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Exhibition stand of MPA NRW at the "Building Test Expo" in Cologne.



## "1+" for more safety

■ ■ ■ The newly established "Product Certification Body" of MPA NRW has begun its work.

Change has come for the manufacturers of building products after the Construction Products Regulation (CPR) entered into force. In view of this fact MPA NRW has extended the accreditation of its "Product Certification Body".

Before the Certification Body takes action, the manufacturer has to make an application for certification. "We are dealing with 73 applications so far", says Andrea Geng, quality management representative of MPA NRW. "First of all we check if we are accredited and notified for the corresponding standard. Only then we can undertake certification." The further procedures are carried out by the Certification Body. "The manufacturer is still responsible for the fact that his product meets the standard", underlines Andrea Geng. "He also confirms this by affixing the CE mark."

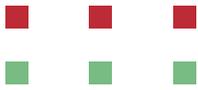
The feedback is positive, also because the Certification Body as a "partner and pilot" attends to inquiries of clients who are unsure about the application of the standard. The corresponding standard stipulates which conformity test procedure has to be implemented on which product (for general chart please see page 3). "To this the manufacturer is bound", says the quality management representative. "But it is his choice to do more than only necessary: in system 3 for instance the product is only tested once and then never again. A comprehensive test according to system 1+ is more sustainable and can give a better guarantee that no flaws or modifications can creep in during production."

## ■ ■ ■ | Trade fair appearance

MPA NRW also presents its services at trade fairs: After the "Building Test Expo" in Cologne in June 2013 (photo above) MPA NRW will also participate in the FeuerTrutz 2014. This trade fair in Nuremberg is about structural, plant specific and organisational fire protection solutions. "We are looking forward to talking with existing and new clients in Nuremberg", says marketing director Martina Fahnemann. The fire testing centre of MPA NRW in Erwitte offers varied services in respect of fire protection tests on the national and international market.



FeuerTrutz from 19 till 20 February 2014 at the exhibition centre Nuremberg, hall 10.1, stand 225



Minister Garrelt Duin took his time for conversations in the specific testing spheres of MPA NRW



## Excellently positioned

■ ■ ■ The Minister for Economics of North Rhine-Westphalia Garrelt Duin confirms the future viability of MPA NRW.

“MPA NRW has highly qualified employees and works very economically. This state company is excellently positioned for the future”. Garrelt Duin was full of praise. During his visit in February the Minister for Economics of North Rhine-Westphalia visualised the performance ability of the testing office and could

even be active himself in the laboratory for safety glass. As a further item on the programme the minister gave important impulses for the future of MPA NRW: Together with the corporate management he discussed ways to gain qualified junior employees also in the future.

## New rooms for dosimetry

**Reorganisation and reconstruction in personal dosimetry.** In late 2014 the employees for personal dosimetry will move into new rooms. This sphere within the competence centre radiation protection of MPA NRW is being modernised completely. The goal is to make work processes even more simple and efficient. The personal dosimetry carries out measurements according to the Radiation Protection Ordinance and the X-ray ordinance and is an important partner for public safety in the sphere of radiation protection.



MPA NRW is competent as a measuring point for Bremen, Lower Saxony, North Rhine-Westphalia, Rhineland-Palatinate and the Saarland.

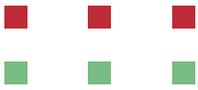
## ■ ■ ■ | SEPA changeover

As from 1 February 2014 the SEPA scheme will supersede the national payment procedures for remittances and direct debit procedures in Euro. MPA NRW has already updated its financial management and payment applications for the correct use of SEPA. Thus all administration systems are well prepared for the changeover. In future SEPA direct debit mandates will be used instead of the former direct debit authorities. Clients having so far used the direct debit procedure will be informed by MPA NRW separately. All other clients who would like to issue a direct debit mandate can find the respective form on the website ([www.mpanrw.de](http://www.mpanrw.de)) in the download centre.

