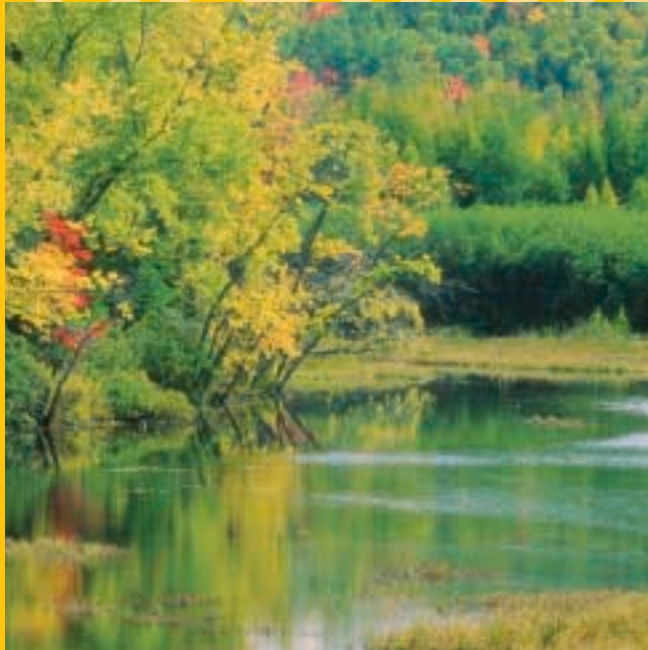


**Sustainable building
with Trespa**

...à la carte

environment



All the best qualities in one panel



Sustainable building with Trespa

Trespa delivers strong environmental and health related performance.

Trespa International produces a range of decorative panels for professional architectural use. As a leader in the provision of surface solutions, Trespa actively undertakes to maximise product performance, whilst minimising the effects of its products on the environment and on human health. It is no coincidence that Trespa International is one of the first producers of panel materials to receive ISO 14001 accreditation. The ISO 14001 standard describes the steps required for setting up, implementing, maintaining and improving a completely integrated environmental management system.

This brochure sets out to inspire you to use Trespa in environmentally considerate applications. Although this document does not set out to give fully comprehensive background information, Trespa International or its agents will be happy to provide full copies of reports by independent assessors or institutes and/or share practical experiences from existing customers.

Trespa International is committed to the development of appealing, functional and sustainable building projects. We look forward to working with you.

Summary of Trespa's products and applications

Trespa produces environmentally sound products

Trespa has developed a method for converting paper or rests of softwood from certified forests into an attractive, durable, moisture resistant and low maintenance material. Simply by applying heat, resin and pressure. No halogens, biocides, plasticizers, inorganic fibres, heavy metals or preservatives are being used in the production of Trespa products.

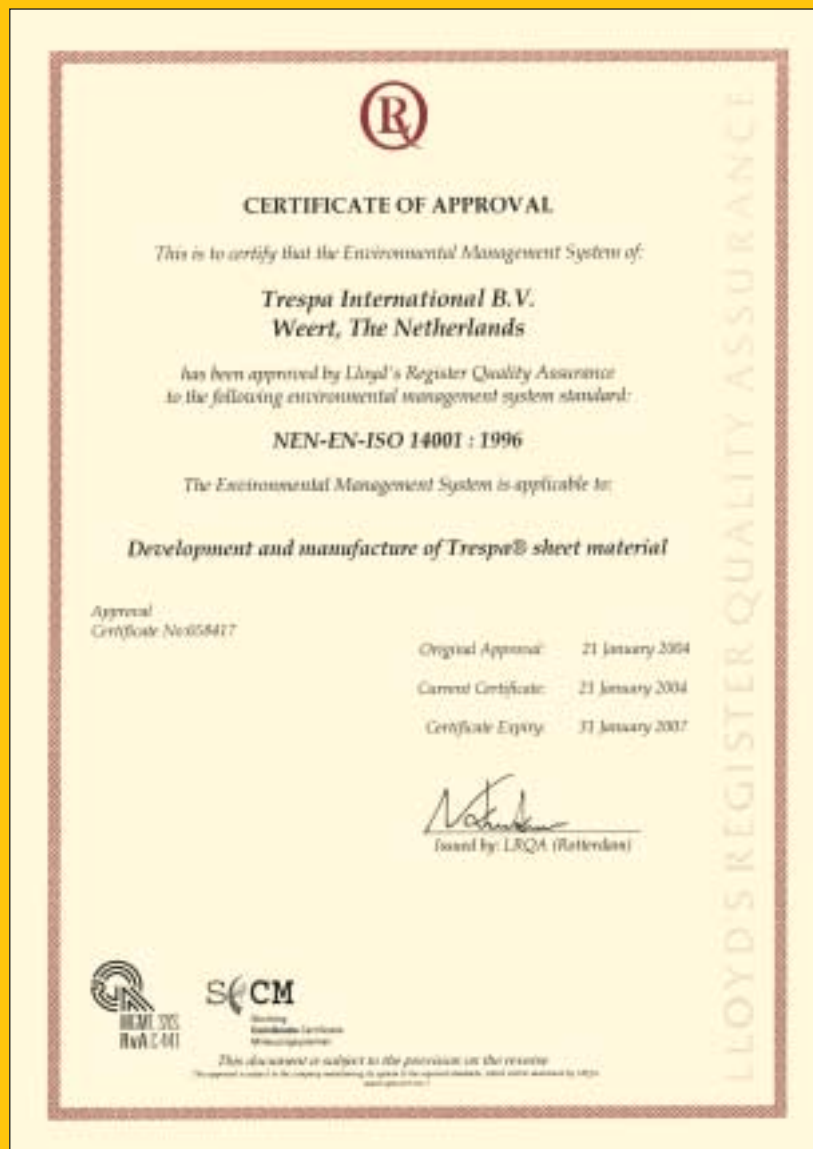
The important environmental characteristics of Trespa's products are:

