

## **Material testing**

# Product catalogue 2025



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z'-score > 2: What to do?

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### **DRRR** - The company



### 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.

Accreditation ISO/IEC 17043:2023 (A2LA)

The DRRR is an accredited proficiency testing provider by A2LA according to ISO/IEC 17043:2023. The accreditation is only valid for the matrices/parameters listed on the A2LA scope of accreditation certificate [#5494.01].

Whether a proficiency test is covered or not covered by the scope of accreditation by A2LA can be viewed in our online portal (ODIN).

More than 500 PT's per year

Accredited PT-provider





#### 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].

Whether a proficiency test is covered or not covered by the scope of accreditation by DAkkS can be viewed in our online portal (ODIN).

#### 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.

#### **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.

High-quality reference material

Any time competent contact persons

### **Proficiency testing**



#### **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 laboartories 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

### **Individual Proficiency testing**



In addition to our standard programme, DRRR GmbH can organise customer-specific proficiency tests that are individually designed to your needs. Due to many years of experience in a wide range of testing and analytical areas, we are your contact for such queries.

Your customised proficiency test

Examples of customised proficiency tests carried out by DRRR:

- Qualification programmes for the automotive industry
- Qualification programmes for the textile industry
- Proficiency tests to verify methodological expertise in the area of consumer goods
- Group-wide proficiency tests to improve comparability in the area of consumer goods
- Qualification programmes in the area of food monitoring
- Association-specific proficiency tests for the fruit juice industry

Benefit from our high quality standards in all important fields of testing.

Your proficiency testing project is planned in close co-operation with the project partners. Depending on your requirements, all steps, from registration to report, can be taken over.

Statistical know-how, expertise and the established, customer-oriented processes of the DRRR ensure the successful organisation of your proficiency testing project.

Get in touch with us.

We look forward to working with

# Proficiency tests - Thermoplastics



Art. no.	Standard	Proficiency testing type [A]	Period	To view pricing information:
Plast	tics - mechanical properties	(ISO):		Login or register
2010988	ISO 527-1,-2	Tensile test	Apr-25	
2010765	ISO 527-1,-2	Tensile Test at +80°C	Apr-25	
2010766	ISO 527-1,-2	Tensile Test at -30°C	Apr-25	
2010881	ISO 899-1	Tensile creep	Apr-25	
2010989	ISO 178	Flexural test	Apr-25	
2010004	ISO 16770	Full-notch creep test (FNCT)	Apr-25	
2010756	ISO 604	Compression test (strength, elongation)	Apr-25	
2010773	ISO 179-1 (1eU)	Charpy impact	Apr-25	
2010782	ISO 179-1 (1eA)	Notched Charpy impact	Apr-25	
2010824	ISO 179-1	Charpy impact at -30°C	Apr-25	
2010774	ISO 180	Izod impact	Apr-25	
2010884	DIN 53435	Impact test on dynstat test specimens	Apr-25	
2010885	DIN 53435	Bending test on dynstat test specimens	Apr-25	
2010977	ISO 8256	Tensile-impact strength	Apr-25	
2010882	ISO 6603-2	Instrumented impact test	Apr-25	
2010757	ISO 6721-5	Dynamic-mechanical-Analysis (DMA)	Apr-25	
Plast	tics - mechanical properties	(ASTM):		
2010886	ASTM D638	Tensile test	Apr-25	
2010888	ASTM D790	Flexural test	Apr-25	
2010006	ASTM D256	Izod impact properties +23 °C	Apr-25	
2010883	ASTM D3763	Instrumented impact test	Apr-25	
Spec	imen injection moulding (ty	pe 1A):		
2010785	ISO 527-1,-2	Injection moulding of specimen (type 1A) and tensile test	Apr-25	
2010786	ISO 178	Injection moulding of specimen (type 1A) and flexural test	Apr-25	
2010787	ISO 179-1	Injection moulding of specimen (type 1A) and Charpy impact resistance	Apr-25	
Cutti	ng of specimen:			
2010813	ISO 527-1,-2	Cutting of specimen (type 1B) and tensile test	Apr-25	
2010814	ISO 527-1,-2	Cutting of specimen (type 5A) and tensile test	Apr-25	
Plast	tics - polyamide 6 and 6.6:	_		
2010815	ISO 527-1,-2	Tensile test polyamide 6 and 66	Apr-25	
2010813	ISO 178	Flexural test polyamide 6 and 66	Apr-25	
2010817	ISO 179-1	Charpy flexural impact test polyamide 6 and 66	Apr-25	
	ics - Dimensions of test spe		•	
2010978	freely selectable	Width and thickness of specimen (type 1A)	Apr-25	
Plast	tics - water content   water	absorption:		
2010793	ISO 15512	Water content (Karl-Fischer)	Apr-25	
	ISO 15512	Water content (Aquatrac®) CaH2-Method	Apr-25	
2010865				

