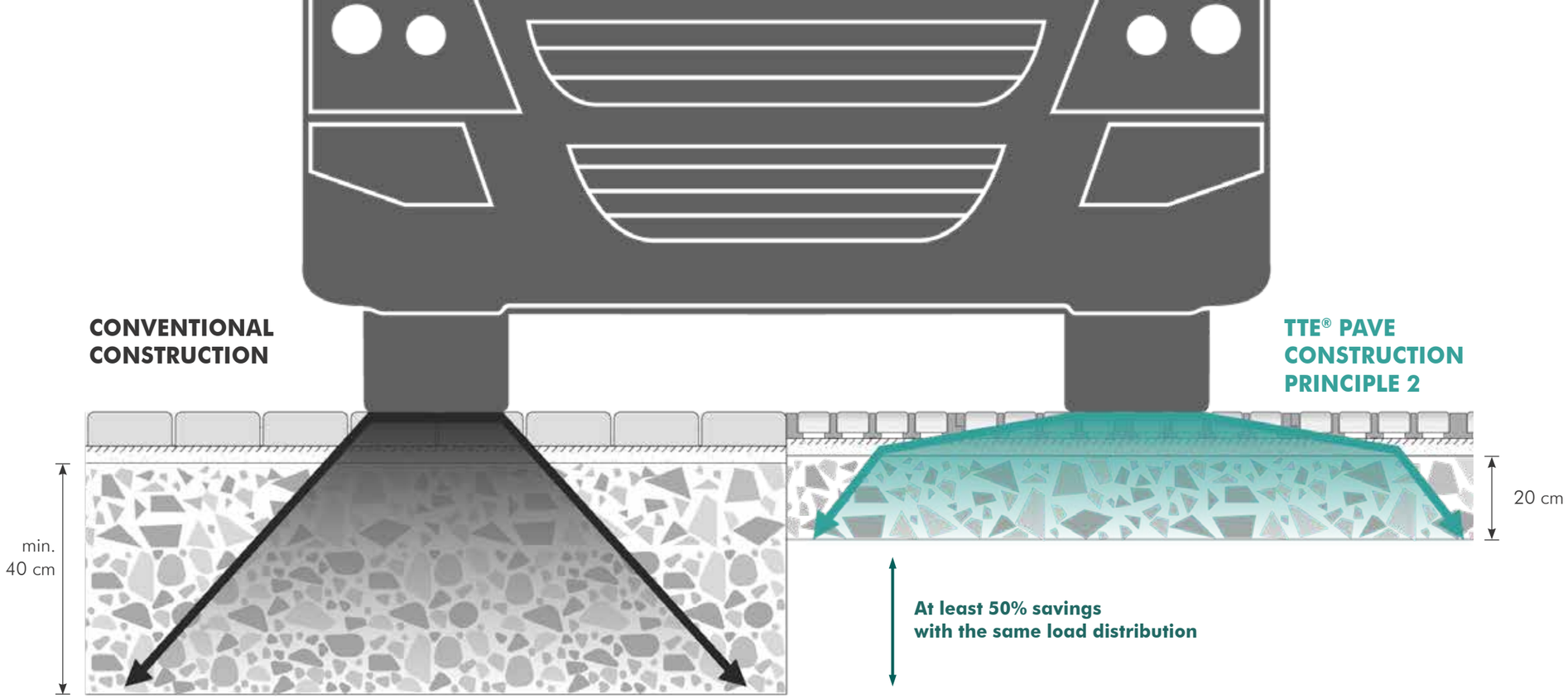
Extended root zone due to special substrate structure

GROUNDWATER PROTECTION

Near-natural rainwater treatment of polluted rainwater

Protection of groundwater

TTE® is a real all-rounder. Due to its high load-bearing capacity, it can be installed in countless areas of application. Even where conventional infiltration-capable surfaces such as permeable paving or gravel lawns reach their limits.



The equivalence of the TTE® construction method has been independently tested and proven.
You want further information on that topic? Contact one of our experts via info@huebner-lee.eu.

TTE® CONSTRUCTION PRINCIPLES - LESS GRAVEL, MORE SUSTAINABILITY

The innovative idea of the TTE® construction element: to replace base course material through intelligent load distribution. Thus, TTE® surfaces require a significantly smaller substructure than conventional pavements.

This saves large quantities of the finite resource gravel. A lot of CO_2 is also saved. Because every truck that does not roll to the construction site is a gain for climate protection.

There are three different, tried and tested construction principles for TTE®, depending on the usage load. In this way, we ensure that the substructure of each area is kept as low as possible. At the same time, you achieve improved greening and infiltration thanks to the special layer.

And the ingenious thing about it: the TTE® building concept demonstrably provides the same load transfer as conventional construction methods.