- About 85% of the raw materials used are rapidly renewable raw materials.
- About 70% of Trespa Meteon and Toplab^{PLUS} consist of certified residual wood from nearby forests.
- Material returned to Trespa, as well as residual materials from production, are recycled and used in the production of new Trespa construction panels.
- At the end of the life cycle Trespa's products can be thermally recycled safely with energy recovery in local industrial incinerator. (No heavy metals, halogens or biocides are emitted.)
- Safe in use.

Four perfect product lines

- Trespa Meteon for facade applications guarantees a weather resistant colour stable surface with low dirt pick up. Trespa Meteon can be used in relatively lightweight ventilated facade systems. These breathing systems offer possibilities for high insulation values, perfect building physics and contribute to a healthy indoor climate. Excessive solar heat, in summer, can escape away through the ventilation between the panels and the insulation materials.
- Trespa Virtuon and Trespa Athlon for interior applications are hygienic, maintainable and vandal resistant surfaces. Trespa Virtuon and Trespa Athlon can be used in impact and scratch resistant furniture or wall lining systems with high sound insulation and perfect hygienic properties.
- Trespa Toplab^{PLUS} for laboratory bench top applications is highly hygienic, chemical resistant, stain resistant and durable. Trespa Toplab^{PLUS} is the versatile worktop for the attractive, safe and hygienic laboratory..





Trespa has committed itself to:

- Incorporate all activities relevant to the environment in a management system.
- Manage all flows of materials, chemicals and waste in the company accurately.
- Consider the impact on the environment in all product and process development and continuously reduce the impact on the environment.
- Performance in these areas is monitored and audited by an independent third party on a regular basis.

Environmentally relevant product information

MRPI



MRPI is a Dutch certificate that stands for "Environmentally Relevant Product Information". The information in the MRPI will be presented in a format based on the draft NEN 8006: Environmental data for building materials, building products and building elements for use in environmental product declarations - Assessment according to Life Cycle Assessment (LCA) methodology. As example the MRPI of Trespa Meteon is presented in this brochure.

INFORMATION SUPPLIED BY COMPANY

SUPPLIER

TRESPA INTERNATIONAL BV
Product name: TRESPA METEON

FUNCTIONAL UNIT

1 representative m² of TRESPA METEON construction panels with a thickness of 8 mm and a lifespan of 50 years. These panels can be used, among other applications, as facade cladding material, bridges, balconies, protective screens and transportation shelters.



PRODUCT DESCRIPTION

TRESPA METEON is a low maintenance, decorative construction panel consisting for 70% (by weight) of paper or residual wood from the industrial processing of softwoods and for 30% (by weight) of a phenolic binder. The binder consists for 50% by weight of residual industrial materials and for 50% by weight of 'new' material. This binder is a completely hardened, insoluble, thermo-setting resin, made of phenol/formalin. The decorative surface is composed of pigments in a solvent-free polyurethane acrylate binder which is fully cured and hardened.

