

**EMICODE®**  
– stands for

Safe construction  
products for  
better health  
and environmental  
protection

**low in emissions**



■ You are planning a new construction, refurbishment of an older building or renovation of your home?

■ For you, your living environment is not only about functionality and interior, but you also feel strongly about aspects such as health, safety and environmental sustainability?

■ If for you it is relevant which building materials are installed in your own home and you are therefore specifically looking for materials which are safe for your health and quality controlled at the same time, EMICODE will be a great help.

■ Because with the EMICODE®seal you are always on the safe side.

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When years ago I was publicly reporting on the EMICODE® system, I realized, based on some of the questions put to me, that there was very little awareness regarding the background and objectives of the system. The primary goal of the EMICODE® system is to raise health protection standards to the highest possible level without compromising product quality. A product which is only low in emissions is not simply better when it does not optimally fulfill its purpose. An adhesive is unsuitable when it does not result in a firm bond between parquet and subfloor even if it is free of solvents and ecologically safe in any respect.

Any progress towards a healthy indoor climate can only be achieved when all parties involved pull together. Consumers, contractors and manufacturers must get involved and opt for high quality and low emission products.

An improvement can only be achieved in close alliance with the raw material industry, since manufacturers rely on these raw materials for the manufacturing of their products. The development of newer raw materials with better emission standards will only take place when a user industry, investing in their products, signals to the raw material industry that they may sell their products at better conditions. A single manufacturer alone will only be able to achieve little if not the majority of their industry will go along.

That is the fundamental idea behind EMICODE®. There should not be only one or few winners – everyone shall benefit equally from this progress: large and small enterprises, contractors and most of all the end consumer.



The distinctive mark behind this concept is the EMICODE®seal: A group of companies joined forces almost 20 years ago in order to offer the market a technical and environmental guidance system.

In an environment where a lot of shady and obscure Eco promises were floating around, the industry wanted to offer trade, contractors and consumers easy and reliable guidance without adversely affecting product quality.

With the stringent requirements the EMICODE®seal places on products, this goal was achieved. In addition, independent market controls over the years have helped make the EMICODE®seal a highly trusted instrument in the markets.

I can only hope that this cooperation for the benefit of consumers, trade and contractors will continue to be successful even in view of growing internationalization.

Sincerely  
Klaus Winkels  
Managing Director GEV





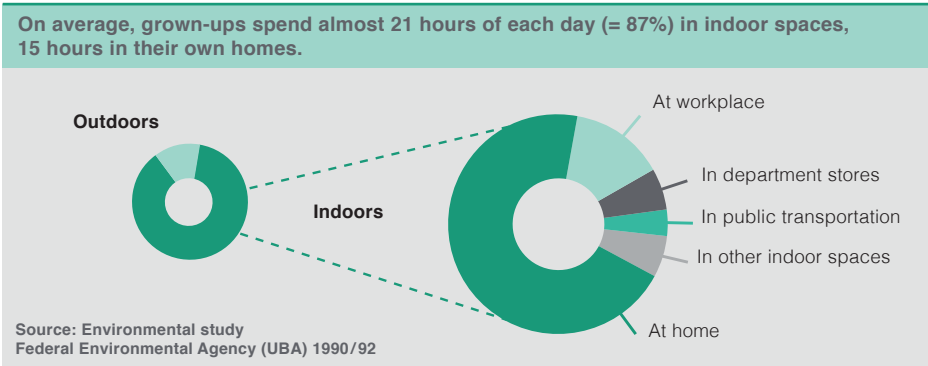
# Healthy Air to Breathe Freely

Nowadays, 80 to 90 percent of our time is spent indoors. According to a study conducted by the Robert Koch Institute Berlin, children are spending 14 to 19 hours daily in their parents' home, mostly in the children's room.

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In some cases, this may affect their health. Different symptoms or disease patterns such as the "Sick-Building-Syndrome" can be attributed to prolonged stays in indoor spaces. The indoor air quality can be adversely affected when frequently chemical households products are used, people smoke in indoor spaces or when renovation work is undertaken. In the latter case, in particular freshly applied varnishes, adhesives, sealing systems, and other construction materials can emit hazardous volatile organic compounds (VOC) into the indoor air, even for days after they have been applied.

In order to improve indoor air quality, it is helpful to make sure the rooms are regularly aired and low emission construction, renovation and household products are used. Construction products with the EMICODE®seal have been certified with regard to their emission characteristics. This protected and neutral eco label makes an important contribution to interior hygiene.