TECHNICALLY PROVEN ADVANTAGES COMPARED TO CONVENTIONAL CONSTRUCTION

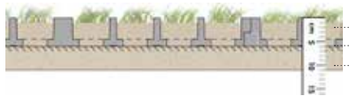
- Shorter construction time due to reduced substructure
- High load bearing capacity due to strong interlocking system
- Lower CO_2 emissions & resource protection
- Protection of soil life & natural balance

THE RIGHT CONSTRUCTION METHOD FOR EACH REQUIREMENT

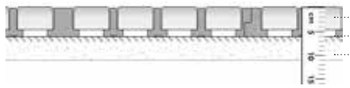
CONSTRUCTION METHOD 1

For pedestrians and occasional traffic up to 3.5 t total weight

TTE® GREEN 1



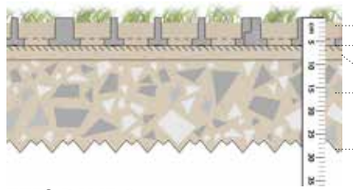
TTE® PAVE 1



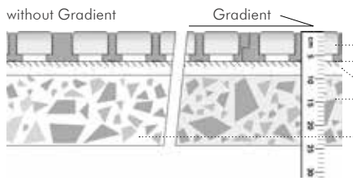
CONSTRUCTION METHOD 2

For traffic up to 3.5 t total weight and occasional heavy traffic

TTE® GREEN 2



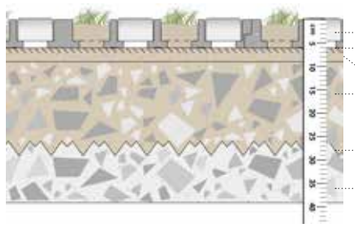
TTE® PAVE 2



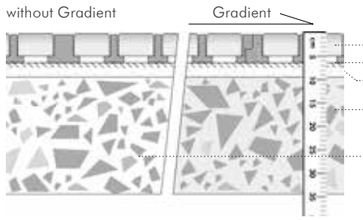
CONSTRUCTION METHOD 3

For heavy traffic up to 40 t

TTE® GREEN 3



TTE® PAVE 3



You can find more information in our installation instructions at huebner-lee.de/en/outdoorinstallations-downloads.html

CONSTRUCTION METHODS AND FIELDS OF APPLICATION

	CONSTRUCTION METHODS					
	GREEN 1	PAVE 1	GREEN 2	PAVE 2	GREEN 3	PAVE 3
Load class						
Occ. car traffic up to 3.5 t	•	•				
car traffic up to 3.5 t + occ. heavy traffic			•	•		
Heavy traffic up to 40 t					•	•
Field of application						
Foothpaths and bicycle lanes		•				
Private car parking spaces	•	•				
Private car access areas	•	•				
Bicycle parking spaces	•	•				
Camping pitches	•	•	•	•		
Caddy paths	•	•	•	•		
Public and commercial parking spaces			•	•		
Fire department access roads			•	•		
Agricultural roads			•	•		
Event areas			•	•	•	•
Lorry and bus parking spaces					•	•
Logistics and storage areas					•	•
Service roads						•
Commercial access roads						•

TTE® - CERTIFIED QUALITY

100 % RECYCLING

TTE® is made from 100% recycled post-consumer plastic from private households and can be recycled back into new grids at the end of its service life.

CO_2 COMPENSATED SINCE 2021

By supporting certified climate protection projects we compensate 100% of the CO_2 emissions from the production of TTE® Multidrain[PLUS].

WITH VERIFIED LCA

The EPD has been verified by the independent Institut Bauen und Umwelt (IBU). It discloses all CO_2 emissions and environmentally relevant factors of the entire TTE® product life cycle.

TÜV SÜD CERTIFIED

TTE® Multidrain[PLUS]'s quality, resilience and harmlessness for human and environment has been extensively tested and confirmed by TÜV SÜD.

MADE IN GERMANY

TTE® is manufactured in Weira, Thuringia. Another plant in Herstal, Belgium, supplies other European markets, like France, Belgium, Netherlands, Luxembourg, United Kingdom,...

