

# Material testing

## Product catalogue 2021 / 2022



Your laboratory quality

### In the testing fields:

- Thermoplastics
- Rubber and TPE
- Plastic products such as
  - Plastic films
  - Plastic pipes
  - Foams
  - Geosynthetics
  - Composites
- Plastic - paintwork
- Metal - paintwork
- Plastic - electroplating
- Textiles
- Leather
- Personal protective equipment (PPE)
- Building materials
- Metals / wheels
- Paper and board

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## PROFICIENCY TESTING

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## Deutsches Referenzbüro für Ringversuche und Referenzmaterialien GmbH (DRRR GmbH)



### Proficiency testing provider

The DRRR offers laboratories from the processing industry as well as official and private laboratories all aspects of quality assurance from one single source. Our focus is on food, consumer goods, packaging, building materials, plastics (polymers) and textiles, as well as microbiological analysis in these categories.

**More than 500 PT's in 2019**

### Accreditation ISO/IEC 17043:2010 (A2LA)

The DRRR is an accredited proficiency testing provider by A2LA according to ISO/IEC 17043:2010. The accreditation is valid only for the scope listed in the annex of the accreditation certificate [#5494.01].

**Accredited PT-provider**



In the product catalogue in the column "Accreditation" it is marked accordingly whether the proficiency test is covered by the scope of A2LA or whether the proficiency test is not covered by the scope of accreditation.

### Accreditation DIN EN ISO/IEC 17043:2010 (DAkkS)

The DRRR is an accredited proficiency testing provider by DAkkS according to DIN EN ISO/IEC 17043:2010. The accreditation is valid only for the scope listed in the annex of the accreditation certificate [D-EP-17063-01-00].

In the product catalogue in the column "Accreditation" it is marked accordingly whether the proficiency test is covered by the scope of DAkkS or whether the proficiency test is not covered by any scope of accreditation.

### Reference material producer

We offer many certified reference materials as well as advise on quality matters and quality assurance training in the laboratory and the production.

**High-quality reference material**

### Customer support

We provide advice to our customers in all question of validation of chemical-physical, microbiological, organoleptic and physical-mechanical analysis or statistical questions.

**Any time competent contact persons**

### More than 50 new Proficiency tests:

We have added **more than 50 new Proficiency tests** to the material testing catalogue 2021/2022 in the following testing fields:

- **A2LA-Accreditation (USA)**

The DRRR has successfully completed an accreditation audit by A2LA (American Association for Laboratory Accreditation). We are an accredited proficiency testing provider by A2LA according to ISO/IEC 17043:2010. The accreditation is valid only for the scope listed in the annex of the accreditation certificate [#5494.01].

- **Plastics - paintwork**

Our proficiency tests for the testing of paintwork / coatings already cover a wide range of tests. We have expanded this with various proficiency tests for coating thickness measurement and various tests from the automotive sector.

- **Building materials**

The program in the field of building materials was completely revised and considerably expanded with about 20 new proficiency tests. Parts of this program are now covered by the scope of our A2LA accreditation, see annex of certificates [#5494.01].

- **Plastics/leather - emissions**

For many years, we have been running proficiency tests for emission tests according to VDA standards with a high number of participants. New in our program are now proficiency tests for emission tests according to GMW (GMW 3205 / GMW 3235), as well as odour tests on leather.

- **Textiles**

Two new proficiency tests for fastness testing (light fastness and rubbing fastness), as well as a proficiency test for the testing of filtering half-masks have been added to the program.

- **Fibre-reinforced plastics**

Proficiency tests for fatigue testing and shear properties have been included, in addition there will be proficiency tests for the testing of GRP pipes and pipe lining (CIPP).

### Compact registration forms

Besides the comfortable online registration in ODIN you can also use the registration forms (pdf) for different testing fields. Please visit our website.

[www.DRRR.de](http://www.DRRR.de)

### Returning of ten result sheets

Up to nine additional result sheets can be returned for chemical-physical, microbiological and physical-mechanical proficiency testing rounds for free.

Please note, that the free of charge service is only valid for returning result sheets by ODIN.

- **Check different methods**
- **Check different lab technicians**
- **Check different testing equipment**

Simply brilliant, your proficiency testing with ODIN (Online Data Information Network).

- Fast and easy online registration / online announcement in our online catalogue
- Direct management and booking of the proficiency testing
- Overview about the registered proficiency testing schemes
- Fast and secure submission of your results via ODIN
- Online access to individual customers reports and certificates
- Supervisor rights available to overview all PTs of a multi-site company
- Saving of costs through booking and submission of your results via ODIN

Secure payment with IRIS (Internet Remuneration Information Service).

- Easy and safe payment by credit card
- Overview about all invoices
- Fast and secure online access

*You can also pay your invoice via banktransfer or bank check.*



Book Ringtrials Online

➤ Proficiency testing catalog



Enter Results Online

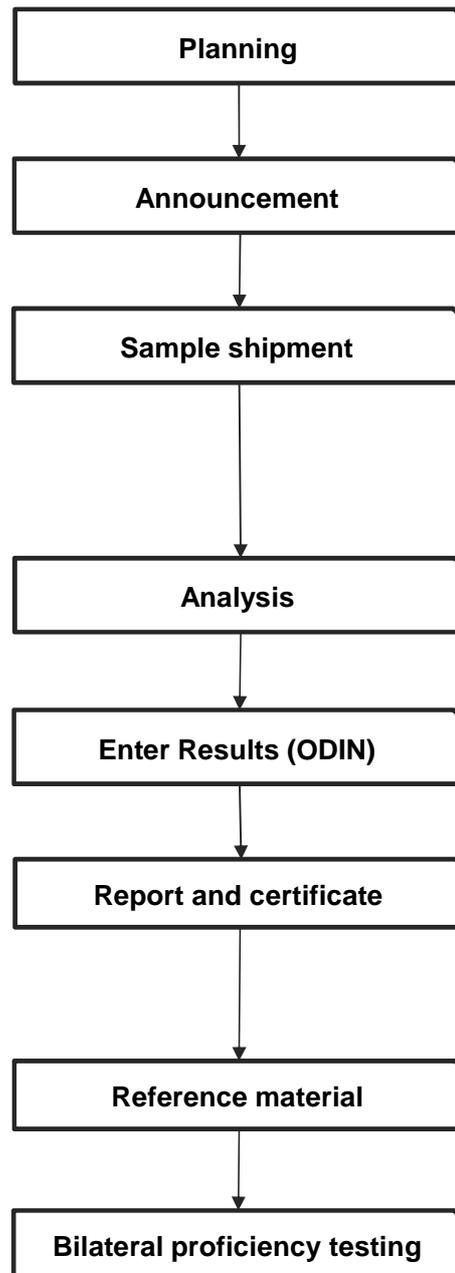
➤ Booked proficiency testings



Download Reports and Certificates

➤ Booked proficiency testings

- A precise planning and organisation of each proficiency testing round
- 2 weeks before we will dispatch the samples you will get an announcement with the proficiency testing details
- All materials send out are in line with a homogeneity test and stability test; therefore we reserve the right to purchase the sample and engage the testing take through external qualified subcontractors
- After receiving the samples you will have a period of 4-8 weeks for analysing
- Mail back the results via internet by using our result sheets in an Excel file or fill out our result sheets online in ODIN
- At the latest 4-8 weeks after the deadline you will get the report (optional by login in ODIN, as hardcopy by regular mail or as pdf-file by e-mail) incl. participation certificate with overview of your lab performance
- After the proficiency testing we can offer you reference materials
- Possibility to perform a bilateral proficiency testing (bPT)



## Why take part in proficiency testing?

- Participation in proficiency testing schemes is required by international standards or national facilities, organizations and customers
- Participants can compare, assure and improve their own performance and quality against other laboratories worldwide
- Laboratories can recognize how well they have been completed with the applied method compared to the other laboratories
- Saving on the costs of testing
- Unquestionable lab performance towards customers, authorities and certification authorities
- Saving on the costs of lab development and maintenance
- Saving on the costs of lab development and maintenance
- Saving on production costs by avoiding waste of raw material

## Your benefits in DRRR proficiency testing schemes

- Objective and independent impression of your quality and your performance of your routine testing method compared to the other participating laboratories
- Saving the costs, because you have the opportunity to analyze more samples and more parameters in one proficiency testing
- External demonstration of your performance with the results of the proficiency testing
- Build up of your own external quality assurance system with our statistical tools (contains statistical control charts, MS-Excel evaluation files and reference materials). With these tools incorporated your external quality assurance rays unmatched confidence
- Detailed planning and organization of your proficiency testing and an easier, faster and better communication with us



Image source:  
iStock.com/3dts

**We work according to:**

- ISO Guide 31 / 35
- DIN EN ISO 17034
- DIN EN ISO/IEC 17020 / 17025 / 17043
- ISO 13528

**Homogenous and stable sample material**

**Laboratory performance:**

by calculation of the following parameters:

- z-score
- z'-score
- CRD-Wert

**Calculation of precision data acc. to ISO 5725-2 in many proficiency testing schemes**

**Statistical models:**

Depending on the type of the distribution of the data, different statistic models are used:

- Conventional statistics (all values)
- Conventional statistics (no outliers)
- Robust statistics (Hampel estimator, Q-method)
- Robust statistics (Median, MAD/nIQR)
- Expert laboratory (expert decision)

**Detailed information can also be found in our statistical protocol.**

**Method-specific evaluation according to the reference method (if available)**

**Additional extended method evaluation (in case data are available)**



**You are not satisfied with your laboratory performance: What can you do?**

Due to your showed laboratory performance you have been asked by the accreditation body, the monitoring authority or your customer to initiate measures to improve your laboratory performance.