# **Proficiency tests - Thermoplastics**



Art. no.	Standard	Proficiency testing type [A]	Period	To view pricing information:			
Plast	Plastics - density   hardness   ash content:						
2010769	ISO 1183-1 and ASTM D792 (Apr.)	Density	Apr-25				
2010984	ISO 1183-1 and ASTM D792 (Oct.)	Density	Oct-25				
2010741	ISO 1172 and ISO 3451-1	Ash content	Apr-25				
2010651	ASTM D5630	Ash content	Apr-25				
2010742	ISO 868	Shore-D-Hardness	Apr-25				
2010811	ISO 2039-1	Ball indentation hardness	Apr-25				
Plast	ics - rheological properties:						
2010825	ISO 1133-1 and ASTM D1238 (Mar.)	Melt flow and volume index (MFR-MVR)	Mar-25				
2010008	ISO 1133-1 and ASTM D1238 (Oct.)	Melt flow and volume index (MFR-MVR)	Oct-25				
2010861	ISO 1133	Melt flow - volume rate (high temperature above 300°C)	Mar-25				
2010213	ISO 1133-2	MFR-MVR (moisture sensitive material)	Mar-25				
2010795	ISO 307	Viscosity number (sulfuric acid)	Mar-25				
2010858	ISO 307	Viscosity number (formic acid)	Mar-25				
2010859	ISO 1628-5	Viscosity number of PBT	Mar-25				
2010788	ISO 11443	Fluidity of plastics - capillary rheometer	Mar-25				
2010789	ISO 6721-10	Complex shear viscosity (parallel-plate)	Mar-25				
Plast	ics - thermal properties, Infr	ared spectroscopy:					
2010743	ISO 11357-3 and ASTM D3418 (Mar.)	DSC-analysis - Melting temperature and enthalpy	Mar-25				
2010985	ISO 11357-3 and ASTM D3418 (Oct.)	DSC-analysis - Melting temperature and enthalpy	Oct-25				
2010854	ISO 11357-2 and ASTM D3418	DSC-analysis - Glass transition temperature	Mar-25				
2010855	ISO 11357-6 and ASTM D3895	DSC-analysis - Oxidation Induction time (OIT)	Mar-25				
2010297	ISO 11357-4	DSC-Analysis - specific heat capacity	Mar-25				
2010745	ISO 11358	Thermogravimetry (TGA) - filler content	Mar-25				
2010653	ASTM E1131	Thermogravimetry (TGA) - filler content	Mar-25				
2010303	ISO 6964	Carbon black content calcination and pyrolysis	Mar-25				
2010758	ISO 11359	Coefficient of linear thermal expansion (CTLE)	Apr-25				
2010775	ISO 306	Vicat softening point	Apr-25				
2010790	ISO 75	Temperature of deflection under load	Apr-25				
2010818	freely selectable	Quantitative Infrared spectroscopy	Mar-25				
Reco	mmendation from category "	consumer goods":					
2010210	freely selectable	Identification of plastic granulates	Mar-25				
2010167	freely selectable	Identification PA types (e.g. PA6, PA 11)	Mar-25				
Plast	ics - emissions:						
2010851	VDA 270 - PV 3900	Odourtest	Mar-25				
2010555	GMW 3205	Odour test	Mar-25				
2010869	VDA 275 - PV 3925	Formaldehyde emission	Mar-25				
2010843	VDA 277 - PV 3341	Total carbon emission	Mar-25				
2010870	VDA 278	Thermal desorption analysis	Mar-25				
2010797	DIN 75201	Fogging behaviour (method A)	Mar-25				
2010557	GMW 3235	Fogging behaviour (method A)	Mar-25				
2010798	DIN 75201 - PV 3015	Fogging behaviour (method B)	Mar-25				
2010559	GMW 3235	Fogging behaviour (method B)	Mar-25				

# **Proficiency tests - Thermoplastics**



Art. no.	Standard	Proficiency testing type [A]	Period	To view pricing information:
Plast	ics - surfaces:			Login or register
2010722	ISO 2813	Specular gloss	Mar-25	
2010649	ASTM D523	Specular Gloss	Mar-25	
2010821	DIN 53236-A	Colour Measurement 8°	Mar-25	
2010771	DIN 53236-B	Colour Measurement 45°	Mar-25	
2011106	VW 50195	Automotive Paint Finish - Colorimetric Evaluation	May-25	
2010822	PV 3952	Scratch resistance	Mar-25	
2010823	ISO 1518-1	Erichsen Hardness test pencil	Mar-25	
2011049	ISO 22557	Scratch test spring-loaded pen	Mar-25	
010871	ISO 19403-2	Contact angle and surface energy	Mar-25	
010893	ISO 9352	Abrasion by abrasive wheels (Taber)	Mar-25	
2010981	PV 3987	Micro scratch resistance	Jan-25	
2010699	PV 3974	Mar Resistance of Surfaces	Apr-25	
2010719	PV 3991	Skin abrasion test	Apr-25	
2010693	PV 3966	Stress Whitening Properties (Ball Drop Test)	Apr-25	
2010717	PV 3989	Ball Drop Test	Apr-25	
2011205	ISO 8296, ASTM D2578	Wetting tension (red test ink)	May-25	
011206	ISO 8296, ASTM D2578	Wetting tension (green test ink)	May-25	
Plast 2010972	ics - paintwork:	Cross-cutting test	May-25	
2010539	PV 3964	Cream resistance	, May-25	
2010849	DBL 5425	Multiple stone impact test	May-25	
2010221	ISO 20567-1	Multiple stone impact test	May-25	
2011042	SAE J400	Chip Resistance	May-25	
2010845	DBL 5425	Steam jet test	May-25	
2010703	TL 211 (ISO 16925-C)	Steam-jet test	May-25	
011045	IEC 60068-2-70	Abrasion caused by rubbing	May-25	
010217	PV 1200	Environmental Cycle Test	May-25	
010541	ISO 2808 (6A, Var. 1)	Film thickness - Cross sectioning by grinding	May-25	
2010641	ISO 2808 (6A, Var. 2)	Film thickness - Cross sectioning by cutting	May-25	
2010543	DBL 5425 (A.1.17)	Wash scratch resistance (Amtec-Kistler)	May-25	
2010545	DBL 5425 (A.1.17)	Wipe scratch resistance (Crockmeter)	May-25	
2010721	PV 3.3.3	Scratch Resistance of Clear Coats	May-25	
Plast	ics - electroplating:			
2010239	ISO 1456 (ISO 1463, ISO 2177)	Coating thickness (Cu-Ni-Cr)	May-25	
2010241	ISO 16866, ASTM B764	Coating thicknesses, potential difference (nickel layers)	May-25	
2010243	DIN 53100	Number of micropores - microcracks	May-25	
2010219	DBL 1665	Corrosion testing CASS (48 h)	May-25	
2010661	PV 1058	Micro-crack pattern	May-25	
2010663	PV 1063	Micropore Density	May-25	
2010665	PV 1065	Potential Differences, Layer Thicknesses of Nickel	Sep-25	