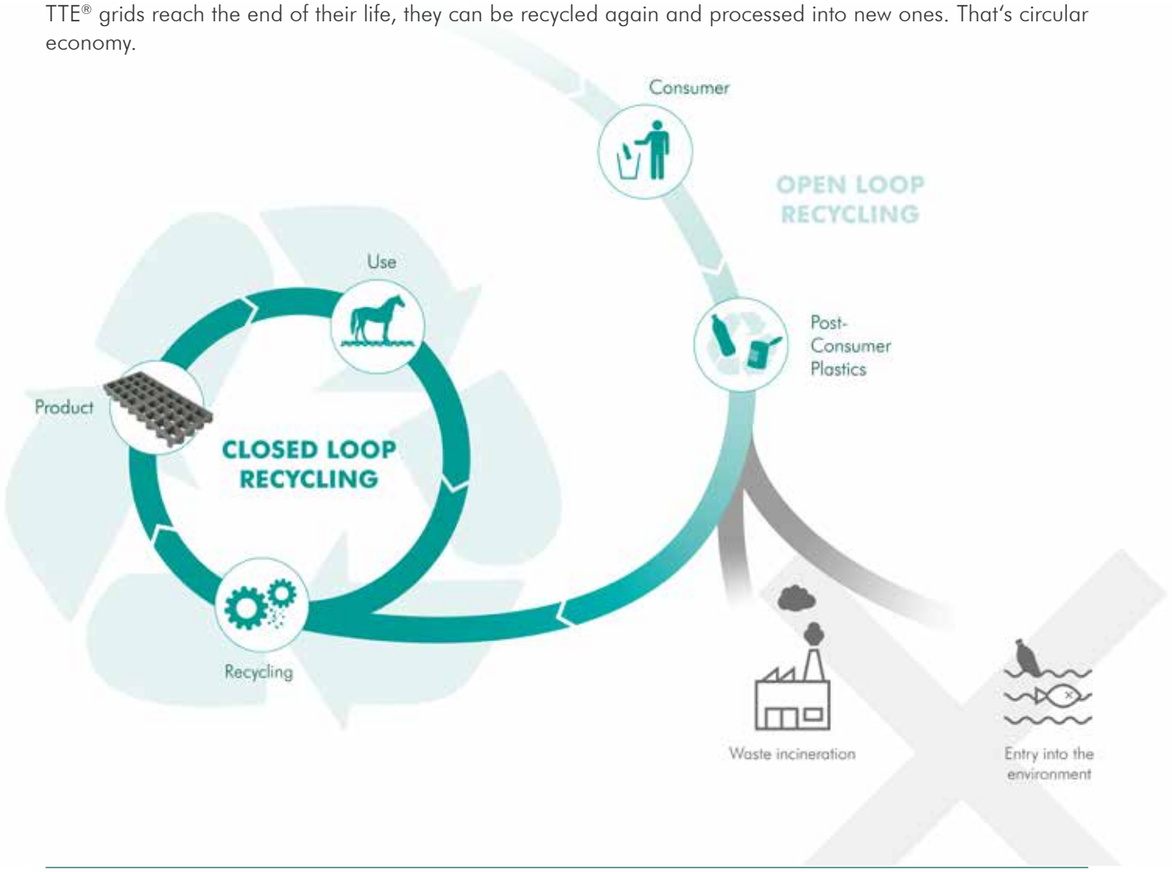
Source: PLASTIKATLAS, Appenzeller, Hecher, Sack CC-BY-4.0
All figures refer to Germany.

TTE® - THE SUSTAINABLE ALTERNATIVE

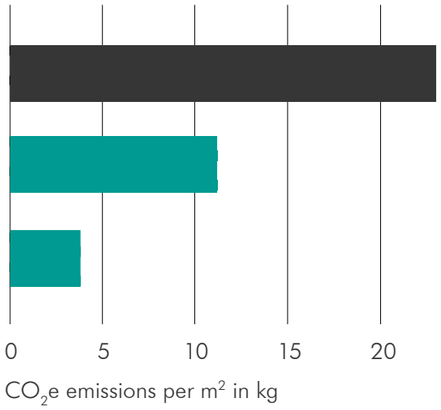
WAIST ISN'T WASTE UNTIL WE WASTE IT

By using post-consumer plastic from private households, this valuable raw material is saved from incineration. This saves the emission of 40,000 tonnes of CO_2 equivalents per year compared to thermal recycling.

Recycling also prevents plastic waste from polluting nature and the oceans through illegal disposal. When TTE® grids reach the end of their life, they can be recycled again and processed into new ones. That's circular economy.



MINIMAL EMISSIONS WITH TTE®



Paving stone*

TTE® PAVE
(= TTE® Multidrain^{PLUS} filled with TTE® pavers)

TTE® Multidrain^{PLUS} without filling

The production of a standard paving stone produces around 24 kg of CO_2e emissions per m². With **TTE® PAVE** it is only 11 kg. That is **less than half**.