These measures are often connected with considerable efforts in the laboratory and you only have a short time frame. In many cases the proof of a successful measure processing, by participation in a new proficiency testing round, is only possible in the following year. Until now it does not exist a possibility for a spontaneous performance review to equalize a previous unsatisfactory proficiency testing result.

**New: The bilateral proficiency testing (bPT)!**

You can book and perform individually and flexibly the bilateral proficiency testing during a determined time period.

You receive a proficiency testing sample for analyzing. You submit the results of the testing. After that you will get your proof of performance as a z'-score calculation in the form of a certificate within 1 - 2 weeks.

The performance evaluation refers to the previous regular proficiency testing, so that you can connect the bPT to the regular proficiency testing round. The used sample material is derived from a previous proficiency testing round and provides the possibility of a comparable performance evaluation with the regular proficiency testing.

**Your terms and conditions:**

You have participated in the regular DRRR-proficiency testing and you would like to verify your performance. The report of this proficiency testing is not older than ten weeks. You register within these ten weeks for the bPT and the performance is confirmed by the DRRR. The testing period is dependent on the technical factors (parameter, matrix etc.) and will be agreed individually\*. When this time is over after the sample shipment and you do not have sent us your results in this time, we can not evaluate your results and issue a certificate for you.

(\* normally not longer than 1 - 2 weeks)

The bPT is not in the scope of accreditation of the DRRR. The realization of the bPT depends on the availability of the material.

Costs for the bPT 75,00 € + sample material and shipping costs

Alternative you can also order reference material.

## Special characteristics

For most of the Proficiency testing schemes the participants get 2 different samples on different testing levels. So we can ensure that the laboratory has competence for a wide range of test results.

The testing levels are on industry standard and reflect the laboratory routine.

**Different testing levels**

## Cooperation partners

For each testing field of the material testing (plastics, textiles, building material, paper) we work together with accredited and established laboratories and experts from the industries they serve. So we can ensure to provide practical testing material. You can find a list of our partners on our homepage.

**Competent partners**

## Reports easy-to-understand

A clear presentation of our test results and your laboratory performance is important for us.

Despite the huge volume of data and many statistical values we present the results easy-to-understand and transparent in our reports and certificates.

**Reports easy-to-understand**

## Precision data acc. to ISO 5725-2

By using our market-leading statistical evaluation we calculate precision data in accordance with ISO 5725-2 for each proficiency test of the material testing. These data are important for the laboratories and can be used in the every day work.

**Market leading statistical evaluation**

## Technical assistance

You can contact our technical experts at any time e.g. the participant sees potential for improvement in the lab performance. It is also possible to order our reference materials for additional testing.

**Technical assistance**

For your registration we recommend to use our online catalogue (ODIN) or the registration forms on our homepage ([www.DRRR.de](http://www.DRRR.de)). You can also use the registration forms on page 35 of this catalogue.

## Plastics - Dimensions of test specimens

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010978	not specified	° Width and Thickness of injection moulded specimen (type 1A) e.g. with caliper	Apr-21			-

## Plastics - mechanical properties

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010754	ISO 527-1/-2	Tensile test (modulus)	Apr-21			[A], [D]
2010755	ISO 527-1/-2	Tensile test (strength, elongation)	Apr-21			[A], [D]
2010988	ISO 527-1/-2	Package "Tensile test" - 3 parameters - Modulus of Elasticity - Tensile strength/Stress at Yield - Elong. at Tensile strength / Elong. at Yield	Apr-21			[A], [D]
2010886	ASTM D638	Tensile test (modulus, strength, elongation)	Apr-21			[A], [D]
2010765	ISO 527-1/-2	Tensile Test at +80°C	Apr-21			[A], [D]
2010766	ISO 527-1/-2	Tensile Test at -30°C	Apr-21			[A], [D]
2010881	ISO 899-1	Tensile creep test	Apr-21			[A], [D]
2010004	ISO 16770	Full-notch creep test [FNCT]	Apr-21			-
2010116	not specified	High Speed Tensile Test by using a servo-hydraulic test instrument <b>[NEW!]</b>	Apr-21			-
2010783	ISO 178	Flexural test (modulus)	Apr-21			[A], [D]
2010812	ISO 178	Flexural test (flexural stress at conventional deflection)	Apr-21			[A], [D]
2010784	ISO 178	Flexural test (strength, elongation)	Apr-21			[A], [D]
2010989	ISO 178	Package "Flexural test" - 4 parameters - Flexural Modulus - Flexural stress at conventional deflection - Flexural Strength - Elongation at Flexural Strength	Apr-21			[A], [D]
2010888	ASTM D790	Flexural test (modulus, strength, elongation)	Apr-21			[A], [D]
2010756	ISO 604	Compression test (strength, elongation)	Apr-21			[A], [D]
2010773	ISO 179-1/1eU	Charpy unnotched impact properties +23 °C	Apr-21			[A], [D]
2010782	ISO 179-1/1eA	Charpy notched impact properties +23 °C	Apr-21			[A], [D]
2010824	ISO 179-1	Charpy impact properties -30 °C	Apr-21			[A], [D]
2010774	ISO 180	Izod impact properties +23 °C	Apr-21			[A], [D]
2010006	ASTM D256	Izod impact properties +23 °C	Apr-21			[A], [D]

\* price for report by post plus 40 €

[A] = Proficiency test under scope of A2LA accreditation

[D] = Proficiency test under scope of DAkkS accreditation

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## Plastics - mechanical properties

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010884	DIN 53435	Impact test on dynstat test specimens	Apr-21			[A], [D]
2010885	DIN 53435	Bending test on dynstat test specimens	Apr-21			[A], [D]
2010977	ISO 8256	Tensile-impact test (type 1, met. A)	Apr-21			-
2010882	ISO 6603-2	Instrumented puncture impact test	Apr-21			[A], [D]
2010883	ASTM D3763	Instrumented puncture impact test	Apr-21			[A], [D]
2010757	ISO 6721-5	DMA - Temperature sweep and Tg	Apr-21			[A], [D]

## Specimen injection moulding

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010785	ISO 527-1/-2	Specimen injection moulding (type 1A) and tensile test	Apr-21			[A], [D]
2010786	ISO 178	Specimen injection moulding (type 1A) and flexural test	Apr-21			[A], [D]
2010787	ISO 179-1	Specimen injection moulding (type 1A) and Charpy impact test	Apr-21			[A], [D]

## Cutting of specimen

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010813	ISO 527-1/-2	Cutting of specimen (type 1B) and tensile test	Apr-21			[A], [D]
2010814	ISO 527-1/-2	Cutting of specimen (type 5A) and tensile test	Apr-21			[A], [D]

## Plastics - polyamide 6 and 6.6

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010815	ISO 527-1/-2	Tensile test	Apr-21			[A], [D]
2010816	ISO 178	Flexural test	Apr-21			[A], [D]
2010817	ISO 179-1	Charpy flexural impact test	Apr-21			[A], [D]

\* price for report by post plus 40 €

[A] = Proficiency test under scope of A2LA accreditation

[D] = Proficiency test under scope of DAkkS accreditation

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### Plastics - density | hardness | ash content

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010769	ISO 1183-1 and ASTM D792	Density I	Apr-21			[A], [D]
2010984		Density II	Oct-21			[A], [D]
2010741	ISO 1172 and ISO 3451-1	Ash content	Apr-21			[A], [D]
2010742	ISO 868	Hardness Shore D	Apr-21			[A], [D]
2010811	ISO 2039-1	Ball indentation hardness	Apr-21			[A], [D]

### Plastics - rheological properties

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010825	ISO 1133-1/-2 and ASTM D1238	Melt flow/volume rate (MFR/MVR) I	Mar-21			[A], [D]
2010008		Melt flow/volume rate (MFR/MVR) II	Oct-21			[A], [D]
2010861	ISO 1133	Melt flow/volume rate MFR/MVR (high temperature > 300°C)	Mar-21			[A], [D]
2010213	ISO 1133-2	Melt flow/volume rate (MFR/MVR) of moisture sensitive materials	Mar-21			[A], [D]
2010795	ISO 307	Viscosity number (sulfuric acid)	Mar-21			[A], [D]
2010857	ISO 307	Viscosity number (m-cresol)	Mar-21			[A], [D]
2010858	ISO 307	Viscosity number (formic acid)	Mar-21			[A], [D]
2010859	ISO 1628-5	Viscosity number of PBT	Mar-21			[A], [D]
2010788	ISO 11443	Fluidity of plastics - capillary rheometers	Mar-21			[A], [D]
2010789	ISO 6721-10	Complex shear viscosity (parallel-plate)	Mar-21			[A], [D]