Trespa International does not use heavy metals, biocides, plasticizers, inorganic fibres, halogens, and ozone depleting products or preservatives in its production processes.

Voluntary Product Safety Datasheet available	Yes
Life Cycle Analysis (LCA) available	Yes
Reports on fire safety available	Yes
Reports on sound transmission available	Yes
Reports on TVOC, VOC available	Yes
Reports on food contact available	Yes
Instructions for converting and installing available	Yes
Maintenance instructions available	Yes
Specification texts available	Yes
Product colour stability in application guaranteed	Yes
Properties standardised according to EN 438 part 6	Yes

Density	+/- 1400 kg/m ³
Weight/functional unit (kg/m ²)	11.2 kg/m ² for 8 mm panels
Percentage renewable materials	+/- 85%
Percentage recycled materials	0 – 10%
Percentage certified wood	100% of wood used, paper based on 100% certified wood

Packaging	On wooden pallet wrapped with PE-foil and packaged with recycled cardboard. Less than 1% wt. packaging. Pallet remains property of Trespa International unless arranged otherwise.
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ENVIRONMENTAL PROFILE (BASED ON WOOD CORE) AND ENVIRONMENTAL COMPARTMENTS

ENVIRONMENTAL PROFILE							
TOPIC	unit	production	transport	assembly	use	removal	waste processing
Consumption of abiotic raw materials	kg	7.4	0.15	-9.4 E-02	0.0	0.0	-1.2
Global warming	kg	43	1.1	8.3 E-02	0.0	0.0	-2.2
Ozone depletion	kg	1.0 E-05	1.5 E-06	-7.1 E-08	0.0	0.0	-4.1 E-07
Acidification	kg	0.18	6.9 E-03	-1.1 E-03	0.0	0.0	-1.3 E-02
Eutrophication	kg	3.0 E-02	1.7 E-03	-1.3 E-04	0.0	0.0	-5.3 E-04
Human toxicity	kg	3.5	0.16	0.14	0.0	0.0	1.6
Eco-toxicity	kg	2.1	0.16	- 2.0 E-02	0.0	0.0	-0.27
Photochemical oxidant formation	kg	2.0 E-02	6.1 E-04	6.3 E-05	0.0	0.0	0.20

ENVIRONMENTAL COMPARTMENTS							
COMPARTMENT	unit	production	transport	assembly	use	removal	waste processing
Raw materials	–	1.7 E-10	3.5 E-12	-2.2 E-12	0.0	0.0	-2.7 E-11
Energy	MJ	6.4 E+02	15	-11	0.0	0.0	-2.2 E+02
Emissions	–	1.6 E-08	6.1 E-10	-6.6 E-11	0.0	0.0	-8.8 E-10
Waste NGA	kg	2.2	2.9 E-03	-2.9 E-02	0.0	0.0	1.0
Waste GA	kg	0.24	3.8 E-03	-2.3 E-03	0.0	0.0	-2.1 E-02

This MRPI brochure is based on the conditions set down by the NVTB (Dutch Association of Companies Supplying the Building Trade) and the Ministry For Housing, Regional Development and the Environment (VROM).

LIFECYCLE PHASES

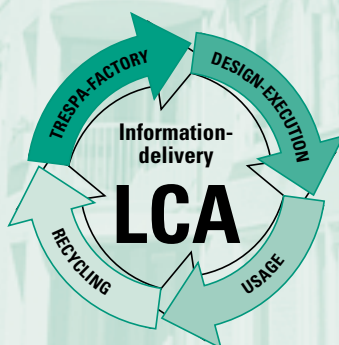
TRESPA is actively involved in integrated lifecycle management, which includes every step in the lifecycle.

1. DEVELOPMENT AND PRODUCTION PHASE

- Composition and raw material selection
- Wood fibres
- Minimise waste production
- Use of secondary materials
- Re-use of semi-finished products
- Increasing the life span of the product

4. DISPOSAL PHASE

- Easy dismounting
- Logistic system for waste collection
- Recycling by:
 - Raw material recovery
 - Thermal recycling with energy recovery
- Reduce of the landfill volume



2. PLANNING AND IMPLEMENTATION PHASE

- Minimal cutting losses by correct sheet sizes
- Selection of the panel thickness taking into account the required mechanical properties
- No dirt concentration due to proposed design details
- Acceptance of recycled products
- Acceptance of processing waste