* Arithmetic mean calculated from the average EPDs of several paving stones stones with 8 cm height

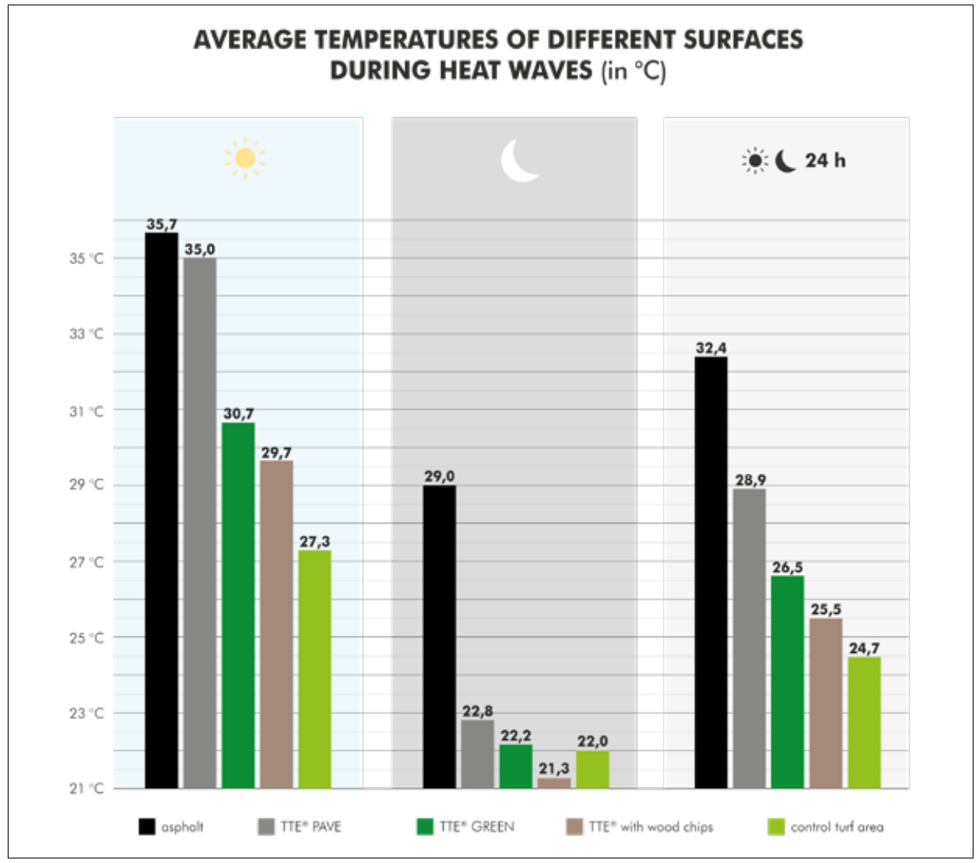
CO_2-COMPENSATED PRODUCTION

Since 2021, HÜBNER-LEE has been offsetting all emissions from the production of TTE® Multidrain^{PLUS} by supporting certified climate protection projects. The amount of CO_2 equivalents in the manufacturing process was determined as part of the independently audited LCA.

Learn more:

COOLER CITIES WITH TTE®

TTE® can significantly reduce temperatures in our cities. This has been proven by a scientific study. On average, TTE® surfaces are up to 5.4 °C cooler than asphalt during heatwaves.



Learn more:

TTE® REFERENCES

More information at huebner-lee.de/en/outdoorinstallations-referenceprojects

1991 Company founded by Ernst Hübner and Gyung-Hyun Lee, soil systems for horticulture

1995 Introduction of the TTE® system

2000 2001 First TTE® sales partners in Switzerland and Austria

2002 Relocation to the new company headquarter in Holzgünz

2005 Further TTE® sales partners join throughout Europe

2005 Introduction of TTE® Multidrain

2009 Introduction of TTE® Multidrain^{PLUS}

2011 Change of legal form to HÜBNER-LEE GmbH & Co. KG

2013 First-time certification by TÜV SÜD

2023 More than 6 million m² of TTE® throughout Europe

2023 13 TTE® country representatives throughout Europe

2021 TTE® Multidrain^{PLUS} receives independently verified Environmental Product Declaration (EPD)

2021 Further development of TTE® Multidrain to TTE® Multidrain^{PLUS}

2017 2021 Further developments of TTE® Multidrain^{PLUS}

2019 Nicole Hübner joins the management
→ All three children are now part of the management board

2018 Dirk Hübner joins the management of his parents' business

2018 Over 250,000 tonnes of CO_2e avoided through material recycling compared to waste incineration

2016 René Hübner joins the management

ABOUT US

YOUR CONTRIBUTION TO CLIMATE PROTECTION

... using 1,000 m² of TTE® fastening as an example

64,010 kg

This is how many kg of CO_2 equivalent you avoid compared to waste incineration.

13,590 bags of plastic waste

Accordingly, so many bags of plastic waste are recycled for your project.

281,982 km

The amount of CO_2 avoided corresponds to a car ride of 281,982 km. That's almost 7 times around the earth.

07/24

HÜBNER-LEE

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