\* price for report by post plus 40 €

[A] = Proficiency test under scope of A2LA accreditation

[D] = Proficiency test under scope of DAkkS accreditation

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## Plastics - thermal properties

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010743	ISO 11357-3 and ASTM D3418	DSC-Analysis: Melting point and -enthalpy I	Mar-21			[A], [D]
2010985		DSC-Analysis: Melting point and -enthalpy II	Oct-21			[A], [D]
2010854	ISO 11357-2 ASTM D3418	DSC-Analysis: Glass transition temperature	Mar-21			[A], [D]
2010855	ISO 11357-6 ASTM D3895	DSC-Analysis: Oxidation Induction time (OIT)	Mar-21			[A], [D]
2010297	ISO 11357-4	DSC-Analysis: specific heat capacity	Mar-21			-
2010856	ISO 11357-7	DSC-Analysis: Crystallization kinetics	Mar-21			-
2010745	ISO 11358	Thermogravimetry (TGA) - filler content	Mar-21			[A], [D]
2010303	ISO 6964	Carbon black content - method A, B1, B2, C	Mar-21			-
2010758	ISO 11359	Coefficient of linear thermal expansion	Apr-21			[A], [D]
2010775	ISO 306	Vicat softening temperature (VST)	Apr-21			[A], [D]
2010911	ASTM D1525	Vicat softening temperature (VST)	Apr-21			[A], [D]
2010790	ISO 75	Temperature of deflection under load	Apr-21			[A], [D]
2010791	ASTM D648	Deflection temperature under flexural load	Apr-21			[A], [D]

## Plastics - burning behaviour / Electrical properties:

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010819	FMVSS 302 DIN 75200	Burning rate	Mar-21			[A], [D]
2010862	UL 94 HB EN 60695-11-10	Burning rate	Mar-21			[A], [D]
2010863	UL 94 V EN 60695-11-10	Burning rate	Mar-21			[A], [D]
2010547	IEC 62631-3-2, VDE 0307-3-2	Surface resistance	May-21			-
2010549	IEC 62631-3-1, VDE 0307-3-1	Volume resistivity	May-21			-
2010864	EN 60695-2-13	Glow-wire ignition temperature (GWIT)	Mar-21			[A], [D]
2010979	EN 60112	CTI – Tracking	Mar-21			-

\* price for report by post plus 40 €

[A] = Proficiency test under scope of A2LA accreditation

[D] = Proficiency test under scope of DAkkS accreditation

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### Plastics - emissions

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010851	VDA 270 PV 3900	Odour test	Mar-21			[A], [D]
2010555	GMW 3205	Odour test <b>[NEW!]</b>	Mar-21			[A]
2010869	VDA 275 PV 3925	Formaldehyde emission	Mar-21			[A], [D]
2010843	VDA 277 PV 3341	Total carbon emission	Mar-21			[A], [D]
2010870	VDA 278	Thermal desorption analysis	Mar-21			-
2010797	DIN 75201	Fogging/Method A	Mar-21			[A], [D]
2010557	GMW 3235	Fogging/Method A <b>[NEW!]</b>	Mar-21			[A]
2010798	DIN 75201 PV 3015	Fogging/Method B	Mar-21			[A], [D]
2010559	GMW 3235	Fogging/Method B <b>[NEW!]</b>	Mar-21			[A]

### Plastics - Infrared spectroscopy

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010818	not specified	Quantitative infrared spectroscopy (FTIR) e.g. VA content of EVA	Mar-21			[A], [D]
2010210	not specified	Identification of plastic granulates	Mar-21			[A], [D]
2010167	not specified	Identification PA types (e.g. PA6, PA 11)	Mar-21			[A], [D]

### Plastics - water content | water absorption

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010793	ISO 15512	Water content (Karl-Fischer)	Apr-21			[A], [D]
2010865	ISO 15512	Water content (Aquatrac®) - CaH <sub>2</sub> -method	Apr-21			[A], [D]
2010796	ISO 62	Water absorption	Apr-21			[A], [D]

\* price for report by post plus 40 €

[A] = Proficiency test under scope of A2LA accreditation

[D] = Proficiency test under scope of DAkkS accreditation

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## Plastics - surfaces

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010722	ISO 2813	Gloss reading at 20°, 60°, 85°	Mar-21			[A], [D]
2010821	ISO 7724 DIN 53236-A	Colour measurement (8°/d) - $\Delta E$ , $\Delta L$ , $\Delta a$ , $\Delta b$	Mar-21			[A], [D]
2010771	DIN 53236-B	Colour measurement (45°/0) - $\Delta E$ , $\Delta L$ , $\Delta a$ , $\Delta b$	Mar-21			[A], [D]
2010822	PV 3952	Scratch resistance	Mar-21			[A], [D]
2010823	ISO 1518	Erichsen-Hardness pencil (in style of ISO 1518, hand-operated devices can also be used)	Mar-21			[A], [D]
2010871	ISO 19403-2	Surface energy (contact angle)	Mar-21			[A], [D]
2010872	ISO 4287	Roughness (line) contact free	Mar-21			[A], [D]
2010828	ISO 25178-2	Roughness (surface) contact free	Mar-21			[A], [D]
2010873	ISO 4287 ISO 4288	Roughness (profile method)	Mar-21			[A], [D]
2010893	ISO 9352	Abrasion by abrasive wheels (Taber)	Mar-21			[A], [D]
2010981	PV 3987	Micro scratch resistance high gloss	May-21			-

## Plastics - paintwork

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010972	ISO 2409	Cross cutting test	May-21			[A]
2010539	PV 3964	Cream resistance <b>[NEW!]</b>	May-21			-
2010849	DBL 5416 DBL 5425	Multiple stone impact test	May-21			[A]
2010221	ISO 20567-1	Multiple stone impact test	May-21			[A]
2010845	DBL 5416 DBL 5425	Steam jet test	May-21			[A], [D]
2010703	PV 1503	Pressure washer test	May-21			[A]
2010217	PV 1200	Environmental Cycle Test (8 cycles) (e.g. delamination, change to appearance)	May-21			[A]
2010541	ISO 2808 (6A)	Film thickness - Cross sectioning by grinding <b>[NEW!]</b>	May-21			-
2010543	DBL 5425 (A.1.17)	Wash scratch resistance (Amtec-Kistler) <b>[NEW!]</b>	May-21			-
2010545	DBL 5425 (A.1.17)	Wipe scratch resistance (Crockmeter) <b>[NEW!]</b>	May-21			-

\* price for report by post plus 40 €

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[D] = Proficiency test under scope of DAkkS accreditation

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## Plastics - Light fastness / Exposure tests

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
Evaluation: Color change with grey scale and instrumentell						
2010799	VDA 75202 ISO 105-B06	Light fastness	Apr-21			[A], [D]
2010867	ISO 4892-2	Light fastness - Xenon Arc light (cycle 1)	Apr-21			[A], [D]
2010866	ASTM G155	Light fastness - Xenon Arc light (cycle 1)	Apr-21			[A], [D]
2010868	ISO 4892-3	Exposure to laboratory light - Fluorescent UV lamps	Apr-21			[A], [D]
2010014	ASTM G154	Exposure - Fluorescent UV lamps	Apr-21			[A], [D]
2010215	PV 1306	Tackiness of Polypropylene Parts <b>[NEW!]</b>	Apr-21			[A]
2010128	PV 3929	Weathering (Dry, Hot) - Kalahari test <b>[NEW!]</b>	Apr-21			[A]
2010130	PV 3930	Weathering (Humid, Hot) - Florida test <b>[NEW!]</b>	Apr-21			[A]
2010846	DIN 75220 D-IN1-T	Sunlight simulation	Apr-21			[A], [D]
Evaluation: Change of mechanical properties						
2010016	ISO 4892-2	Light fastness - Xenon Arc light (cycle 1)	Apr-21			[A], [D]

## Plastics - electroplating: **[NEW!]**

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010239	ISO 1456	Coating thickness (Cu / Ni / Cr) Microscopical method (ISO 1463) and Coulometric method (ISO 2177) possible	May-21			[A]
2010241	EN 16866 ASTM B764	Individual coating thicknesses (nickel), potential differences between nickel layers	May-21			[A]
2010243	DIN 53100	Number of micropores / microcracks in chromium coating	May-21			[A]
2010219	DBL 8465	Corrosion testing CASS (48 h) including evaluation of the samples	May-21			-

## Visual evaluation (grey scale/pictorial standards):

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010026	ISO 105 A02 ISO 105 A03	Assessment of the color difference on color charts using the grey scale	Apr-21			[A]
2010701	ISO 4628-2	Degree of blistering (quantity / size) on photos using the pictorial standards <b>[NEW!]</b>	Apr-21			-

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### Metals / wheels - corrosion testing:

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
Reference specimens and painted plates						
2010820	ISO 9227 point 5.2.2	Corrosion testing NSS: reference specimen 48h / painted plate 480h (e.g. delamination, corrosion, blistering)	Apr-21			[A], [D]
2010018	ISO 9227 point 5.2.4	Corrosion testing CASS: reference specimen 24h / painted plate 240h (e.g. delamination, corrosion, blistering)	Apr-21			[A], [D]
Reference specimen (mass loss)						
2010561	ISO 9227 point 5.2.3	Corrosion testing AASS	Apr-21			[A]
2010020	ASTM B117	Salt Spray test	Apr-21			[A]
2010022	GMW 14872	Exterior Cyclic Corrosion	Apr-21			
Steel substrates						
2010520	DBL 7381.10	Corrosion cycle test 1 for steel <b>[NEW!]</b>	May-21			-

### Metals - paintwork

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010024	ISO 6270	Condensation atmosphere (CH) Resistance to humidity	Mar-21			[A]
2010295	ISO 2360	Coating thickness <b>[NEW!]</b> Amplitude-sensitive eddy-current method	May-21			-
2010615	ISO 2178	Coating thickness - Magnetic method <b>[NEW!]</b>	May-21			-

### Metals - X-ray fluorescence analysis (XRF)

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010171	not specified	Determination of elements by X-ray fluorescence analysis (XRF), e.g. nickel, copper, zinc, lead	Jul-21			[A], [D]
2010416	EN ISO 12677	Chemical analysis of refractory products by X-ray fluorescence (XRF) <b>[NEW!]</b>	Jul-21			-
2010371	ISO 3497	Coating thickness X-ray spectrometric method	Mar-21			-

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## Rubber and TPE

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010727	ISO 2781	Density of rubber	May-21			[A], [D]
2010728	ISO 37	Tensile test (specimen type2/S2)	May-21			[A], [D]
2010729	ISO 37	Tensile test (specimen type3/S3A)	May-21			[A], [D]
2010894	ASTM D412	Tensile test	May-21			[A], [D]
2010897	ISO 34-1	Tear strength - Trouser test piece	May-21			[A], [D]
2010761	ISO 34-1	Tear strength - Angle test piece (without nick)	May-21			[A], [D]
2010760	ISO 34-1	Tear strength - Angle test piece (with nick)	May-21			[A], [D]
2010895	ISO 815	Compression set	May-21			[A], [D]
2010900	ISO 815-2	Compression set at lower temperature	May-21			[A], [D]
2010896	ISO 2285	Tension set	May-21			[A], [D]
2010731	ISO 868 ISO 48-4	Hardness Shore A	May-21			[A], [D]
2010898	ASTM D2240	Hardness Shore A	May-21			[A], [D]
2010748	ISO 48-2	IRHD-Hardness - method M	May-21			[A], [D]
2010899	ISO 48-2	IRHD-Hardness - method N	May-21			[A], [D]
2010267	ISO 48-4	Hardness Shore D	May-21			[A], [D]
2010762	ISO 4662	Rebound resilience	May-21			[A], [D]
2010763	ISO 4649	Abrasion resistance	May-21			[A], [D]
2010746	ISO 11357-2	Glass transition of rubber	May-21			[A], [D]
2010875	ISO 1407	Solvent extract of rubber	May-21			[A], [D]
2010764	ISO 289-1	Mooney viscosity	May-21			[A], [D]
2010749	ISO 1817	Increase in mass (liquid B)	May-21			[A], [D]
2010750	ISO 11358	Thermogravimetry (TGA) - black carbon content	May-21			[A], [D]
2010269	ISO 1431-1	Resistance to ozone cracking	May-21			-
2010508	ISO 188	Accelerated ageing / heat resistance <b>[NEW!]</b>	May-21			-

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## Plastic films

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010777	ISO 527-1/-3	Tensile Test	Mar-21			[A], [D]
2010970	ISO 7765-1	Impact resistance – free-falling dart	Mar-21			[A], [D]
2010878	ISO 6383-1	Tear resistance - trouser tear method	Mar-21			[A], [D]
2010838	ISO 6383-2 ASTM D1922	Tear resistance - Elmendorf method	Mar-21			[A], [D]
2010779	ISO 4593	Film thickness	Mar-21			[A], [D]
2010780	ISO 8295	Coefficients of friction (static/kinetic)	Mar-21			[A], [D]
2010879	ISO 11339	T-peel test	Mar-21			-
2010880	DIN 55529	Sealed-seam strength	Mar-21			[A], [D]
2010847	ISO 15106-3	Water vapour transmission rate	Mar-21			[A], [D]
2010844	ISO 15105-2	Gas transmission rate	Mar-21			[A], [D]
2010518	DIN 53380-3	Gas transmission rate <b>[NEW!]</b>	Mar-21			[A], [D]
2010781	ISO 14782	Transparency/Haze	Mar-21			[A], [D]
2010012	DIN 55543-5	Adhesion strength	Mar-21			-
2010312	not specified	Identification of multi layer films	Mar-21			[A], [D]
2010115	not specified	Identification of mono layer films	Sep-21			[A], [D]

## Migration testing:

Proficiency Tests in the field of overall and specific migration can be found in the catalogue "consumer goods" or the online catalogue

## Plastic pipes / pipe materials (PE)

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010792	ISO 1167-1/-2	Resistance to internal pressure	Mar-21			[A], [D]
2010890	ISO 17454	Adhesion of multilayer pipes	Mar-21			[A], [D]
2010891	ISO 9969	Thermoplastics pipes - ring stiffness	Mar-21			[A], [D]
2010980	not specified	Wall thickness of plastic pipes	Mar-21			-
2010987	ISO 13477	Resistance to rapid crack propagation (S4 test) - method "Critical Pressure"	Mar-21			-
2010004	ISO 16770	Full-notch creep test [FNCT]	Apr-21			-
2010118	ISO 18488	Strain Hardening Modulus	Apr-21			-
2010120	ISO 18489	Crack growth - cracked round bar	Apr-21			-
2010529	ISO 10147	Degree of crosslinking of PE-X <b>[NEW!]</b>	Apr-21			-

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### Foams (ISO / DBL / ASTM)

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010848	ISO 845	Apparent density	Apr-21			[A], [D]
2010829	ISO 1798	Tensile test	Apr-21			[A], [D]
2010034	ISO 8067	Tear strength	Apr-21			-
2010730	ISO 1856	Compression set	Apr-21			[A], [D]
2010036	ISO 3385	Fatigue constant-load pounding	Apr-21			-
2010831	ISO 3386-1 DBL 5452	Compression stress value CV40	Apr-21			[A], [D]
2010038	ISO 2439	Hardness (indentation)	Apr-21			-
2010874	DBL 5307 FMVSS 302	Burning rate	Apr-21			[A], [D]
2010040	ASTM D3574 Test B1	Indentation Force Deflection Test <b>[NEW!]</b>	Apr-21			-
2010042	ASTM D3574 Test C	Compression Force <b>[NEW!]</b>	Apr-21			-
2010044	ASTM D3574 Test D	Compression Set <b>[NEW!]</b>	Apr-21			[A]
2010046	ASTM D3574 Test E	Tensile Test <b>[NEW!]</b>	Apr-21			[A]
2010048	ASTM D3574 Test F	Tear Resistance <b>[NEW!]</b>	Apr-21			-
2010050	ASTM D3574 Test I3	Fatigue - Constant Force Pounding <b>[NEW!]</b>	Apr-21			-
2010052	ASTM D3574 Test J	Steam Autoclave Aging <b>[NEW!]</b>	Apr-21			-
2010054	ASTM D3574 Test K	Dry Heat Aging <b>[NEW!]</b>	Apr-21			-
2010152	ASTM D3574 Test L	Wet Heat Aging <b>[NEW!]</b>	Apr-21			-
2010412	ASTM D3574 Test N	Hysteresis Loss <b>[NEW!]</b>	Apr-21			-

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## Board

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010058	EN 310 / DBL 5472	Modulus in bending - bending strength <b>[NEW!]</b>	Apr-21			-

## Composites - Fibre-reinforced plastics

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010971	EN 59 ASTM D2583	Barcol hardness	May-21			[A], [D]
2010060	EN 2564	Fibre-, resin- and void contents	May-21			-
2010726	ISO 14125	Flexural properties	May-21			[A], [D]
2010724	ISO 14126	Compressive properties	May-21			[A], [D]
2010725	ISO 14129	45° tension test method	May-21			[A], [D]
2010772	ISO 14130	Apparent interlaminar shear strength	May-21			[A], [D]
2010723	ISO 527-1/-4	Tensile test (isotropy, anisotropy)	May-21			[A], [D]
2010768	ISO 527-1/-5	Tensile test (unidirectional)	May-21			[A], [D]
2010522	ASTM D5379	Shear Properties (V-Notched Beam) <b>[NEW!]</b>	May-21			[A]
2010524	ISO 13003	Fatigue properties under cyclic loading conditions <b>[NEW!]</b>	May-21			-
2010062	ISO 2555	Apparent viscosity	May-21			-
2010068	ISO 3219	Viscosity rotational viscometer	May-21			-