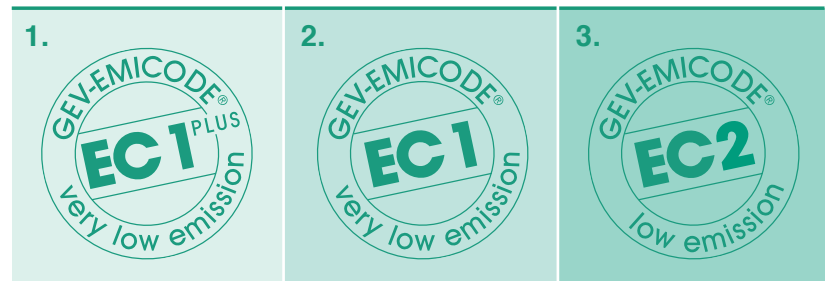
## Three Classes, one System

**EMICODE® is a protected product classification system and at the same time an Eco label. Products from the range of installation materials, adhesives and construction materials are submitted to a strict certification procedure where the quantity of emitted volatile organic compounds (VOC) is examined.**

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Products with ingredients known or suspected to alter the genetic make-up, impair fertility or to cause cancer, are generally never certified with the EMICODE® seal.

The classification system was established in 1997 by experts from different sectors of the construction industry in close dialogue with environmental and consumer protection agencies. After the certification process, the seal can be awarded in three different classes: EC 1<sup>PLUS</sup>, EC 1 and EC 2. For each class, strict limit values were determined for specific hazardous substances which may adversely affect indoor air quality and health. Generally, the sum of emissions of a product is decisive for the classification into an EMICODE® class. The classes EC 1<sup>PLUS</sup> and EC 1 stand for “very low in emissions”, class EC 2 for “low in emissions”.





## Maximum Safety

### with premium class EC 1<sup>PLUS</sup>

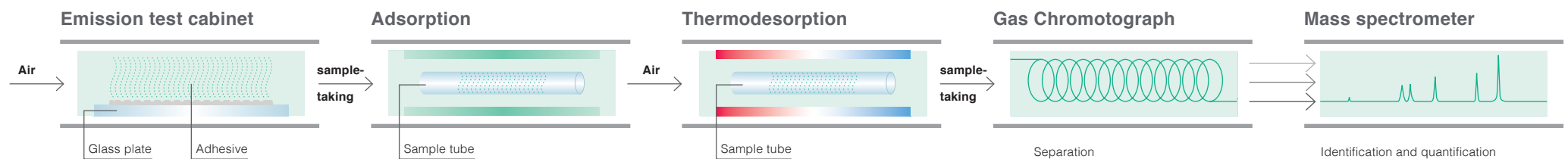
10 The classification EC 1<sup>PLUS</sup> is the EMICODE® premium class. It was introduced in 2010 and offers maximum safety for installers as well as end consumers, since EC 1<sup>PLUS</sup> stands for the strictest emission limits in the marketplace. In addition, the premium class has the widest scope within the construction industry. This scope is only extended after careful consideration.

## Stringent Quality Controls

EMICODE® is the only Eco label on the market which is submitted to regular stringent quality controls. Certified products are randomly purchased on the free market and inspected by testing institutes for compliance with the established specifications. If violations are detected, the manufacturer has to bear the testing costs and is obliged to remedy the deficiencies. In addition, he has to pay all costs incurred for re-testing. In the event of a repeated infringement, the license or even the EMICODE® certification entitlement may be revoked.

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## VOC – Testing method








# Tested in the Lab

Once a manufacturer applies for certification of one of his products, it is inspected in an independent analytical laboratory for its emission characteristics using a test-chamber procedure.

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The product is tested for VOCs as well as for all classical solvents. After 3 and again after 28 days, air quality samples are taken. Based on the sum of emissions, the product is then assigned to the respective EMICODE®class. On the basis of the scientifically established data, the manufacturer receives a certificate showing the classification of the product into the respective class.

Once the certificate has been issued, the manufacturer is entitled to label his product with the protected EMICODE®seal. At the same time, he undertakes to manufacture the certified products in a controlled and quality assured manner to comply with the specifications at any given time.

|                            |  |  |  |
|----------------------------|--|--|--|
| µg/m3                      |  |  |  |
| TVOC after 3 days          | 750  | 1.000  | 3.000  |
| TVOC after 28 days         | 60   | 100  | 300  |
| TSVOC after 28 days        | 40   | 50   | 100  |
| Formaldehyde after 3 days  | 50   | 50   | 50   |
| Acetaldehyde after 3 days  | 50   | 50   | 50   |
| Sum form- und acetaldehyde | ≤ 0,05 ppm   | ≤ 0,05 ppm   | ≤ 0,05 ppm   |



## Benefits for Consumers/Added Value

**After a short period of time, the introduction of EMICODE® in 1997 already had a significant impact – both in terms of indoor air quality and regarding the number of complaints by consumers.**

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Owing to the strict limit values (at the time, the value of 500 microgram per cubic meter was not to be exceeded for EMICODE® class EC 1), the emission concentration in indoor spaces was immediately reduced by a factor of 20. Trade and industry both noted a drastic decrease of complaints after introduction of the EMICODE® criteria.