## ■ Edition notice

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# Transparency for the clients

■ ■ ■ The harmonisation of EU standards supersedes the German application principles for building products that have been valid so far. However, voluntary certifications are still possible.

Building products having a harmonised EU product standard display a CE marking. This marking states that the product satisfies specified properties according to this standard. But it doesn't say anything about how and what it can be used for. Therefore the utilization of building products is regulated individually in all countries in separate documents.

The European CE marking for thermal insulation materials according to the Construction Products Regulation is determined by their fire behaviour classification. This is divided in Euro-classes from A to E where A makes high and E makes low demands to the product. The test procedures of the conformity assessment correspond to this classification. Thus for instance, product characteristics of the Euro-classes D and E are assessed according to "System 3". For products belonging to Euro-classes A1, A2, B and C the original inspection as well as sampling takes place at the place of production. The conformity assessment of fire behaviour takes place according to "System 1". For all other characteristics "System 3" is to be applied.

"Manufacturers wanting more safety for their clients should have their products tested according to the

regulations for System 1+", recommends graduate engineer Thomas Kloos, who is in charge of insulation material tests at MPA NRW. "For this voluntary superior certification fol-

lowing random sample tests as also stipulated for the national conformity mark Ü we offer our clients the Quality-Label of MPA NRW."

## ■ ■ ■ | Our certification process

**A manufacturer wants to bring a new thermal insulation material onto the (EU) market....**

**Preliminary consideration:** Besides the product quality also its marketing and the client interest have to be in the manufacturer's focus of interest: When you build you want to use long-life and safe building materials. The manufacturer has two possibilities for assessing his products:

**For the Conformity Assessment System "3"** he carries out a work's own production control and sends a test sample to MPA NRW. Hereby he complies with the minimum requirements and may use the CE marking. This entitles him to bring the product onto the EU market.

However, the manufacturer can also choose more safety: He has his product certified by MPA NRW according to the stipulations of the Conformity Assessment System "1+". Concurrently he can also acquire the "Quality Label" of MPA NRW: With this he guarantees his clients more safety and transparency because he has done more than required by law.

**Step one:** The manufacturer has a clear idea of his product's field of application – thermal insulation for the floor, for the roof or the house front – and looks into the DIN standard 4108 part 10 to find out which characteristics his product has to have for the chosen field of application. MPA NRW needs this information for the test procedure.

**Step two:** The manufacturer wants MPA NRW to assess his product. "System 3" would be sufficient, but he additionally decides himself for the certification procedure "System 1+". He fills out the corresponding certification and surveillance application that is then checked by MPA NRW.

**Step three:** After the conclusion of the contract the manufacturer is visited by MPA NRW. He is given a questionnaire concerning the product and the manufacturing method which he completes. Then he presents important documents to the expert of MPA NRW: calibration data of the individual appliances and machines used in the production process and also the characteristics to be tested. The expert of MPA NRW goes into the production hall or the warehouse and is shown product samples. He then chooses one and seals it.

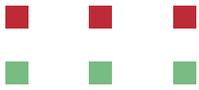
**Step four:** The manufacturer sends the sealed product sample to MPA NRW.

**Step five:** MPA NRW first states: The product sample is the same one that was sealed at the manufacturer's works. Then the application-related test begins: the fire behaviour and the thermal conductivity are always determined. Depending on the product and its field of application the tear resistance, compressive and tensile strength, water vapour diffusion, flow resistance or dynamic stiffness are additionally tested.

**Step six:** After the tests the manufacturer receives a test report, a certification document and the Quality Label from MPA NRW. He can now bring the thermal insulation material onto the market.

**Step seven:** The system "1+" comprises a regular product control. It takes place twice a year at the manufacturer's works. Sampling takes place once a year.

Procedure	Tasks of manufacturer		Tasks of MPA NRW				
	in-house monitoring	initial test	Inspection of in-house monitoring	Initial product test	Initial inspection of factory	Continuous external monitoring	Sampling inspection
1+	x		x	x	x	x	x
1	x		x	x	x	x	
2+	x	x	x		x	x	
3	x			x			
4	x	x					



## Faster and better still

■ ■ ■ MPA NRW is expanding its fire testing centre in Erwitte – with regard to construction and staff.