## GRP pipes / cured-in-place pipes (CIPP) - Fibre-reinforced plastics

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010533	ASTM D638	Tensile test <b>[NEW!]</b>	May-21			-
2010535	ASTM D790	Flexural test <b>[NEW!]</b>	May-21			-
2010537	ISO 11296-4 annex B	Short-term flexural properties <b>[NEW!]</b> (ASTM F2019 appendix X2)	May-21			-

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### Geosynthetics (geomembrane)

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010901	ISO 527-1/-3	Tensile test geosynthetics	Mar-21			[A], [D]
2010902	ASTM D6693	Tensile Properties of PE/PP Geomembranes	Mar-21			-
2010903	ASTM D1004	Tear Resistance (Graves Tear)	Mar-21			-
2010904	ISO 12236	Static puncture Test (CBR-Test)	Mar-21			[A], [D]
2010905	ASTM D4833	Index Puncture Resistance	Mar-21			[A], [D]
2010912	DIN EN 14576	Stress Crack Resistance	Mar-21			[A], [D]
2010913	ASTM D5397	Stress Crack Resistance	Mar-21			[A], [D]
2010906	ISO 9863-1	Thickness at specified pressures (20 kPa)	Mar-21			[A], [D]
2010907	ASTM D5199	Measuring the Nominal Thickness	Mar-21			-
2010908	ASTM D5994	Measuring Core Thickness	Mar-21			-
2010909	EN 1107-2	Dimensional stability	Mar-21			[A], [D]
2010910	ASTM D7466	Asperity Height	Mar-21			-
2010759	ISO 11358	Carbon black content (TGA)	Mar-21			[A], [D]
2010876	ASTM D4218	Carbon black content (muffle-furnace)	Mar-21			[A], [D]
2010877	ASTM D5596	Dispersion of Carbon Black	Mar-21			[A], [D]

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## Textiles - Fabric properties

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010733	EN 12127 ISO 3801	Mass per unit area: natural or synthetic fibre materials both climats 23/50 or 20/65 possible	May-21			[A], [D]
2010983	freely selectable	Construction of fabric - woven and knitted fabric: number of threads / wales / course	May-21			[A], [D]
2010732	ISO 9073-2	Thickness of nonwovens	May-21			[A], [D]
2010070	ISO 9073-4	Tear resistance nonwovens	May-21			-
2010734	ISO 13934-1	Tensile properties - strip method	May-21			[A], [D]
2010837	ISO 13934-2	Tensile properties - grab method	May-21			[A], [D]
2010778	ISO 13937-1	Tear properties - Elmendorf method	May-21			[A], [D]
2010800	ISO 13937-2	Tear properties - trouser shaped specimen	May-21			[A], [D]
2010801	ISO 13937-3	Tear properties - wing shaped specimen	May-21			[A], [D]
2010802	ISO 12947-2	Abrasion resistance - Martindale	May-21			[A], [D]
2010803	ISO 12945-1	Pilling properties - Pilling box	May-21			[A], [D]
2010804	ISO 12945-2	Pilling properties - Martindale	May-21			[A], [D]
2010707	ICI TM 444 JIS L 1058	ICI Snagging resistance <b>[NEW!]</b>	May-21			-
2010841	ISO 13936-1/-2	Slippage resistance of yarns	May-21			[A], [D]
2010072	ISO 13935-1	Maximum force seam (strip method)	May-21			[A], [D]
2010842	ISO 13938-2	Bursting strength and bursting distension	May-21			[A], [D]
2010751	ISO 3071	PH value of textiles	May-21			[A], [D]
2010973	DIN 54278-1	Determination of materials soluble in organic solvents	May-21			-
2010836	ISO 11357-3	DSC-Analysis: Temp. and enthalpy of melting (woven goods)	May-21			[A], [D]
2011000	AATCC 197	Vertical Wicking of Textiles	May-21			-

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## Textiles - Functional properties

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010805	Diffuse / 8°-geometry	Colour measurement - $\Delta E$ , $\Delta L$ , $\Delta a$ , $\Delta b$	May-21			[A], [D]
2010806	acc. to Ganz	Whiteness measurement	May-21			[A], [D]
2010839	ISO 811	Hydrostatic pressure test	May-21			[A], [D]
2010830	ISO 9073-12	Demand absorbency	May-21			[A], [D]
2010997	AATCC 79	Absorbency of Textiles	May-21			-
2010840	ISO 5077   ISO 6330	Dimensional change in washing (drying method F)	May-21			[A], [D]
2010807	ISO 15797	Industrial washing and colour change (method 2 peracetic acid bleach)	May-21			[A], [D]
2010832	ISO 9237	Permeability of fabrics to air	May-21			[A], [D]
2010808	DIN 75200/ FMVSS 302	Burning rate of textiles	May-21			[A], [D]
2010995	ISO 11092	Thermal and water vapour resistance	May-21			[A]
2010237	ASTM E96 (BW)	Water Vapor Transmission (WVT) <b>[NEW!]</b>	May-21			-
2010074	ISO 4920 / AATCC 22	Spray test - surface wetting	May-21			[A], [D]
2010319	EN 29865	Bundesmann Rain-shower test	May-21			[A]
2010092	ISO 14419	Oil repellency	May-21			[A], [D]
2010514	EN 13758-1	Solar UV protective properties <b>[NEW!]</b>	May-21			-

## Individual fibres

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010975	ISO 1973	Linear density (4,4dtex to 15dtex)	May-21			-
2010976	ISO 5079	Breaking force and elongation at break (4,4dtex to 15dtex)	May-21			-

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## Textiles - Colour fastness

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010809	ISO 105-B02	Colour fastness to light - Xenon arc	May-20			[A], [D]
2010810	ISO 105-B04	Colour fastness to light - Xenon arc	May-20			[A], [D]
2010510	ISO 105-B07	Colour fastness to light - artificial perspiration <b>[NEW!]</b>	May-20			[A]
2010833	ISO 105-C06/C2S	Colour fastness to washing 60°	May-20			[A], [D]
2010735	ISO 105-X12	Colour fastness to rubbing - Crockmeter	May-20			[A], [D]
2010834	ISO 105-C08	Colour Fastness to washing	May-20			[A], [D]
2010835	ISO 105-D01	Colour Fastness to dry cleaning	May-20			[A], [D]
2010512	ISO 105-D02	Colour fastness to rubbing - organic solvents <b>[NEW!]</b>	May-20			[A]
2010752	ISO 105-E01	Colour Fastness to water	May-20			[A], [D]
2010223	ISO 105-E02	Colour Fastness to sea water	May-20			[A], [D]
2010229	ISO 105-E03	Colour Fastness to chlorinated water	May-20			[A], [D]
2010736	ISO 105-E04	Colour Fastness to perspiration	May-20			[A], [D]
2010992	ISO 105-E06	Colour fastness to spotting: Alkali	May-20			-
2010993	ISO 105-P01	Colour fastness by dry heat	May-20			[A]
2010231	ISO 105-X05	Colour fastness to organic solvents	May-20			[A]
2010235	ISO 105-X11	Colour fastness to hot pressing	May-20			[A]

## Textiles - Determination of fibre blends

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010974	not specified	Qualitative determination of a fibre blend	May-20			[A]
2011001	ISO 17751-1,-2	Quantitative analysis of cashmere, wool, other specialty animal fibers	May-20			-
2010737	ISO 1833-11	Quantitative determination of a fibre blend (PES-CO)	May-20			[A], [D]
2010776	ISO 1833-12	Quantitative determination of a fibre blend (Acrylic fibres)	May-20			[A], [D]
2010738	ISO 1833-4	Quantitative determination of a fibre blend (Protein fibres)	May-20			[A], [D]
2010739	ISO 1833-6	Quantitative determination of a fibre blend (Viscose fibres)	May-20			[A], [D]
2010740	ISO 1833-7	Quantitative determination of a fibre blend (Polyamide fibres)	May-20			[A], [D]

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## Leather

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010770	DBL 5307 FMVSS 302	Leather - burning rate	Apr-21			[A]
2010028	ISO 3376	Tensile test (strenght, extension)	Apr-21			[A]
2010030	ISO 3377-1	Tear load - single edge tear	Apr-21			[A]
2010032	ISO 3377-2	Tear load - double edge tear	Apr-21			[A]
2010066	ISO 2589	Thickness	Apr-21			[A]
2010713	ISO 11640	Colour fastness to cycles of rubbing	Apr-21			-
2010709	ISO 17186	Surface coating thickness	Apr-21			-
2010516	VDA 270	Odour test (variant D4 and D5) <b>[NEW!]</b>	Apr-21			[A]

Proficiency Tests for chemical leather testing can be found in the catalogue "consumer goods" or the online catalogue: e.g. metal content, preservatives, formaldehyde, chlorophenols, volatile substances, organotin compounds

## Coated fabrics

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010990	ISO 32100	Flex resistance (flexometer method)	May-21			[A]
2010991	ISO 1421	Tensile strength and elongation at break	May-21			[A]
2010150	ISO 2286-3	Thickness	May-21			-
2010086	ISO 7854-A	Resistance to damage by flexing (De Mattia)	May-21			-
2010088	ISO 7854-C	Resistance to damage by flexing (crumple/flex)	May-21			-
2010090	ISO 5470-2	Abrasion resistance (Martindale)	May-21			-

\* price for report by post plus 40 €

[A] = Proficiency test under scope of A2LA accreditation

[D] = Proficiency test under scope of DAkkS accreditation

For your registration we recommend to use our online catalogue (ODIN) or the registration forms on our homepage ([www.DRRR.de](http://www.DRRR.de)). You can also use the registration forms on page 35 of this catalogue.