# Proficiency tests - Thermoplastics



Art. no.	Standard	Proficiency testing type [A]	Period	To view pricing information:	
Plast	Plastics - Light fastness / Exposure tests			Login or register	
	Evaluation: Color change with grey scale and				
2010799	ISO 105-B06	Light fastness	Apr-25	[P]	
2010667	PV 1303	Xenon Arc Light Aging	Mar-25		
2010867	ISO 4892-2	Light fastness Xenon Arc light (cycle 1)	Apr-25	[P]	
2010866	ASTM G155	Light fastness Xenon Arc light (cycle 1)	Apr-25	[P]	
2010868	ISO 4892-3 and ASTM G154	Exposure to laboratory light (UV lamps)	Apr-25	[P]	
2010128	PV 3929	Weathering (Dry, Hot) - Kalahari test	Apr-25		
2010130	PV 3930	Weathering (Humid, Hot) - Florida test	Apr-25		
2010846	DIN 75220 D-IN1-T, VDA 230-219	Sunlight simulation	Apr-25	[P]	
		[P] = return of the tested samples is required			
2010016	Evaluation: Change of mechanical properties  ISO 4892-2	Light fastness cycle 1 (mechanics)	Apr-25		
2010016	130 4892-2	Light fastiless cycle 1 (mechanics)	Арт-25		
Asse	Assessing - Change in colour / Staining / Blistering:				
2010026	ISO 105 A02, A03	Visual evaluation with grey scale	Apr-25		
2010919	ISO 105 A04, A05	Instrumental assessment	Apr-25		
2010701	ISO 4628-2	Degree of blistering (quantity and size)	Apr-25		
2011046	ISO 4628-3	Degree of rusting	Apr-25		

# **Proficiency tests - Thermoplastics | Pipes**



Art. no.	Standard	Proficiency testing type [A]	Period	To view pricing information:
Burn	ing behaviour / Fire hazard	/ Electrical properties:		Login or register
2010819	FMVSS 302 and DIN 75200	Plastics - burning rate	Mar-25	l
2010862	UL 94 HB and IEC 60695-11-10	Burning rate	Mar-25	
2010863	UL 94 V and IEC 60695-11-10	Burning rate	Mar-25	
2010655	TL 1010	Burning behavior	Mar-25	
2010659	TL 1011	Flammability	Mar-25	
2010547	IEC 62631-3-2, VDE 0307-3-2	Surface resistance	May-25	
2010549	IEC 62631-3-1, VDE 0307-3-1	Volume resistivity	May-25	
2010864	IEC 60695-2-13	Glow wire ignitability temperature (GWIT)	Mar-25	
2010979	IEC 60112	CTI – Tracking	Mar-25	
Plast	tic pipes / pipe materials (P	E)		
2010792	ISO 1167-1 -2	Resistance to internal pressure	Mar-25	l
2010890	ISO 17454	Adhesion of multilayer pipes	Mar-25	
2010891	ISO 9969	Thermoplastics pipes - ring stiffness	Mar-25	
2010980	freely selectable	Wall thickness measurement of plastic pipes	Mar-25	
2010004	ISO 16770	Full-notch creep test (FNCT)	Apr-25	
2010118	ISO 18488	Strain Hardening Modulus	Apr-25	
2010120	ISO 18489	Crack growth - cracked round bar (CRB)	Apr-25	
2010529	ISO 10147	Degree of crosslinking of PE-X	Apr-25	
Plast	tic films			
2010777	ISO 527-3	Tensile test on plastic films	Mar-25	I
2010970	ISO 7765-1	Impact resistance – free-falling dart	Mar-25	
2010878	ISO 6383-1	Tear resistance - Trouser tear method	Mar-25	
2010838	ISO 6383-2, ASTM D1922	Tear resistance - Elemdorf method	Mar-25	
2010779	ISO 4593	Film thickness	Mar-25	
2010780	ISO 8295	Coefficients of friction	Mar-25	
2010879	ISO 11339	T-Peel test	Mar-25	Migration testing
2010880	DIN 55529	Sealed-seam strength	Mar-25	
2010847	ISO 15106-3	Water vapour transmission rate	Mar-25	Proficiency Tests for overall and specific
2010844	ISO 15105-2	Gas transmission rate	Mar-25	migration can be four
2010518	ISO 15106-2	Water vapour transmission rate (IR sensor)	Mar-25	in the category consumer goods or
2010781	ISO 14782	Transparency - Haze	Mar-25	in our online catalogu
2010012	DIN 55543-5	Films - Adhesion strength	Mar-25	
2010312	freely selectable	Identification of multi layer films	Mar-25	
2010115	freely selectable	Identification of mono layer films	Sep-25	
2011205	ISO 8296, ASTM D2578	Wetting tension (red test ink)	May-25	
2011237	EN 14477	Puncture resistance	Mar-25	
2011238	freely selectable	Multi layer film - layer thickness microtome cut	Mar-25	

### **Proficiency tests -Metals**



Art. no.	Standard	Proficiency testing type [A]	Period	To view pricing information:
Meta	ıls - mechanical properties (a	luminum):		Login or register
2011315	ISO 6506-1	Aluminum - Hardness Brinell [HBW 2,5/ 62,5]	Oct-25	
2011316	ISO 6507-1	Aluminum - Hardness Vickers [HV 5]	Oct-25	
		Item numbers 2011315 & 2011316 can be booked as a package with	a price adva	ntage!
2011317	ISO 6892-1 - unmachined specimens	Aluminum - Tensile test (flat)	Oct-25	
2011318	ISO 6892-1 - unmachined specimens	Aluminum - Tensile test (round)	Oct-25	
Meta	ıls - mechanical properties (s	teel):		
2011319	ISO 6506-1	Steel - Hardness Brinell [HBW 2,5/ 187,5]	Oct-25	
2011320	ISO 6507-1	Steel - Hardness Vickers [HV 30]	Oct-25	
		Item numbers 2011319 & 2011320 can be booked as a package with		ntage!_
2011321	ISO 6508-1	Steel - Hardness Rockwell C	Oct-25	
2011321		Steel - Tensile test (flat)	Oct-25	
2011322	150 0052 1 ummuemmeu Specimens	Seed Telisine test (nat)	Oct 23	
2011323	ISO 6892-1 - unmachined specimens	Steel - Tensile test (round)	Oct-25	
2011324	ISO 148-1	Steel - Charpy impact test (20-40 J)	Oct-25	
2011325	ISO 148-1	Steel - Charpy impact test (80-120 J)	Oct-25	
Meta	lls - corrosion testing:			
2010820	ISO 9227	Corrosion testing (NSS)	Apr-25	
2010018	ISO 9227	Corrosion testing (CASS)	Apr-25	
2010561	ISO 9227	Corrosion testing (AASS)	Apr-25	
2010020	ASTM B117	Salt Spray test	Apr-25	
2010022	GMW 14872	Exterior Cyclic Corrosion	Apr-25	
2010520	DBL 7381.10 (KWT 1 steel)	Corrosion cycle test	May-25	
2010921	DBL 7381.20 (CCT 2 steel, galvanized)	Corrosion cycle test	May-25	
2011043	PV 1210	Corrosion Test	May-25	
2011044	ISO 11997-1 (cycle A)	Corrosion Test	May-25	
2011047	ISO 22479	Saturated atmosphere SO2 (Kesternich)	May-25	
Alum	ninum - corrosion testing:			
2010850	DBL 7381.50	Aluminum corrosion (Filiform and CASS)	Jun-25	
Meta	ıls - paintwork:			
2010024	ISO 6270-2	Condensation atmosphere constant humidity (CH)	Mar-25	
2010295	ISO 2360	Coating thickness Amplitude-sensitive eddy-current method	May-25	
2010615	ISO 2178	Coating thickness - Magnetic method	May-25	
2010927	DBL 7381.30	Technical-mechanical tests	Oct-25	
	ils - X-ray fluorescence analys	-		
2010171	freely selectable	Determination of elements by X-ray fluorescence	Jul-25	
		analysis (XRF), e.g. nickel, copper, zinc, lead		
2010371	ISO 3497	Coating thickness - X-ray spectrometric method	Mar-25	
	lls - surfaces			
	nical Cleanliness of compone	<b>-</b>		
2011172	VDA 19.1, ISO 16232	Cleanliness (gravimetric)	May-25	