In spring 2015 the new test hall in the fire testing centre Erwitte will be finished. It will have enough room to extend the testing offer of MPA NRW: not only can the sample preparations for the SBI-test be prepared undisturbed in separate rooms of the new hall, but the test offer for smoke and heat smoke and heat exhaust ventilators can also be extended. Operational reliability, opening under load and Wind load

(DIN EN 12102-2) will then also be possible. “Now we can offer the clients tests from a single source and thus make it easier for them”, says graduate physicist Juergen Pennings, head of the testing laboratory for fire resistance.

The close cooperation among all departments involved in a product test is normal for MPA NRW. The enhancement of the “Product Certifi-

cation Body” was effected in a timely manner: “The client can receive all necessary documents for the CE marking of his product from this centre. All necessary procedures are internally organised”, says Hendrik Rademacher, head of the testing laboratory for reaction to fire.

### “Horizontal notification” by the European Commission

At the end of July 2013 the testing laboratory for reaction to fire was “horizontally notified” by the European Commission. Meanwhile the testing laboratory for fire resistance was



**Graduate physicist  
Juergen Pennings,  
head of the testing  
laboratory for fire  
resistance**

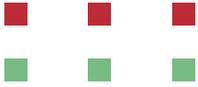


**Graduate engineer  
Hendrik Rademacher,  
head of the testing  
laboratory for  
reaction to fire**



**A staff member of MPA NRW in the observation and switch room of the SBI-test stand**





also able to obtain this notification for some sections.

Due to this the laboratory is no longer notified on the basis of every single harmonised product standard but on the basis of the relevant fire testing procedures applied for different products.

So far MPA NRW is one of the few testing centres having such a “horizontal notification”. “For the clients this means being sure of having a competent service provider with MPA NRW and also receiving future test results even faster, as our work has become easier”, concludes Hendrik Rademacher.

#### Fast order fulfilment

The clients' interest in receiving fast test results is also the main reason for the planned staff increase in the fire testing centre, says Juergen Penning: “Together with our new staff members we will be able to process jobs faster and issue test reports in a timely manner.”



Graduate engineer Wolfgang Schreiner



Graduate engineer Tanja Friedrich

## Well mixed

Older and younger staff members, men and women. MPA NRW's strength also owes to its personnel.

1 July 1983 was Wolfgang Schreiner's first working day in the fire testing centre Erwitte. Since then the graduate engineer has been working in the sphere of testing laboratory for reaction to fire. What is the merit of the old hands in the company? - a question to him: “We know the history of the valid test guidelines – also because we have participated in developing these standards.” Experience is the one thing and constant further training is the other, he says. “We always keep ourselves up to date in respect of building regulations, we visit further training courses or trade fairs like the FeuerTrutz in Nuremberg in February 2014.”

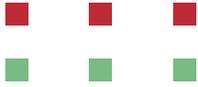
#### Network of MPA NRW

His work also benefits from the MPA-network: “This is the advantage of a widely ranged test service provider. Should I for instance need information about the material composition of a product to be tested, someone from the respective department will help me.” Wolfgang Schreiner gives another important argument for MPA NRW: “The client wants the test result and no big effort. We offer him everything from one source: he doesn't have to send the product to be tested to various testing centres in the country.”

#### Anticipating for the client

The mixture is the secret of a good company, thinks the graduate engineer. “Besides us older and experienced staff members MPA NRW also benefits from the younger staff members who break fresh grounds”. One of these “younger” staff members is Tanja Friedrich. The graduate engineer for architecture and urban construction prepared her diploma thesis at MPA NRW within the scope of a research project of the company. Today she works in the testing laboratory for fire resistance and has already participated in several standardisation committees. “Due to this we are always state of the art.” She remembers a client phoning and wanting to know according to which standards MPA NRW works – according to the valid national standards or according to the European standards valid in future. Her answer could reassure him: “Of course we choose the test specimens in such a way that our clients can use the test results according to the harmonised EU standards for years still.” Tanja Friedrich calls it anticipating for the client, the company profile of MPA NRW calls it being a “partner and pilot”.