## Slide fasteners (metal zips)

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010271	EN 16732 Annex B,F,G,I	Strength of puller attachment, resistance to reciprocation, lateral strength of slide fastener, strength of slider locking device	May-21			-

## Outsoles

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010705	ISO 17707	Flex resistance of outsoles [NEU!]	May-21			-

## Chemical textile testing:

Further Proficiency Tests for chemical textile testing can be found in the catalogue "consumer goods" or the online catalogue: e.g. heavy metals, formaldehyde, flame retardants, azo dyes, pesticides, chlorophenols, phthalates, PAH, organotin compounds

## Microbiology textile

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010076	AATCC 100	Antimicrobial Fabric Test	May-21			[A]
2010078	AATCC 147	Antibacterial Parallel Streak	May-21			[A]
2010080	ISO 20743 / AATCC 90	Antibacterial Activity	May-21			[A]
2010082	EN 16615	4-field test / microbial reduction textile	May-21			[A]

\* price for report by post plus 40 €

[A] = Proficiency test under scope of A2LA accreditation

[D] = Proficiency test under scope of DAkkS accreditation

## Proficiency tests - Personal protective equipment (PPE)

For your registration we recommend to use our online catalogue (ODIN) or the registration forms on our homepage ([www.DRRR.de](http://www.DRRR.de)). You can also use the registration forms on page 35 of this catalogue.

In cooperation with:



### Protective clothing (general)

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010094	EN 863	Puncture resistance [NEW!]	May-21			-
2010096	EN 1149-1	Surface resistivity [NEW!]	May-21			-
2010098	EN 1149-2	Vertical resistance [NEW!]	May-21			-
2010100	EN 1149-3	Charge decay [NEW!]	May-21			-
2010102	ISO 15025	Limited flame spread [NEW!]	May-21			-
2010104	ISO 9185	Resistance to molten metal splash [NEW!]	May-21			-

### Filtering half masks

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010551	EN 149+A1	Particle filter penetration (EN 13274-7) [NEW!]	May-21			-

### High visibility clothing (ISO 20471)

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010106	ISO 20471 / 5.1	Color measurement (background material) [NEW!]	May-21			-
2010108	ISO 20471 / 6.1	Retroreflection of (retroreflective material) [NEW!]	May-21			-

### Protective clothing against rain

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010110	EN 343 5.1.3.4 / 5.1.3.5	Resistance to water penetration after pretreatment flexing and fuel / oil [NEW!]	May-21			-

\* price for report by post plus 40 €

[A] = Proficiency test under scope of A2LA accreditation

[D] = Proficiency test under scope of DAkkS accreditation

For your registration we recommend to use our online catalogue (ODIN) or the registration forms on our homepage ([www.DRRR.de](http://www.DRRR.de)). You can also use the registration forms on page 35 of this catalogue.

### Electronic parts and components: [NEW!]

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010553	not specified	Network analyzer: s-parameters up to 8.5 GHz	Apr-21			-

### Acoustics: [NEW!]

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010531	ISO 3745	Sound pressure measurement of noise sources for anechoic and hemi-anechoic rooms	May-21			-

\* price for report by post plus 40 €

[A] = Proficiency test under scope of A2LA accreditation

[D] = Proficiency test under scope of DAkkS accreditation

For your registration we recommend to use our online catalogue (ODIN) or the registration forms on our homepage ([www.DRRR.de](http://www.DRRR.de)). You can also use the registration forms on page 35 of this catalogue.

## Hardened concrete

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010288	EN 12390-3 EN 12390-7	Density / Compressive strength	Dec-21			[A]
2010290	EN 12390-5	Flexural strength (2-point load application)	Dec-21			[A]
2010589	EN 12390-6	Tensile splitting strength <b>[NEW!]</b>	Dec-21			-
2010591	EN 12390-8	Depth of penetration of water under pressure <b>[NEW!]</b>	Dec-21			-
2010274	EN 12390-9	Freeze thaw resistance-scaling (plate method)	Dec-21			-
2010205	EN 14629	Chloride content	Dec-21			[A]
2010270	EN 450-1	Fly ash - Mass percentage of reactive CaO	Dec-21			[A]

## Fresh concrete

[sample preparation by the participant]

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010593	EN 12350-4,-5,-6,-7	Degree of compactability, flow table test, density and air content - pressure methods <b>[NEW!]</b>	Dec-21			-

## Cement

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010284	EN 196-1	Determination of strength	Nov-21			[A]
2010266	EN 196-2	Chloride content	Nov-21			[A]
2010268	EN 196-2	Loss of ignition	Nov-21			[A]
2010569	EN 196-2	Total sulphate content <b>[NEW!]</b>	Nov-21			-
2010595	EN 196-3	Setting times / soundness <b>[NEW!]</b>	Nov-21			-
2010597	EN 196-6	Fineness <b>[NEW!]</b>	Nov-21			-

\* price only valid by online result release and report in ODIN / price for result release by mail/fax plus 40 € / price for report by post plus 40 €

\*\* additional submitted result sheets by e-mail, post or fax will be charged as additional sample sets

[A] = Proficiency test under scope of A2LA accreditation

[D] = Proficiency test under scope of DAkkS accreditation

For your registration we recommend to use our online catalogue (ODIN) or the registration forms on our homepage ([www.DRRR.de](http://www.DRRR.de)). You can also use the registration forms on page 35 of this catalogue.

## Mortar for masonry

[sample preparation by the participant]

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010599	EN 1015-1	Particle size distribution (by sieve analysis) <b>[NEW!]</b>	Dec-21			-
2010601	EN 1015-3, -6, -7	Consistence, bulk density and air content of fresh mortar <b>[NEW!]</b>	Dec-21			-
2010276	EN 1015-10	Dry bulk density	Dec-21			[A]
2010298	EN 1015-11	Flexural and compressive strength	Dec-21			[A]
2010300	EN 1015-12	Adhesive strength of hardened mortars	Dec-21			-

## Screed mortar

[sample preparation by the participant]

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010302	EN 13892-2	Flexural and compressive strength	Dec-21			[A]

## Masonry units **[NEW!]**

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010603	EN 772-1	Compressive strength	Nov-21			-
2010605	EN 772-21	Water absorption by cold water absorption	Nov-21			-

## Mineral building materials **[NEW!]**

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010571	ISO 12570	Moisture content - drying at elevated temperature	Dec-21			-
2010573	ISO 12571	Hygroscopic sorption properties	Dec-21			-

\* price only valid by online result release and report in ODIN / price for result release by mail/fax plus 40 € / price for report by post plus 40 €

\*\* additional submitted result sheets by e-mail, post or fax will be charged as additional sample sets

[A] = Proficiency test under scope of A2LA accreditation

[D] = Proficiency test under scope of DAkkS accreditation

For your registration we recommend to use our online catalogue (ODIN) or the registration forms on our homepage ([www.DRRR.de](http://www.DRRR.de)). You can also use the registration forms on page 35 of this catalogue.

### Aggregates [NEW!]

2010611	EN 933-1	Particle size distribution - Sieving method	Nov-21			-
2010613	EN 933-4	Particle shape - Shape index	Nov-21			-
2010575	EN 1097-3	Loose bulk density and voids	Nov-21			-
2010577	EN 1097-5	Water content by drying in a ventilated oven	Nov-21			-
2010579	EN 1097-6	Particle density and water absorption	Nov-21			-
2010581	EN 1744-1 (cl. 7)	Water-soluble chloride salts - Volhard method	Nov-21			-
2010583	EN 1744-1 (cl. 11)	Total sulfur content	Nov-21			-
2010585	EN 1744-1 (cl. 12)	Acid soluble sulfates	Nov-21			-

### Thermal insulating material

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010587	EN 1602	Apparent density [NEW!]	Dec-21			-
2010607	EN 1607	Tensile strength perpendicular to faces [NEW!]	Dec-21			-
2010609	EN 826	Compression behaviour [NEW!]	Dec-21			-
2010286	EN 29052-1	Acoustics determination of dynamic stiffness	Dec-21			[A]
2010280	EN 12667	Heat transfer	Dec-21			[A]

### Other building material

Art. No.	Standard	Proficiency testing type	period	Price*	Additional samples	Accreditation
2010282	EN ISO 15148	Water absorption coefficient by partial immersion	Nov-21			[A]

\* price only valid by online result release and report in ODIN / price for result release by mail/fax plus 40 € / price for report by post plus 40 €

\*\* additional submitted result sheets by e-mail, post or fax will be charged as additional sample sets

[A] = Proficiency test under scope of A2LA accreditation

[D] = Proficiency test under scope of DAkkS accreditation

Article No. / proficiency testing type	period	result release and report online (ODIN)	result release by e-mail / fax; report by e-mail	report by postal delivery	additional sample sets

Up to nine additional result sheets can be returned for chemical-physical, microbiological and physical-mechanical proficiency testing rounds are free of charge. As a participant, you benefit from our international recognized proficiency testing schemes. By submitting up to ten result sheets you are now enabled to run international comparisons to check different methods and different lab technicians with one proficiency testing round. Your benefit: Participating in DRRR-proficiency testing services save costs for your quality assurance! If you need additional sample sets, you have the opportunity to order it according to our latest product catalogue.