3. UTILIZATION PHASE

- Durable, colour-stable and weather-resistant surface
- Consistently easy to clean (does not become porous)
- No maintenance necessary
- Good mechanical properties (minimal breakage, damage)
- No harmful leaching or emission of components

The environmental performance of Trespa in a building:

17 points to evaluate the environmental profile of Trespa products in application.*

1 *Relation of the building with its immediate environment*

- Freedom in design, colours, textures, looks. Aesthetics can be matched with environment; can be in harmony with function of the building
- Material combinations possible and aesthetically appealing
- Graffiti and dirt is easily removed. Resulting in a lasting preservation of the initial appeal
- Appealing details can be designed. Systems for blind fixing available.

2 *Integrated choices of materials, systems, methods and procedures for the building*

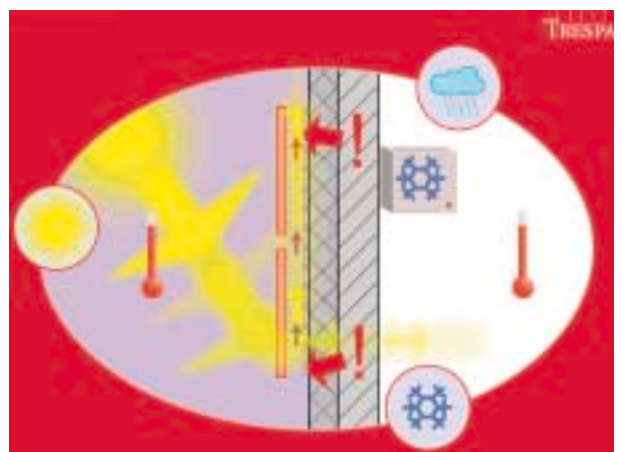
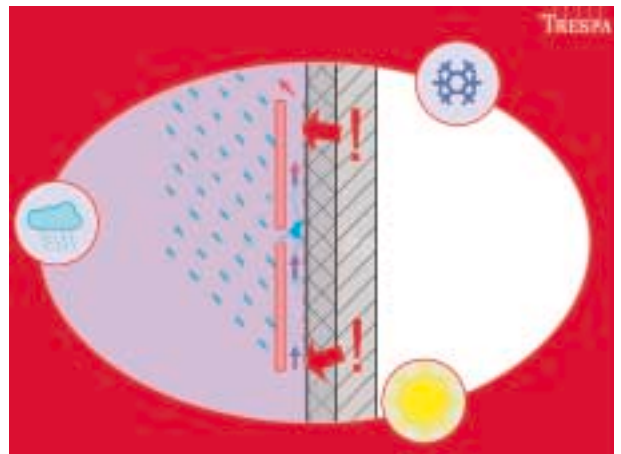
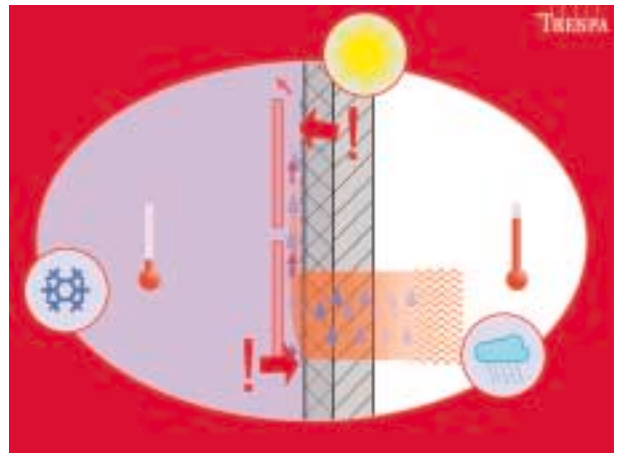
- Relatively lightweight, innovative systems, quick installation
- Facade systems that are quick in installation, adaptable
- Interior wall lining system TS 2000: quick installation, demountable, adaptable, and choice in details
- Trespa combines perfectly with thick layers of insulation materials
- LCA of materials: environmentally sound materials.
- Relatively low energy requirements for transportation (compact, lightweight)
- No leaching of harmful components when exposed to weather, moisture or cleaning. Use of Trespa does not influence quality of air or soil in immediate surroundings of application.