Sight into inside of the furnace during the test

## Accumulated Knowhow

■ ■ ■ Nearly 60 years of fire tests at MPA NRW

The history of fire tests at MPA NRW begins in 1956 when staff members constructed the first fire testing plant in self-initiative with testing possibilities for chimneys and also

wall and ceiling elements. At this time research in respect of fire behaviour of plastic roof coverings also began.

### The 1000<sup>th</sup> fire test

In 1960 the first fire testing hall was established. Already in November 1966 the staff members could celebrate the 1000<sup>th</sup> fire test (photo). Two years later a testing plant was finished on the company grounds of MPA NRW in the Marsbruchstrasse, where the burnup behaviour of stored goods could be studied.



Staff members celebrate the 1000<sup>th</sup> fire test at MPA NRW

Finally, in 1980 the foundation stone for the new fire testing centre of MPA NRW in Erwitte near Soest was laid. Since this time the staff members in Erwitte have continuously enhanced their knowhow in respect of fire tests. This building also contains one of the most modern flue gas cleaning systems.

### ■ ■ ■ | The services of MPA NRW

#### Reaction to fire

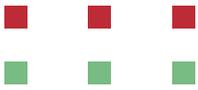
- DIN 4102-1: building material classes A1, A2, B1 and B2
- DIN EN 13501-1: fire classes A1, A2, B, C, D and E
- DIN EN 13501-1: fire classes for floorings A1fl, A2fl, Bfl, Cfl, Dfl and Efl
- Fire tests on external wall claddings on a scale of 1:1
- DIN EN 13501-5 and DIN 4102-7: fire behaviour classification of roofs reacting to external fire Broof (t1) resp. "hard roofing"
- issuance of general appraisal certificates as application certificate according to the German building regulations
- surveillance and certification

#### Fire resistance

- doors and fire protection closures
- pipe and cable penetrations
- penetration seals
- natural smoke and heat exhaust ventilators (NSHEV)
- ducts and Smoke extraction ducts
- other room-closing systems
- expert opinions
- issuance of "allgemeine bauaufsichtliche Prüfzeugnisse" (ABP) as application certificate according to the German building regulations
- flame impingement with gas or oil-fired burner
- tests in various furnaces for nearly every test setup
- surveillance and certification

#### More room due to a new building

After the completion of the new building in spring 2015 MPA NRW will be able to enhance its services.



## Clean air as normality

■ ■ ■ Thanks to a highly developed flue gas cleaning device no toxic gases leave the fire testing centre Erwitte

Every three years the “worst case” is practised in the fire testing centre Erwitte: “Then we burn PVC sheathed copper cables in one of our furnaces”, explains graduate engineer Uwe Schneider (photo above), “and we measure what leaves the chimney.” Dioxins develop when you burn PVC, the Immission Control Officer of the fire testing centre of MPA NRW knows. These belong to the most poisonous substances ever. But in Erwitte the regularly controlled exhaust gases clearly remain under the limit values due to the modern flue gas cleaning device with thermal after-burning.

### The exhaust gases are scrubbed

Uwe Schneider’s job in the company is to ensure the reliable operation of this facility. “The exhaust gases are conducted directly from the test furnaces into a large boiler and are burnt there for several seconds at a temperature of 1,200°C. Due to this the organic pollutants oxidise in the exhaust gas. In the second step following this thermal after-burning the exhaust gases are scrubbed. In

this process they are sprinkled with an alkaline washing solution and the acid components are neutralized. Uwe Schneider: “After this procedure regularly only carbon dioxide and water remain.”