**Please note, that the free of charge service is only valid for returning result sheets by ODIN. If you send us your results by mail, fax or postal delivery, the additional result sheet will be charged according the latest product catalogue as a sample set equivalent.**

In very rare individual cases an accredited proficiency testing round will not be carried out within the scope of accreditation due to technical or organizational reasons. In these rare cases the DRRR will inform the participants before the start of the proficiency testing round, thus before the sample shipment. An immediately free cancellation for the participants is possible until the date of the sample shipment.

Your registration is an one-time order. It is only valid for one year. Cancellation fees apply when cancelling a registration. If you want to have a permanent-registration please tick the box on the right side.

Please send registration to:  
 fax-no. +49 (0)8 31/960 878-99  
 e-mail: [info@DRRR.de](mailto:info@DRRR.de)  
 online via [www.drrr.de/en/odin](http://www.drrr.de/en/odin)

- this registration is permanent-registration and valid until my cancellation
- An offer with the total costs is needed
- A Purchase order from the purchasing department will follow

**DRRR-customer number** \_\_\_\_\_

**company** \_\_\_\_\_

**company (additional line)** \_\_\_\_\_

**contact person** \_\_\_\_\_

**street** \_\_\_\_\_

**post-code /city** \_\_\_\_\_

**country (if not Germany)** \_\_\_\_\_

**fon** \_\_\_\_\_

**fax** \_\_\_\_\_

**e-mail** \_\_\_\_\_

**VAT-ID-No. (if available)** \_\_\_\_\_

With your signature you agree with our general terms and conditions.

\_\_\_\_\_ date

\_\_\_\_\_ signature

## Importance

Reference material is a substance or item with one or more defined (known) characteristics and sufficient homogeneity.

## Description

## Benefit certified reference material

These materials are suitable for the calibration of equipment, for the quality assurance of testing methods or to analyse derivative reference materials. DRRR-Reference materials are essential for the chemical, physical and mechanical testing as well as for the quality assurance. Standards for the accreditation of testing and calibration laboratories demand the using of reference materials.

The use of reference materials (RM) and certified reference materials (CRM) is an important procedure to avoid mistakes in the lab routine.

**Profit with our high quality standards for your lab work**

## Characteristics

- the reference value is developed by the total number of results of the participants of proficiency testing (consensus value)
- DRRR-Reference materials do always refer to a DRRR-Proficiency testing
- reliable reference values according to advanced statistical evaluation
- independent service without influence of societies organisations and federations

**Reference materials meet all requirements of the ISO Guides 31 and 35, but it does not exist any accreditation for reference material**

The opportunity to collaborate with the best laboratories for the different requirements assures the high quality of our materials.

## Availability

For all Proficiency testing schemes in this catalogue reference material is available. You can contact us for price information or for currently available reference materials.

**Availability and order request**

We have collected wide experience in building up and operating process orientated quality management systems. Our experience is based on an intensive quality management qualification (DQG –EOQ quality manager). Feedback of our costumers gives us a wide overview about the various requirements that companies have to pass at audit situations.

As a qualified and examined auditor (DGQ-EOQ auditor quality, TGA) we are capable to estimate a company from different perspectives if quality management system is fit for audit and following we can show potentials for improvement.

**On the basis of our international activities we also have experience in building up and implementation of quality management systems in developing countries. We place our services at your disposal for international questions.**

**Please do not hesitate to contact us.**

We offer assistance for the following questions:

- building up process orientated quality management
- building up of a secure testing agent system
- assessment of quality systems in preparation for audits
- advice in operating effective quality management systems

With our expertise in interpreting ISO 9001 over IFS to DIN 17025 we serve companies of food economy and laboratories.

### IR-Seminar

The IR-seminar explains how to analyze different kind of food by IR spectroscopy. Furthermore specific peculiarities for the IR calibration of selected food will be discussed. The specific peculiarities of the calibration will be explained intensify. How to calibrate? When you have to update the calibration? What is the cause of measurement problems?

**The seminar will be complemented by theoretical exercises on IR spectroscopy. In the practical exercise calibration data sets will be tested for suitability and critical data sets will be identified.**

### Sensory seminar

The importance of the sensory in the food stuff industry will be explained and clarified in practice. The current state of new tastes is presented. Furthermore the participant will be enabling to apply the sensory testing methods. The use of sensory methods will be explained and on the basis of various sensory materials implemented.

**The sensory measurement uncertainty of each participant will be determined at a practical example.**

### User-Workshop

Typical questions in the chemical and microbiological analysis of food, especially dairy products are presented and possible solutions will be demonstrated.

**A lot of space for the exchanging of knowledge and experience is provided at the User-Workshop. Therefore some experts are available as contact persons.**

Furthermore efficient ways to increase the laboratory quality will be presented. The seminar is accompanied by the practical experience of users.

### Statistics seminar for beginners

This seminar presents the Binomial-, Poisson- and Normal distribution and the application of them. Problem cases and the classic misinterpretation due to a false outlier treatment by the application of the Normal distribution are shown.

**The seminar is complemented by practical exercises with the notebook.**

### Statistics seminar for advanced learners

This seminar presents the Shapiro-Wilk-Test,  $q_{i^2}$ -adaptation test, Median and MAD (Median absolute deviation) and their application. Furthermore the participants will be informed about the robust standard deviation after Q-method and the robust average after Hampel.

**The seminar is complemented by practical exercises with the notebook.**

### Implementation of DIN EN ISO/IEC 17025 in food laboratories

The participants will learn all items to implement a successful internal audit. Furthermore typical errors of the implementation of the audit will be targeted and avoidance strategies are communicated. The reliable identification of the deviation in audits and their successful processing in the form of measures will be trained.

### Inhouse-Training

We consider lectures, training and seminars as in important duty. Not primary concerning commercial possibilities but by reason that the knowledge transfer is the most important item in every department of our society.

- Seminar and training (one-day) of handling and implementation of proficiency testing
- Seminar and training (one-day) of operating control charts
- Seminar and training of sensory (customised product sensory)

**You will benefit of the extensive experience of the DRRR, because the DRRR go through the audit situation in a perspective of 360 ° as an auditor, as an audited person and as a neutral expert.**

**For special requirements we also offer customised training programmes.**

**For questions about contents and conditions do no hesitate to contact us.**

## Terms of payment

Our prices are net prices (plus 19% value added tax). Customers from European countries can provide us with their EU-VAT-Identification number, then they will be exempt from German value added tax.

Terms of payment: 8 days net, without deduction

Fees for specially required customs documents such as import permits or similar will be invoiced according to time and effort.

Our bank details:

Raiffeisenbank in Allgäuer Land / bank code 733 692 64

Account 102350 / IBAN DE 94733692640000102350

BIC code: GENO DEF1DTA

Sales tax ID no. DE254613132

tax number 127/124/32207

## Terms of delivery

Shipping costs for reference materials and proficiency tests will be invoiced according to time and effort. All samples and packaging materials are the property of the DRRR. Samples that are used for non-destructive testing and are therefore not subject to destruction in the course of the proficiency test can be reclaimed by the DRRR upon request. The DRRR shall bear the shipping costs for the return transport if the materials are reclaimed.

Proficiency tests or reference materials marked “frozen” are shipped with our ADR safety tested frozen packaging system. A packaging fee is charged for the polystyrene box including cooling accumulators and air bubble film as well as the protective outer packaging. Frozen materials are shipped by express service. With the delivery of reference materials, you will receive a quality certificate with the details of the respective reference values as well as associated uncertainties.

## Terms of delivery (risk group 1, 2 and 3)

Proficiency tests or reference materials marked with “Risk Group 1” are not subject to any participation restrictions according to § 44 IfSG (Infektionsschutzgesetz).

For proficiency tests or reference materials marked with “risk group 2, or risk group 3\*\*”, we need a permission from your laboratory according to § 44 IfSG (Infektionsschutzgesetz) or similar. Please enclose a copy of the permission with your registration or order.

Our general terms and conditions (Allgemeine Geschäftsbedingungen) are valid!

**The German reference office for proficiency testing and reference materials GmbH (hereinafter referred to as DRRR) for freely agreed services, in particular testing, training and expert activities as well as reference materials.**

## § 1 General terms and conditions

The client acknowledges the General Terms and Conditions and price lists valid at the time of placing the order. Deviating terms and conditions of individual clients cannot be accepted.