3 *No disturbing noises, smell, vibrations, dirt, dust, etc. during construction*

- Installation without solvents, heavy machines since preparation in workshop
- Minor amounts of packaging materials needed for Trespa products
- Minimal cutting losses or waste on building site since prepared in workshop
- Solvents, paints, sealants, foams or chemicals can be avoided when installing Trespa.

4 *Use of energy of the building in use*

In combination with ventilated facade: lightweight, thick insulation possible without impact on foundation. Overtopping (extra floor) possible without adaptation shell so no heat required for evaporation, watertight shell. Solar heat can be vented away in cavity of ventilated facade. Little cold bridging.



* Evaluation based on ISO/TC59, Buildings and constructed assets – Sustainability in building – Framework for assessment of environmental performance of buildings.

5 *Flow of waste material in use*

When modifying building little dust or debris since preparation in controlled conditions in workshop. Waste can be removed easily. Disposal of Trespa is easy. Can be recycled or thermally recycled in common industrial incinerator with high energy recovery. Landfill possible. Packaging materials can be collected in the workshop and do not enter the building site.

6 *Maintenance, cleaning and flexibility*

- Easy to clean, little maintenance required
- No rot, no decay
- Demountable
- Easy to modify
- Little need for sealants, few joints
- No painting required.

Comfort to the users

7 *Right temperatures, humidity. No irritating draft*

Ventilated facade: moisture can leave the building.
Breathing shell.

8 *No disturbing sounds, acoustics, sound isolation*

Extremely high sound isolation value of wall lining system
TS 2000: 63 dB!

9 *Visual comfort*

- Looks good and keeps on looking good
- Form parts, corner elements, metallic, texture, print, and colours
- Combinations with other materials possible
- Can be precisely machined, beautiful details possible.

10 *No funny smells, scents*

- Trespa does not have a smell
- Little need for cleaning agents
- No porosity, therefore no absorption of smelly agents possible
- During machining a wood-like scent arises.

Health aspects

11 *Health aspects of the interior, ergonomics*

- Form parts and corner elements are available so sharp edges can be avoided and the design can be smooth.
- Relatively lightweight, makes installing relatively easy
- Safe behaviour in case of fire
- Non toxic
- Can be used in contact with food stuffs without impact on smell, taste, health.

12 *Health aspects of the indoor air quality*

- Emission of formaldehyde falls into the lowest class, far less than 50% of class E1
- Extremely low TVOC
- No growth of microorganisms, moulds or bacteria possible, on or in the panel
- No nutrition base or hiding place for dust mites
- Cleaning with mild cleaning agents
- Ventilated facade supports healthy indoor air quality.



Trespa Meteon chosen for its ecological profile

13 Life span of building

- Old buildings can be upgraded or renovated (aesthetically and extra insulation) with little impact on the construction or foundation. The inner shell can be protected against ageing by overcladding with Trespa materials
- An extra floor level can be build on top of an existing building with minimal impact on the construction.
- Trespa is durable
- Ventilated facades protect the inner shells of the building from water damage and deterioration
- New panels in the original colour can be ordered in most cases, even after several years.

14 Life span of used materials

Trespa lasts 50 years. No painting required. Only annual cleaning with mild cleaning agents. Water and detergents. Graffiti is easy to remove with more severe water based cleaning agents. No impact on quality of the product. No decay or attack by termites, microorganisms, moisture or freeze-thaw-cycles.

15 Flexibility of interior: Changeability of function of building

- Trespa offers mechanically stable systems that can

be used in demountable systems

- Trespa panels find second life after period of initial use. Mainly in stables/agricultural applications where aesthetics are less important, but durability and moisture resistance are appreciated
- Trespa walls can be moved and adapted without the need for new panels

16 Whole life costing of the building

In most cases, especially in demanding interior applications and in exterior applications, Trespa offers solutions with low operational costs and better whole life costs. Costs for maintenance are low. Resistant to all sorts of abuse.

17 Construction and demolition waste

- Trespa waste can be safely burned in industrial incinerators with high energy recovery
- Trespa construction waste is low in dust and debris
- Trespa construction waste is relatively lightweight, compact and easy to transport
- Trespa construction waste does not need de-assembly. One homogeneous material only
- Landfill: possible. No danger for pollution of air or ground water
- Trespa waste can be used for recycling.



VISIT OUR WEBSITE
WWW.TRESPA.COM

Quality.

Trespa International BV

Trespa International BV specializes in high quality panel material for façade cladding and interior use. Trespa has both the expertise and the means to develop products for specific segments of the market. Trespa is continually looking for ways to protect the environment even more effectively.