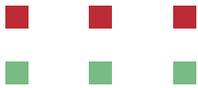
### The work begins in the test hall

The Immission Control Officer of the fire testing centre is not only in charge of operating, maintaining and servicing the flue gas cleanup system. His work already begins at the test furnaces in the test halls of MPA NRW: “The better the fire tests are prepared in the furnaces, the less the exhaust gases are polluted.” In a not optimally prepared and equipped furnace soot and carbon monoxide develop due to the incomplete combustion. If this can be prevented beforehand, flue gas cleaning also functions better and with more efficiency.

Uwe Schneider has been working at the fire testing centre Erwitte since 1998 and he is an expert for this facility. This he already proved in 2004 when he was honoured for an

improvement suggestion by MPA NRW and also by the Minister for Economics of North Rhine-Westphalia. “I made the suggestion of varying the temperature and the retention period of the exhaust gases in the post-combustion depending on the fact which substances are burnt in the test furnaces.” Since then this improvement suggestion has not only contributed to the optimum setting of the facility but also to a distinct saving of costs due to the reduced use of natural gas.

For the clients the clean air around Erwitte is certainly not the only reason for placing their orders with us: “Of course the focus here is on our testing competence”, says Uwe Schneider. In this country environment protection is a presupposition for a business relationship. And that’s a good thing.



Joshua Quandel and Patrick Hagemann (from left) are being trained at MPA NRW to become materials testers. They can already operate this big horizontal testing machine by themselves.

## No day is like the other

■ ■ ■ MPA NRW sets highest priority in apprenticeship and the advancement of women.

The percentage of women applying for a technical job at MPA NRW amounts to nearly 40 percent. So it is hardly surprising that meanwhile there are also women in leading positions in various testing spheres. "We focussed on the advancement of women very early", explains public administration graduate Volker Roos, staff executive at MPA NRW, "because this is self-evident for us as a state company and also supports the structural and employment policy of the location of North Rhine-Westphalia." So it is only consequent to create solutions for the employees so that they can reconcile family and career – for instance with individual part-time solutions.

The personnel concept of the MPA NRW is clear: We want to keep our experts and train sufficient junior employees in times of demographic change. "We need young people that will grow into our company", says graduate engineer Hans Foerster, head of the department of metallic and technological tests. He is respon-

sible for the training for the profession of materials testers for metal technology. Concerning his current apprentices Patrick Hagemann and Joshua Quandel he already knows that they would fit into the team well: "Both are determined and reliable. They work with such good results that we have already involved them in the current testing business."

The profession of the materials tester is not very well known. Joshua Quandel heard about it by a school essay his brother had to write. Patrick Hagemann heard about it during his traineeship at MPA NRW. Both are delighted about their apprenticeship because no day is like the other and because already in the second resp. third year of their apprenticeship they have the feeling of really being needed", as Patrick Hagemann puts it. Both also take over responsibility as members of the youth and trainee representation: Joshua Quandel is the youth and trainee representative in the main organisation for all state companies under the Ministry for

### ■ ■ ■ | Personnel updates



**Business graduate**  
**Susanne Schwager**

Since 1 November 2013 head of accounting and data-processing (finance and accounting, cost control, data processing).



**Andrea Geng**

is at MPA NRW since 1 April 2013 and quality management representative since 1 October 2013 (QM system, internal audits, evidence of conformity and conformity assessment procedures, accreditation and acknowledgment procedures).



**Graduate engineer**  
**Cordula Schafranitz**

Since 1 August 2013 in testing laboratory for fire resistance (ventilation technology, installation shafts, chimneys, pipe and cable penetration seals, combined sealings and smoke extraction systems).



**Graduate engineer**  
**Lisa Mucks**

Since 1 May 2013 at the MPA NRW as project engineer for the competence centre radiation protection. She is in charge of the project "user side of the new building dosimetry".

Economics of North Rhine-Westphalia, and Patrick Hagemann is the youth and trainee representative of MPA NRW. The company appreciates this, says Hans Foerster, "because by this they do something for the community." Both started their apprenticeships after their A-levels. After their final exam they will have many possibilities for further professional advancement and maybe also study. Then they can build up on their practical knowledge that they received at MPA NRW.