# **Proficiency tests - Rubber and TPE | Geosynthetics**



Art. no.	Standard	Proficiency testing type [A]	Period	To view pricing information:
Rubb	er and TPE:			Login or register
2010727	ISO 2781	Density of rubber	May-25	
2010728	ISO 37	Tensile properties (specimen S2)	May-25	
2010729	ISO 37	Tensile properties (specimen S3A)	May-25	
2011033	VDI 2019	Adhesion of thermoplastic elastomers (TPE)	May-25	
2010894	ASTM D412	Tensile properties	May-25	
2010897	ISO 34-1	Tear strength - trouser test piece	May-25	
2010761	ISO 34-1	Tear strength - Angle test piece (without nick)	May-25	
2010760	ISO 34-1	Tear strength - Angle test piece (with nick)	May-25	
2010895	ISO 815	Compression set	May-25	
2010900	ISO 815-2	Compression set at lower temperature	May-25	
2010896	ISO 2285	Tension set	May-25	
2010731	ISO 48-4 and ISO 868	Shore-A-Hardness	May-25	
2010898	ASTM D2240	Shore-A-Hardness	May-25	
2010748	ISO 48-2	Hardness IRHD, M	May-25	
2010899	ISO 48-2	Hardness IRHD, N	May-25	
2010267	ISO 48-4	Hardness Shore D	May-25	
2010762	ISO 4662	Rebound resilience	May-25	
2010763	ISO 4649	Abrasion resistance	May-25	
2010746	ISO 11357-2 (rubber)	DSC-Analysis - glass transition temperature	May-25	
2010875	ISO 1407	Solvent extract	May-25	
2010764	ISO 289-1	Mooney viscosity	May-25	
2010749	ISO 1817	Increase in mass	May-25	
2010750	ISO 11358	Thermogravimetry - black carbon content (TGA)	May-25	
2010269	ISO 1431-1	Resistance to ozone cracking	May-25	
2010508	ISO 188	Accelerated ageing and heat resistance	May-25	
2010671	PV 3305	Ozone Resistance and Permanent Deformation	May-25	
2010673	PV 3307	Plastic and Elastic Deformability	May-25	
2010675	PV 3330	O-Rings - Compression Set	May-25	
2010697	PV 3973	O-Rings - Tensile test	May-25	
2010677	PV 3366	Wear Characteristics of Flocking	May-25	
2010715	PV 3988 (4.1)	Anti-Friction Coating - Coating thickness	Sep-25	
Geos	ynthetics (geomembrane):			
2010901	ISO 527-1,-3	Tensile test geosynthetics	Mar-25	
2010902	ASTM D6693	Tensile Properties of PE - PP Geomenbranes	Mar-25	
2010903	ASTM D1004	Tear Resistance (Graves Tear)	Mar-25	
2010904	ISO 12236	Static Puncture Test (CBR-Test)	Mar-25	
2010906	ISO 9863-1	Thickness at specified pressures	Mar-25	
2010909	EN1107-2	Dimensional stability	Mar-25	
2010759	ISO 11358	Carbon black content (TGA)	Apr-25	