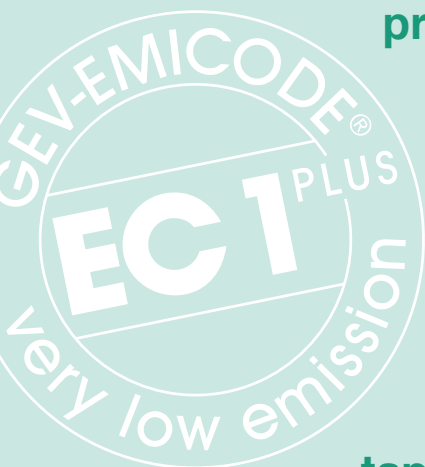
Over the years, not only were measuring methods refined, also limit values and test criteria were revised and more stringent definitions were introduced with regard to European regulations and certification of construction products by building control authorities.

Compared to 1997, products which are today certified as low in emissions, show a hundred to thousand fold lower TVOC value (total amount of volatile organic compounds).

On the international level as well, EMICODE® is by now an established eco label. The products of more than 100 domestic and international manufacturers have been EMICODE® certified. More than 4,000 products now bear the EMICODE® seal – with an upward tendency.



You will find the EMICODE® seal EC 1<sup>PLUS</sup> on:



primers / filling compounds /

adhesives for floor cov-

erings and parquet / tile

adhesives and adhesive

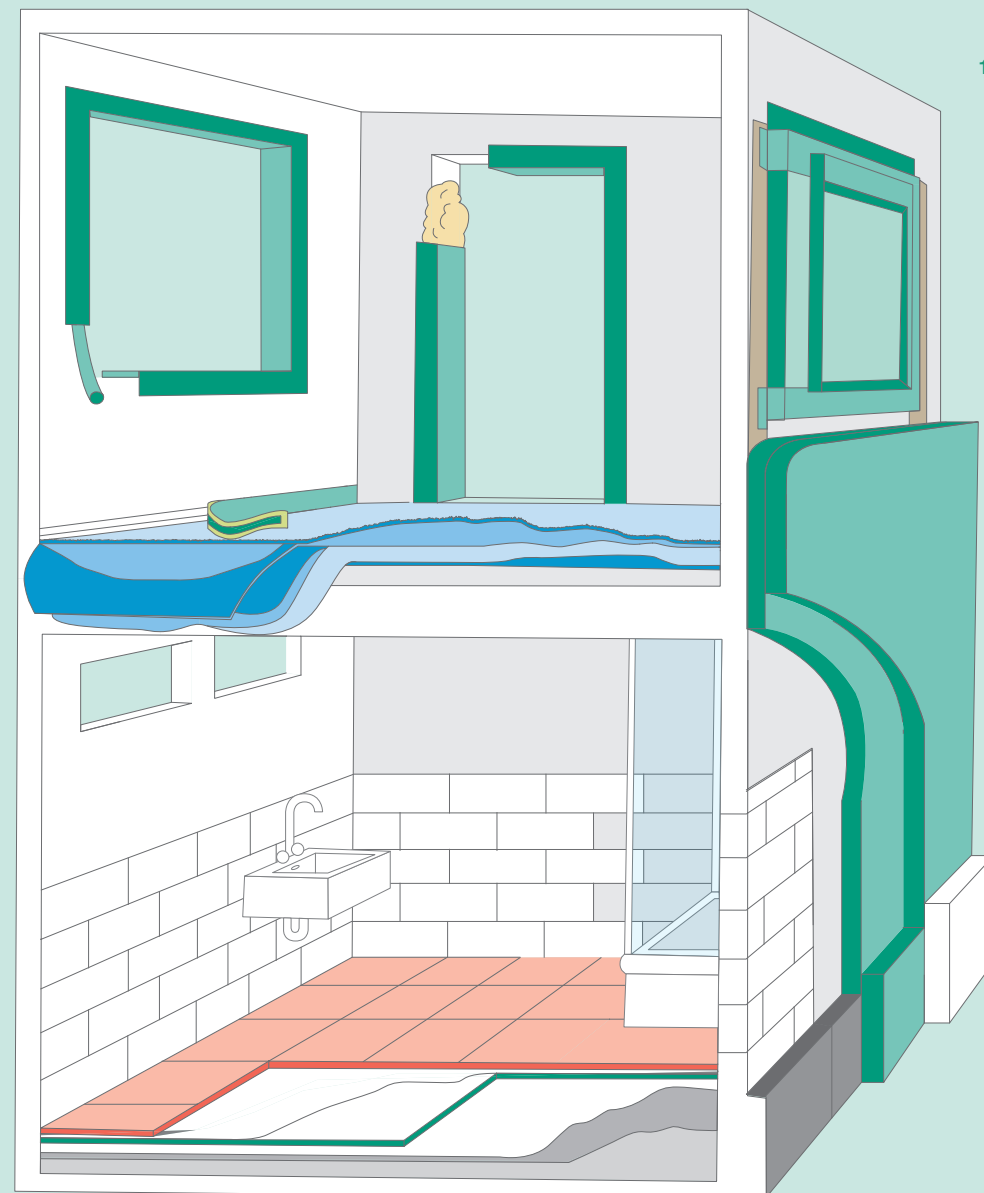
mortars / grouts / instal-

lation underlays / adhesive

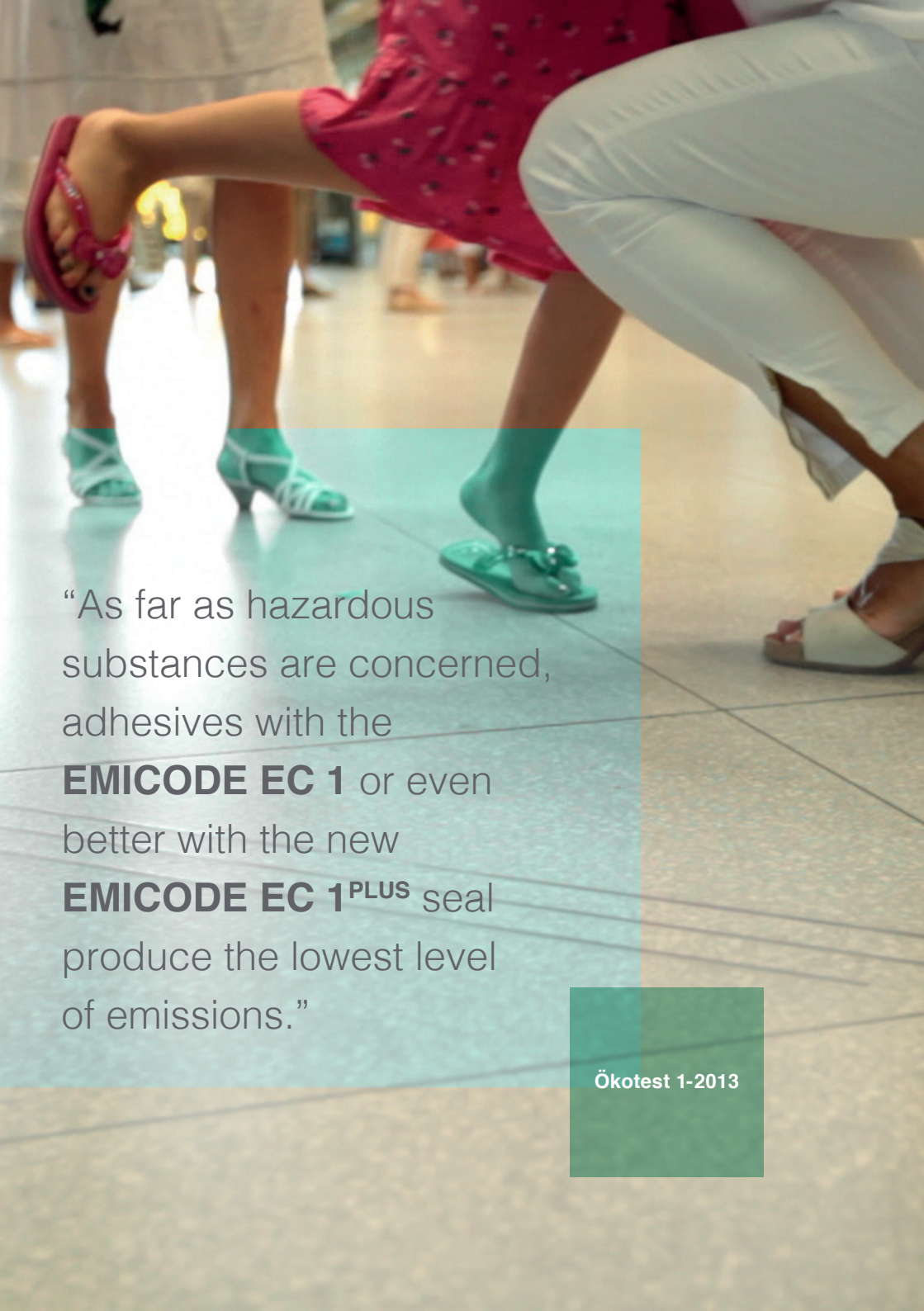
tapes / adhesive films / surface

sealings / joint sealants / parquet finishes /

window sealing systems / screeds







“As far as hazardous substances are concerned, adhesives with the **EMICODE EC 1** or even better with the new **EMICODE EC 1<sup>PLUS</sup>** seal produce the lowest level of emissions.”

Ökotest 1-2013

## Committed to EMICODE

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**EMICODE® was launched on the initiative of renowned German adhesive manufacturers with the objective to offer contractors, architects, planners, end consumers and trade better guidance relating to low emission products, systems and technologies.**

With the establishment of the Association for the Control of Emissions in Products for Flooring Installation (Gemeinschaft Emissionskontrollierte Verlegewerkstoffe e.V. (GEV) in 1997, the institutional framework for the introduction of the EMICODE® was created. Ever since, the GEV is a licensing as well as supervisory body.