Four perfect product lines

Production of the façade cladding material Trespa Meteon is based on unique, patented techniques, which guarantee excellent weather resistance and colourfastness. Trespa Athlon, which offers you outstanding moisture resistance along with scratch and wear resistance, is particularly suitable for interior use. Trespa Virtuon is aesthetically pleasing and the perfect product for interior applications where durability, hygiene, cleanability are required. And Trespa TopLab^{PLUS}, highly resistant to chemicals and designed for use as laboratory worktops, completes the product programme.



Trespa guarantees quality of both products and services. We offer our customers optimal technical support as well as straightforward documentation. Proof of this approach is the award of the ISO 9001 and ISO 14001 certificates.



Whatever your requirements, Trespa offers a full support service. Please contact us for further information.

Conditions of Sale

To all our offers, quotations, sales, deliveries and supplies and/or agreements, and to all related services and activities the Trespa International B.V. General Conditions of Sale apply, filed at the Venlo Chamber of Commerce on 1 January 2004, registered under number 24270677, and appearing on the website at www.trespa.com. The text of these General Terms and Conditions will be sent to you upon request.

Registered trademarks

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Design à la carte.

Trespa UK Ltd

Grosvenor House
Hollinswood Road
Central Park, Telford
TF2 9TW
Tel.: 44 (0) 1952 290707
Fax: 44 (0) 1952 290101
Info@trespa.co.uk

Trespa International BV

Postbus 110, 6000 AC Weert
Wetering 20, 6002 SM Weert
The Netherlands

Verkoop Nederland

Tel.: 31 (0) 495 458 850
Fax: 31 (0) 495 540 535
infonederland@trespa.com

EMEA Export

Tel.: 31 (0) 495 458 359 / 392 / 578
Fax: 31 (0) 495 458 383
infoexport@trespa.com

Asia/Pacific Sales Support

Tel.: 31 (0) 495 458 538
Fax: 31 (0) 495 458 383
infoexport@trespa.com

Trespa Belgium Bvba/Sprl

H. van Veldekesingel 150 B. 19
3500 Hasselt
Tel.: 0800 - 15501
Fax: 0800 - 15503
infobelgium@trespa.com
Grand Duché de Luxembourg
Tel.: 31 (0) 495 458 308

Trespa Deutschland GmbH

Europaallee 27, D-50226 Frechen
Tel.: 0800 - 186 04 22
Fax: 0800 - 186 07 33
infodeutschland@trespa.com

Trespa France

18 rue Chartran
92200 Neuilly sur Seine
Tel.: 33 (0) 1 41 92 04 80
Fax: 33 (0) 1 41 92 04 89
infofrance@trespa.com

GET s.l.

Gran Via, 680 ático
08010 Barcelona
Tel.: 34 (93) 488 03 18
Fax: 34 (93) 487 32 36
www.getsl.com /
consulta@getsl.com

Trespa North America Ltd.

12267 Crosthwaite Circle
Poway, CA 92064
Tel.: (1)-800-4-TRESPA
Fax: (1)-858-679-0440
info@trespanorthamerica.com

Trespa Japan Ltd.

Toranomon Toyo Building 6F
4-2 Toranomon, 1-chome
Minato-ku, Tokyo 105-0001
Tel.: 81 (0) 3 3500 5080
Fax: 81 (0) 3 3504 0034
webmaster@trespa.co.jp

Trespa China Co. Ltd.

Room 2907, Plaza 66
No. 1266 Nanjing Road (W)
Shanghai 200040 P.R.C.
Tel.: 86 (0) 21 6288 1299
Fax: 86 (0) 21 6288 1296
infochina@trespa.com

CSD Asia/Pacific

Tel.: 86 (0) 21 6120 1011
Fax: 86 (0) 21 6288 1022

Trespa Singapore Pte Ltd.

UOB Plaza 1
80 Raffles Place
Level 36 Room 37
Singapore 048624
Tel.: 65 6248 4613
Fax: 65 6248 4613

Responsibility

All information is based on our current state of knowledge. It is intended as information concerning our products and their application possibilities, and is therefore not intended as any form of guarantee with regard to any specific product characteristic.

Colours

The colours in this document are printed, and therefore, may vary slightly from the original Trespa panel colours with respect to gloss, colour shades and surface texture. Original samples are available on request.

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www.trespa.com



All the best qualities in one panel



U210

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