# Proficiency tests - Foams | Composites | Paper



			<del> </del>	To view relais :
Art. no.	Standard	Proficiency testing type <sup>[A]</sup>	Period	To view pricing information:
Foan	ns (ISO / DBL / ASTM):			Login or register
2010848	ISO 845	Cellular plastics - Apparent density	Apr-25	
2010829	ISO 1798	Cellular plastics - Tensile test	Apr-25	
2010034	ISO 8067	Cellular plastics - Tear strenght (method B)	Apr-25	
2010730	ISO 1856	Cellular plastics - Compression set	Apr-25	
2010036	ISO 3385	Cellular plastics - Fatigue	Apr-25	
2010831	ISO 3386-1, DBL 5452	Cellular plastics - Compression	Apr-25	
2010038	ISO 2439	Cellular plastics - Hardness	Apr-25	
2010874	FMVSS 302 and DBL 5307	Cellular plastics - Burning rate	Apr-25	
2010040	ASTM D3574 B1	Cellular plastics - Indentation Force	Apr-25	
2010042	ASTM D3574 C	Cellular plastics - Compression Force	Apr-25	
2010044	ASTM D3574 D	Cellular plastics - Compression Set	Apr-25	
2010046	ASTM D3574 E	Cellular plastics - Tensile Test	Apr-25	
2010048	ASTM D3574 F	Cellular plastics - Tear Resistance	Apr-25	
2010050	ASTM D3574 I3	Cellular plastics - Fatigue	Apr-25	
2010052	ASTM D3574 J	Cellular plastics - Steam Autoclave Aging	Apr-25	
2010054	ASTM D3574 K	Cellular plastics - Dry Heat Aging	Apr-25	
2010152	ASTM D3574 L	Cellular plastics - Wet Heat Aging	Apr-25	
2010412	ASTM D3574 N	Cellular plastics - Hysteresis Loss	Apr-25	
Com	posites - Fibre-reinforced pla	stics:		
2010971	ASTM D2583, EN 59	Barcol hardness	May-25	
2010060	EN 2564	Fibre-, resin- and void contents	May-25	
2010726	ISO 14125	Flexural properties	May-25	
2010724	ISO 14126	Compressive properties	May-25	
2010725	ISO 14129	45° tension test method	May-25	
2010772	ISO 14130	Apparent interlaminar shear strength	May-25	
2010723	ISO 527-1,-4	Tensile properties	May-25	
2010768	ISO 527-1,-5	Tensile properties	May-25	
2010522	ASTM D5379	Shear Properties (V-Notched Beam)	May-25	
2011048	ASTM D7078	Rail Shear Method	May-25	
2010524	ISO 13003	Fatigue properties (cyclic loading conditions)	May-25	
2010062	ISO 2555	Resins - apparent viscosity	May-25	
2010068	ISO 3219	Resins - viscosity	May-25	
Cure	d-in-place pipes (CIPP):			
2010537	ISO 11296-4	CIPP - Short-term flexural properties	May-25	
Pape	er   Board:			
2011024	ISO 2528	Sheet materials - Water vapour transmission rate	Oct-25	
2011025	ISO 535	Paper and board - Water absorptiveness (Cobb)	Oct-25	
2011026	ISO 5636-3	Paper and board - Air permeance (Bendtsen)	Oct-25	
2011027	ISO 5636-5	Paper and board - Air permeance (Gurley)	Oct-25	
2011028	ISO 536	Paper and board - Grammage	Oct-25	
2011029	ISO 534	Paper and board - Thickness, density, specific volume	Oct-25	
2011030	ISO 12625-3	Tissue products - Thickness	Oct-25	
2011031	ISO 12625-8	Tissue products - Water-absorption capacity	Oct-25	
2011032	ISO 12625-6	Tissue products - Grammage	Oct-25	

## **Proficiency tests - Textiles**



Art. no.	Standard	Proficiency testing type <sup>[A]</sup>	Period	To view pricing information:
Texti	iles - Fabric properties:			Login or register
2010733	EN 12127 ISO 3801	Mass per unit area of fibre materials	May-25	
2010983	freely selectable	Construction of fabric	May-25	
2010732	ISO 9073-2	Thickness of nonwovens	, May-25	
2010070	ISO 9073-4	Tear resistance nonwovens	, May-25	
2010635	ISO 9073-3	Tensile properties of nonwovens	May-25	
2010734	ISO 13934-1	Tensile properties - strip method	May-25	
2010837	ISO 13934-2	Tensile properties - grab method	May-25	
2010778	ISO 13937-1	Tear properties - Elmendorf method	May-25	
2010800	ISO 13937-2	Tear properties - trouser shaped specimen	May-25	
2010801	ISO 13937-3	Tear properties - wing shaped specimen	May-25	
2010802	ISO 12947-2	Abrasion resistance - Martindale	May-25	
2010637	ISO 12947-3	Abrasion resistance Martindale (mass loss)	May-25	
2010803	ISO 12945-1	Pilling properties - Pilling box	May-25	
2010804	ISO 12945-2	Pilling properties - Martindale	May-25	
2010841	ISO 13936-1	Slippage resistance yarn - Fixed seam opening	May-25	
2011103	ISO 13936-2	Slippage resistance yarns - Fixed load	May-25	
2010072	ISO 13935-1	Maximum force seam	May-25	
2011177	ISO 13935-2	Maximum force seam - grab method	May-25	
2010842	ISO 13938-2	Bursting strength and Bursting distension	May-25	
2010751	ISO 3071	pH value of textiles	May-25	
2010973	DIN 54278-1	Textiles - materials soluble	May-25	
2011178	ISO 16322-2	Textiles - spirality after laundering	May-25	
2011179	ISO 15487	Textiles - Self-flatness behavior	May-25	
2011228	ISO 20932-1	Elasticity of fabrics (strip test)	May-25	
Texti	iles - fabric and functional pr	operties (Automotive):		
2010669	PV 2034	Floating Roller Peel Test	Jan-25	
2010679	PV 3906	Abrasion Behavior	May-25	
2010681	PV 3908	Wear Resistance	May-25	
2010683	PV 3909	Static and Permanent Elongation	May-25	
2011105	PV 3949	Upholstery Cover Materials - Snag Test	May-25	
2010689	PV 3955	Trim Cover Material - Seam Slippage Resistance	Jan-25	
2010691	PV 3961	Trim Cover Material - Hook Fastener Test	Jan-25	
Texti	iles - Functional properties			
2010805	freely selectable	Colour measurement diffuse 8°-geometry	May-25	
2010839	ISO 811	Hydrostatic pressure test	May-25	
2011175	UN, ECE R118 appendix 8	Vertical burning rate	May-25	
2011176	ISO 6941	Textiles - Burning behaviour vertically oriented specimens	May-25	
2010840	ISO 5077 - ISO 6330	Dimensional change in washing	May-25	
2010807	ISO 15797	Industrial washing and colour change	May-25	
2010832	ISO 9237	Permeability to air	May-25	
2010808	FMVSS 302 and DIN 75200	Textiles - burning rate	May-25	
2010995	ISO 11092	Thermal and water vapour resistance	May-25	
2010237	ASTM E96 (BW)	Water Vapor Transmission	May-25	
2010074	AATCC 22	Spray test - resistance to surface wetting ISO 4920	May-25	
2010319	ISO 9865	Bundesmann Rain-shower test	May-25	
2010092	ISO 14419	Oil repellency	May-25	
2010514	EN 13758-1	Solar UV protective properties	May-25	