Since over the years the interest of manufacturers as well as consumers in certified low emission building materials has continuously increased, the range of tested and quality assured products has been extended to adhesives and construction products. This is also reflected in the name of the association, which since 2007 operates as the Association for the Control of Emissions in Products for Flooring Installation, Adhesives and Construction Products e.V. (GEV – Gemeinschaft Emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte e.V.).

The primary goal of the GEV is to promote consumer, industrial and environmental safety in the area of building chemicals and adhesives.



## Products with the EMICODE® seal:

### A good choice!

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#### **Roland, Sylke, Lina and Jonas Meystädt (Consumers):**

“In the planning phase of our house building project, we intensively studied the issue of building biology. For us, the most important aspect was to live in a natural and healthy environment and to make sure that at least in our own home, our children are protected from harmful environmental influences. We checked out the market and discussed with our architect to only use construction materials not posing any health risks. By using products with the EMICODE® seal EC 1<sup>PLUS</sup>, we simply feel to be on the safe side. We know we have chosen the best for us and our children.”

#### **Christoph Schmidt (Floor installer):**

“As a specialized installer, I have to respond to the demands and wishes of my clients. I am not only an installer, but am also asked to advise the clients. More and more frequently I am asked which building materials I can safely recommend. Naturally, clients keep an eye on costs, but in most cases quality is the decisive factor. Safety and health