Collateral agreements, promises and other declarations by the employees of the DRRR are only binding if they are expressly confirmed in writing by the DRRR. This shall also apply to amendments to this clause.

If individual regulations within this contract or its components are ineffective, this does not affect the validity of the remaining regulations. The contracting parties shall have a duty, acting in accordance with the principles of good faith, to replace any invalid provision by one which is valid and which produces the same economic outcome as that intended by the invalid provision and providing that such replacement does not result in any change to the content of the contract; the same shall also apply analogously to any matter which requires regulation but for which no provision is made in these Terms and Conditions.

## § 2 Execution of the order

The orders accepted by the DRRR shall be carried out or expert opinions shall be prepared in accordance with the recognized rules of technology and – unless otherwise agreed in writing – in the manner customary at the DRRR. No responsibility shall be assumed for the correctness of the safety programs or safety regulations on which the tests are based, unless expressly agreed otherwise in writing.

The scope of the DRRR's work shall be specified in writing when the order is placed. If the proper execution of the order results in changes or extensions to the specified scope of the order, such changes or extensions shall be agreed in writing prior to execution. If the Customer can no longer be reasonably expected to adhere to the contract with regard to the changes or extensions, the Customer shall in this case be entitled to withdraw from the contract. However, according to § 649 BGB, the client must pay the agreed remuneration or, in the absence of an agreement, an appropriate remuneration.

The contractual services of the DRRR are deemed to have been rendered upon preparation of the respective final reports or expert reports.

A seminar registration can be cancelled free of charge for up to 6 weeks, after which the customer will be invoiced for the costs of the participants depending on the time and effort involved.

The following cancellation conditions apply to the cancellation of a proficiency testing:

<b>Cancellation notification period:</b>	Permanent registration (D)
	single (one-time) registration (E)
up to 3 months before the proficiency testing	no costs (D)
	50,00 € (E)
3 months before the proficiency testing start	50,00 € (D)
	half proficiency testing price (E)
sample shipment – deadline of the results	complete price of the proficiency testing and any further incurred costs (D & E)

## § 3 Deadlines

The order deadlines specified by the DRRR shall not be binding unless their binding nature has been expressly agreed in written form.

#### § 4 Warranty and liability

The integrity of the sample material to a defined condition is only guaranteed until the first border crossing in the case of foreign shipments.

Safety note: When sending materials of risk group 2, the DRRR must receive a letter from the recipient stating that the recipient is authorized to handle hazardous materials (e.g. pathogenic germs).

The DRRR's warranty only covers the services expressly commissioned to it pursuant to Section 2.

No warranty is thereby assumed for the correctness and functioning of the relevant overall system, measuring instruments or materials to which the examined or tested samples belong; in particular, the DRRR bears no responsibility for packaging, material selection and construction of the examined systems, measuring instruments or assemblies, unless these issues are expressly the subject of the order.

Even in the latter case, the warranty obligation and legal responsibility of the manufacturer are neither limited nor assumed.

The warranty obligation of the DRRR is limited to the rectification of an error or defect or, in the absence of a warranted characteristic, to the achievement of this characteristic within a reasonable period of time. If the rectification or creation of the characteristic fails, i.e. if it becomes impossible or unreasonable for the Customer or is refused or unduly delayed by the DRRR, the Customer shall be entitled to demand a reduction in the remuneration or rescission of the contract, at its discretion.

The DRRR shall not be liable for any work performed by the Customer in the event of incorrect proficiency tests or reference materials.

The DRRR only assumes liability for certain properties, in particular for the fact that the service is suitable for the purposes of the Customer, if a corresponding assurance of the properties in question has been given. Any liability for consequential damages from positive breach of contract due to warranted characteristics is excluded, unless the warranty was intended to protect against such consequential damages. Claims for damages of the client from §§ 463, 635 BGB due to the lack of assured characteristics remain unaffected.

If an error or defect that does not represent the absence of a warranted characteristic is due to a circumstance for which the DRRR is responsible, the DRRR shall only be liable for any damage incurred by the Customer as a result thereof per order up to a maximum amount that corresponds to the value of the order agreed in accordance with Section 2.

The materials may only be used for the corresponding scientific purpose by trained qualified personnel. The DRRR is in no case responsible and liable for used, unused or unusable samples.

The samples are intended for analytical purposes only. The DRRR assumes no liability if the samples are not used for the intended analytical purposes.

All materials are definitely not suitable for human consumption unless they are sensory materials. Oral ingestion of materials not intended for sensory purposes can be harmful to health.

In the case of sensory materials, it is the responsibility of the test persons themselves to check whether they can test the materials with regard to allergies. The ingredients of the sensory materials are declared.

All samples and packaging materials are the property of the DRRR. Samples that are used for non-destructive testing and are therefore not subject to destruction in the course of the interlaboratory comparison can be reclaimed by the DRRR upon request. The DRRR will bear the shipping costs for the return transport, if the materials are reclaimed.

The analytical properties of the material can only be guaranteed if the transport, storage and use conditions specified by the DRRR are observed.

For frozen samples, the DRRR only guarantees that the samples will be treated in accordance with the material properties stated in the data sheet. For frozen samples delivered to countries outside the EU, we can only guarantee the sample properties up to the first customs clearance point at the respective EU border.

#### § 5 Exclusion of further liability and claims

The risk (transport and remuneration risk) shall pass to the Customer as soon as the goods have left the DRRR, regardless of whether the goods are transported by the Customer's own or third-party means of transport.

Claims for damages by the client are excluded. This does not apply to intent, gross negligence, breach of essential contractual obligations of the DRRR or the lack of properties guaranteed in writing.

All further claims of the client for direct and indirect damage – for whatever legal reason – in particular claims for damages due to positive breach of contract or from tort and for compensation for damage that did not occur on the object of the order itself are excluded. Irrespective of this, the client is obliged to take out the usual insurance against direct and indirect damage.

### § 6 Remuneration and payment terms

Unless otherwise stated, the prices are in euros and do not include value added tax. This will be invoiced separately at the currently applicable rate in accordance with the applicable tax regulations.

The goods remain the property of DRRR until they have been paid for in full by the customer.

The fees according to the DRRR's currently valid List of Services shall apply to the calculation of the services unless a fixed price or another basis of assessment has been expressly agreed in writing. In the absence of a valid specification of services, individual contractual arrangements shall be made in each case.

Advances on costs can be requested. Partial invoices can also be issued in accordance with the services rendered. Partial invoices need not be marked as such. The receipt of an invoice does not mean that the DRRR has fully invoiced the order.

The fees are due for payment immediately after invoicing, at the latest by the date printed on the invoice (8 days net, without deduction). Unless another arrangement has been made. If payment is made at a later date, default interest of 2% above EURIBOR will be charged on the outstanding invoice amount for the period between the due date and receipt of payment.

Objections to the invoices of the DRRR must be notified in writing within a preclusive period of 14 days after receipt of the invoice, stating reasons.

### § 7 Confidentiality and copyright

The DRRR reserves the copyrights to the expert opinions, test results, calculations, etc. prepared by it.

The DRRR and its employees may not unauthorizedly disclose or exploit business and operating relationships that come to their knowledge in the course of their work.

The DRRR may take copies for its files of written documents that have been made available to the DRRR for inspection and that are of importance for the performance of the assignment.

If the proficiency test report and the laboratory code are sent by e-mail, no guarantee can be given that confidentiality will be ensured.

### § 8 Place of jurisdiction, place of performance, applicable law

The place of jurisdiction for the assertion of claims for both parties to the contract is Kempten, provided that the conditions according to § 38 of the German Code of Civil Procedure are met. This applies in particular to dunning proceedings.

The place of performance for all obligations arising from the contract is Kempten, the contractor's registered office.

The contractual relationship and all legal relationships are subject exclusively to the law of the Federal Republic of Germany applicable between domestic contracting parties, excluding the Uniform Law on the Sale of Goods and the United Nations Convention on Contracts for the International Sale of Goods.

### § 9 Guarantee of services and goods from cooperation partners

For reference materials sold on behalf of our cooperation partners, the following conditions apply with regard to liability and warranty:

The liability of our cooperation partners, their legal representatives and vicarious agents is limited to cases of intent, gross negligence, absence of a warranted characteristic and breach of an obligation, the non-compliance of which would endanger the purpose of the contract. The liability for proven damages due to grossly negligent conduct is limited to the amount of the contractual remuneration; no liability is assumed for consequential damages. Liability is limited to the use of the reference materials for the purposes described in the respective certificate.

Our cooperation partners guarantee the application of scientific diligence as well as compliance with the recognized rules of technology.

Our cooperation partners are entitled to rectify any defects that occur. If the rectification of defects fails, the client is entitled to demand a reduction of the remuneration or cancellation of the contract at his discretion. Further warranty claims are excluded.

The warranty is limited to the stated expiration date of the reference materials.

This applies to: ieLab, TGZ AQS Baden-Württemberg