## **Proficiency tests - Textiles**



				noronzmatoriano
Art. no.	Standard	Proficiency testing type [A]	Period	To view pricing information:
Text	iles - Colour fastness:			Login or register
010809	ISO 105-B02	Colour fastness to light - Xenon arc	Oct-25	
010810	ISO 105-B04	Colour fastness to light - Xenon arc	Oct-25	
010510	ISO 105-B07	Colour fastness to light - artificial perspiration	Oct-25	
010833	ISO 105-C06 (C2S)	Colour fastness to washing 60°	Oct-25	
010735	ISO 105-X12	Colour fastness to rubbing - Crockmeter	Oct-25	
010834	ISO 105-C08	Colour Fastness to washing 60°C	Oct-25	
010629	ISO 105-C10	Colour fastness to washing with soap (and soda)	Oct-25	
010835	ISO 105-D01	Colour Fastness to dry cleaning	Oct-25	
010512	ISO 105-D02	Colour fastness to rubbing - organic solvents	Oct-25	
010752	ISO 105-E01	Colour Fastness to water	Oct-25	
010223	ISO 105-E02	Colour Fastness to sea water	Oct-25	
010229	ISO 105-E03	Colour Fastness to chlorinated water	Oct-25	
010736	ISO 105-E04	Colour Fastness to perspiration	Oct-25	
010633	ISO 105-N01	Colour fastness to bleaching - hypochlorite	Oct-25	
010917	ISO 105-N02	Colour fastness to bleaching - peroxide	Oct-25	
010231	ISO 105-X05	Colour fastness to organic solvents	Oct-25	
010235	ISO 105-X11	Colour fastness to hot pressing	Oct-25	
2010919	ISO 105 A04, A05	Instrumental assessment	Apr-25	
Text	ilien - Bestimmung einer Fas	sermischung:		
2010974	freely selectable	Qualitative determination of a fibre blend	May-25	
2010737	ISO 1833-11	Fibre blend - Proportion of cotton fibres	May-25	
010776	ISO 1833-12	Fibre blend - Proportion of acrylic fibres	May-25	
010738	ISO 1833-4	Fibre blend - Proportion of protein fibres	May-25	
010739	ISO 1833-6	Fibre blend - Proportion of viscose fibres	May-25	
010740	ISO 1833-7	Fibre blend - Proportion of polyamide fibres	May-25	
Coat	ed / laminated fabrics:			
010990	ISO 32100	Coated fabrics – flex resistance (flexometer)	May-25	
010991	ISO 1421	Coated fabrics – tensile properties	May-25	
011050	ISO 2411	Coated fabrics - adhesion	May-25	
010631	ISO 4674-1	Coated fabrics - tear resistance (B)	May-25	
010150	ISO 2286-3	Coated fabrics - Thickness	May-25	
010086	ISO 7854-A	Resistance to damage by flexing (De Mattia)	May-25	
010088	ISO 7854-C	Resistance to damage by flexing (crumple - flex)	May-25	
010090	ISO 5470-2	Abrasion resistance (Martindale)	May-25	
Indi	vidual fibres:			
010975	ISO 1973	Linear density	May-25	
2010976	ISO 5079	Textile fibres – tensile test	May-25	

### Proficiency tests -Leather | PSA



Art. no.	Standard	Proficiency testing type [A]	Period	To view pricing information:		
Leatl	Leather: Login or register					
2010770	FMVSS 302 and DBL 5307	Leather - burning rate	Apr-25			
2010028	ISO 3376	Leather tensile test	Apr-25			
2010030	ISO 3377-1	Leather - tear load - single edge tear	Apr-25			
2010032	ISO 3377-2	Leather - tear load - double edge tear	Apr-25			
2010066	ISO 2589	Leather - Thickness	Apr-25			
2010713	ISO 11640	Colour fastness to cycles of rubbing	Apr-25			
2010709	ISO 17186	Surface coating thickness	Apr-25			
2010516	VDA 270	Odour test (variant D4 and D5)	Apr-25			
2010645	ISO 4045	Leather - pH value and difference figure	Apr-25			
2010643	ISO 11641	Leather - colour fastness to perspiration	Apr-25			
2010647	ISO 11642	Leather - colour fastness to water	Apr-25			
2011173	ISO 14268	Leather - water vapour permeability	Apr-25			
2010695	PV 3968	Soiling Behavior	Apr-25			
	•	d in the category "consumer goods" or the online catalogue:				
e.g. me	tal content, preservatives, formaldenyde, ch	llorophenols, volatile substances, organotin compounds				
Prote	ective clothing (general):					
2010094	ISO 13996	Puncture resistance	May-25			
2010096	EN 1149-1	Surface resistivity	May-25			
2010098	EN 1149-2	Vertical resistance	May-25			
2010100	EN 1149-3	Charge decay	May-25			
2010102	ISO 15025	Limited flame spread	May-25			
2010104	ISO 9185	Resistance to molten metal splash	May-25			
2011182	ISO 6530	Resistance of materials to penetration by liquids	May-25			
2011183	ISO 17493	Convective heat resistance (hot air circulating oven)	May-25			
2011229	ISO 6942 (method B)	Source of radiant heat - protective effect	May-25			
2011230	ISO 9151	Heat transmission on exposure to flame	May-25			
Prote	ective gloves:					
2010639	EN 388	Protective gloves against mechanical risks	May-25			
2011036	ISO 13997	Protective gloves - resistance to cutting	May-25			
2011180	ISO 21420	Protective gloves - length and finger dexterity	May-25			
Filte	ring half masks:					
2010551	EN 149+A1, EN 13274-7	Filtering half masks - penetration	May-25			
2010321	EN 14683	Test method Medical face masks	May-25			
2010621	EN 14683 (ISO 22609)	Medical face masks - Splash Resistance	May-25			
High	visibility clothing:					
2010106	ISO 20471 (5.1)	Color measurement (background material)	May-25			
2010100	ISO 20471 (6.1)	Retroreflection (retroreflective material)	May-25			
		1	,-22			
	oplastics from textile sources	1				
2010625	AATCC TM 212, ISO 4484-1	Microplastics - mass loss textile	May-25			
2011174	ISO 4484-2	Qual. and quant. evaluation of microplastics	May-25			