aspects are also very important issues. The same applies to me as an installer since I am directly exposed to possible hazardous substances when processing the materials. That is why I only work and recommend products with the EMICODE® seal; preferably products with the premium class EC 1<sup>PLUS</sup> label”.

#### **Katrin Moretti (Architect):**

“Green construction” is no longer simply a trend, from my point of view it is becoming more and more mainstream. Nowadays, clients are much better informed and make very well-considered decisions. Aspects such as health, safety, environmental protection and sustainability are becoming more and more important in my planning work. I am constantly experiencing that my clients specifically ask for quality tested and low emission products.



EMICODE® offers me a good reference point. The range of construction materials is extensive and there really is a wide variety of certified products. This allows me to provide comprehensive advice to my clients and assist them in their decisions.”

#### **Klaus Henkel (Manufacturer):**

“My company was one of the EMICODE® pioneers. Already in the 90s, I was convinced that we needed reliable guidelines in order to better help architects, contractors and end consumers find their way in the very complex market of construction materials. With the EMICODE® seal we comply with several requirements such as quality, safety, health and environmental protection, but also commit to manufacture our products on a very high quality level while continuously improving them. For us manufacturers, EMICODE® is a commitment and incentive in equal measure. This motivates us and in the end benefits all parties involved.”

**Image/source reference :**

S.10/11, 12, 14 - Eurofins Product Testing A/S\*

S.6 - Alois Müller

S.8 - ©Ruslan Grumble - Fotolia

S.18, 20, Cover - InCoCreation

**GEV**

**RWI-Haus**

**Völklinger Straße 4**

**40219 Düsseldorf**