### Proficiency tests - Environmental testing / EMC



To view pricing Art. no Proficiency testing type [A] Period information: Login or register **4TIERS** In cooperation with: and **Environmental testing** 2011035 IEC 60068-2-6, -2-64 Vibration Mar-25 2011107 IEC 60068-2-6, -2-64 (round 2) Vibration Jan-25 2011196 IEC 60068-2-6, -2-64 (round 3) Jan-25 Vibration 2011034 IEC 60068-2-27 Shock May-25 2011194 IEC 60068-2-14 Mar-25 Change of temperature - Test N IEC 60068-2-30, -2-38 2011195 Damp heat and temperature-humidity cyclic Mar-25 2011250 IEC 60068-2-30, -2-38 (round 2) Damp heat and temperature-humidity cyclic May-25 Electromagnetic compatibility (EMC) Part I - Radiated emissions / disturbance: 2011065 RTCA DO-160 (sec. 21) Emission of Radio Frequency Energy Apr-25 2 MHz - 6 GHz MIL-STD461 (RE102) - AECTP 500 2011066 Radiated Emissions - Electric Field Aug-25 (NRE02) - VG95373-12 (SA04G) 10 kHz - 18 GHz 2011072 CISPR 25 Radiated emissions assemblies - Anechoic chamber Aug-25 150 kHz - 6 GHz 2011074 UN ECE R10 (6.5, 6.6) Broadband and narrowband electromagnetic interference (ESA) -Aug-25 30 MHz - 1 GHz (BB and NB) 2010931 CISPR 16-2-3 - EN 55016-2-3 - EN Radiated disturbance Apr-25 30 MHz - 6 GHz Antenna distance 3 m, (EN 55011 up to 1 GHz) Part II - Radiated susceptibility: RTCA DO-160 (sec. 20) 2011077 Radio Frequency Susceptibility (Radiated) Apr-25 100 MHz - 8 GHz | test level: Cat R 2011078 MIL-STD461 (RS103) - AECTP 500 Radiated susceptibility - electric field Aug-25 (NRS02) - VG95373-13 (SF03G) 10 kHz - 40 GHz | test level: 50 V/m 2011084 ISO 11452-2 Electrical disturbances - Absorber-lined shielded enclosure Aug-25 200 MHz - 6 GHz | Limit value / test level: bis 100 V/m 2011085 **UN ECE R10 (6.8)** Immunity (ESA) - electromagnetic radiation - free field Aug-25 20 MHz - 2000 MHz | Limit value / test level: 30 V/m 2010933 Apr-25 IEC 61000-4-3 Radiated, radio-frequency, electromagn. field immunity 80 MHz - 6 GHz | Limit value / test level: 10 V/m, 3 V/m Part III - Conducted emissions / disturbance: CISPR 16-2-1 - EN 55016-2-1 - EN 2011054 May-25 150 kHz - 30 MHz CISPR 25 Conducted disturbances 2011240 Oct-25 150 kHz - 108 MHz 2011241 RTCA DO-160 (sec. 21) Conducted RF emissions Oct-25 10 kHz - 200 MHz 2011242 Conducted emissions, audio frequency currents, power leads MIL-STD461 (CE101) Oct-25 2011243 MIL-STD461 (CE102) Conducted emissions, audio frequency currents, power leads Oct-25 10 kHz to 10 MHz 2011244 ISO 7637-2 - UN ECE R10 (6.7) Oct-25 Emission of transient conducted disturbances on supply lines slow (ms) and fast (ns und µs) pulses

# Proficiency tests - Environmental testing / EMC



Art. no.	Standard	Proficiency testing type [A]	Period	To view pricing information:		
Electromagnetic compatibility (EMC):						
Part	Part IV - Conducted susceptibility:					
2011055	IEC 61000-4-2	Electrostatic discharge immunity	May-25			
2011057	IEC 61000-4-4	Electrical fast transient immunity	May-25			
2011058	IEC 61000-4-5	Surge immunity	May-25			
2011059	IEC 61000-4-6	Immunity - conducted disturbances (radio-frequency fields)	May-25			
2011060	IEC 61000-4-8	Power frequency magnetic field immunity	May-25			
2011061	IEC 61000-4-9	Impulse magnetic field immunity	May-25			
2011063	IEC 61000-4-11	Voltage dips, short interruptions, voltage variations immunity	May-25			
2011245	ISO 11452-4 - UN ECE R10 (6.8)	Immunity (ESA) - bulk current injection (BCI) 10 kHz - 400 MHz	Oct-25			
2011246	RTCA DO-160 (sec. 20)	Conducted Susceptibility (BCI) 10 kHz - 400 MHz	Oct-25			
2011247	MIL-STD461 (CS114)	Conducted susceptibility, bulk cable injection (BCI) 4 kHz - 200 MHz	Oct-25			
2011248	ISO 7637-2 - UN ECE R10 (6.9)	Transient disturbances conducted along supply lines Pulse 1, 2a, 2b, 3a, 3b und 4	Oct-25			
2011249	ISO 10605 (8.3)	Electrostatic discharge (powered-up direct discharges)	May-25			

# **Proficiency tests - Building materials**



Art. no.	Standard	Proficiency testing type <sup>[A]</sup>	Period	To view pricing information:	
Hardened concrete:					
2010288 2010290 2010589 2010591	EN 12390-7 und -3 EN 12390-5 EN 12390-6 EN 12390-8	Hardened concrete - Density and Compressive strength  Flexural strength of test specimens  Tensile splitting strength  Depth of penetration of water under pressure	Dec-25 Dec-25 Dec-25 Dec-25		
2010205	EN 14629	Chloride content in hardened concrete	Nov-25		
Fresi 2010593	n concrete: [sample preparation EN 12350-4,-5,-6,-7	by the participant]  Fresh concrete	Dec-25		
Ceme	ent:				
2010284	EN 196-1	Compressive and flexural strength	Nov-25		
2010266	EN 196-2	Chloride content of cement	Nov-25		
2010268	EN 196-2	Loss of ignition of cement	Nov-25		
2010569	EN 196-2	Total sulphate content	Nov-25		
2011236	EN 196-2	Residue insoluble (hydrochloric acid - sodium carbonate)	Nov-25		
2010595	EN 196-3 EN 196-6	Setting times and soundness  Fineness	Nov-25 Nov-25		
2010597 2011184	EN 196-10	Cement - water-soluble chromium (VI)	Nov-25		
2011104	210 250 20	centent water soluble emormality (v1)	1107 25		
Mort	ar for masonry: [sample prepara	ation by the participant]			
2010599	EN 1015-1	Particle size distribution (by sieve analysis)	Dec-25		
2010601	EN 1015-3,-6,-7	Fresh mortar	Dec-25		
2010276	EN 1015-10	Dry bulk density of hardened mortar	Dec-25		
2010298	EN 1015-11	Flexural and compressive strength	Dec-25		
2010300	EN 1015-12	Adhesive strength of hardened mortars	Dec-25		
Masonry units:					
2010603	EN 772-1	Compressive strength	Nov-25		
2010605	EN 772-21	Water absorption by cold water absorption	Nov-25		
Mineral building materials:					
2010571	ISO 12570	Moisture content	Nov-25		
2010573	ISO 12571	Hygroscopic sorption properties	Nov-25		

# Proficiency tests - Building materials



Art. no.	Standard	Proficiency testing type [A]	Period	To view pricing information:	
Aggregates:  Login or register					
2010611	EN 933-1	Particle size distribution - Sieving method	Dec-25		
2010613	EN 933-4	Particle shape - Shape index	Dec-25		
2011185	EN 933-9	Fines - Methylene blue test	Nov-25		
2011186	EN 933-10	Fines - Grading of filler aggregates	Nov-25		
2010575	EN 1097-3	Loose bulk density and voids	Nov-25		
2010579	EN 1097-6	Particle density and water absorption	Nov-25		
2010581	EN 1744-1	Water-soluble chloride salts - Volhard method	Nov-25		
011187	EN 1744-1	Water-soluble chloride salts - potentiometry	Nov-25		
2010583	EN 1744-1	Total sulfur content, Acid soluble sulfates	Nov-25		
2011234	EN 1367-1	Resistance to freezing and thawing	Nov-25		
011235	EN 933-7	Shell content	Nov-25		
Bituı	minous mixtures & Bitumen:				
011191	EN 12697-1	Bituminous mixtures - Soluble binder content	Dec-25		
011192	EN 1426	Bitumen - needle penetration	Dec-25		
2011193	EN 1427	Bitumen - softening point	Dec-25		
2011197	EN 12697-6	Bulk density of bituminous specimens (Procedure B)	Dec-25		
Thermal insulating material:					
2010587	ISO 29470	Thermal insulating products - Apparent density	Dec-25		
2010607	EN 1607	Tensile strength perpendicular to faces	Dec-25		
2011040	EN 12089	Bending behaviour	Dec-25		
2010609	ISO 29469	Compression behaviour	Dec-25		
2010286	EN 29052-1	Dynamic stiffness	Dec-25		
2010280	EN 12667	Thermal resistance	Dec-25		
2011188	ISO 16535	Long term water absorption by immersion (2A)	Dec-25		
2011189	EN 1604	Thermal insulating products - dimensional stability	Dec-25		
2011190	EN 12086	Thermal insulating products - water vapour transmission	Dec-25		
2011231	ISO 16546	Freeze-thaw resistance	Dec-25		
2011232	EN 12430	Behaviour under point load	Dec-25		
2011233	EN 1605	Deformation under compressive load and temperature conditions	Dec-25		
Othe	er building material:				
		Water shareships as officiant has said a live said.	N. 25		
2010282	ISO 15148	Water absorption coefficient by partial immersion	Nov-25		

## Proficiency tests - immunological, molecular biological & microbiological



Art. no.	Proficiency testing type [A]	Parameters [*]	risk group	Period	To view pricing information:	
Othe	r building materials				Login or register	
2010682	moulds building materials (surface	moulds [cfu/sample]	risk group 2	Apr-25		
2010684	contact sample) moulds building materials (material sample)	moulds qualitative [cfu/g]	risk group 2	Apr-25		
Plastics - surfaces						
2010623	Antibacterial activity plastics - ISO 22196	antibacterial activity S.aureus [log10 reduction] antibacterial activity E.coli [log10 reduction]	,	May-25		

<sup>[</sup>A] = For accredited and non-accredited status please see our Catalogue/ Shop (ODIN)

<sup>[\*] =</sup> Specified parameters correspond to the status of the catalogue publication. The binding parameters for the respective proficiency testing can be viewed in our online portal (ODIN).

### registration form proficiency testing



Quantity	Art. No. / Proficiency testing type	For questions and suggestions do not hesitate to contact the DRRR-team!
		+49(0)831/960 878-0
		info@DRRR.de
		© DRRR Stand: 17.10.2024 (changes reserved)
technical or organizational reasons. In t	An offer with the total costs is peeded	rt of the s possible itil my cancelation
er by e-mail:  by we confirm obligatorily the participation	info@DRR.de	
rder for the additional sample sets.	in the above mentioned test(s) and	DRRR-customer num
		company
		additional line
-		contact person
		street
		post code / city
		country
		email VAT-ID (EU)
	Deutsches Referenzbüro für Ringversuche und Referenzmaterialien GmbH Reinhartser Straße 31   87437 Kempten Tel.: +49 (0)8 31/960 878-0   Fax: +49 (0)8 31/960 www.DRRR.de   info@DRRR.de	878-99

#### reference material



#### **Importance**

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

#### Benefit of using certified reference materials

These materials are suitable for the calibration of equipment, for the quality assurance of testing methods or to analyse derivate reference materials. DRRR-Reference materials are essential for the chemical, physical, microbiological and sensory analytics 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.

**Description reference material** 

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

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

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

### **ODIN - proficiency testing online**



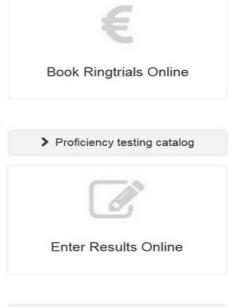
Simply brilliant, your proficiency testing with ODIN (Online Data Information Network).

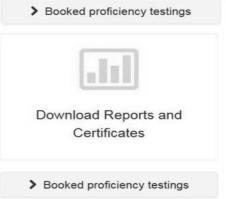
- Fast and easy online registration / online announcement in our online catalogue
- Direct management and booking of the proficiency testing
- Overview about the registered proficiency testing schemes
- Fast and secure submission of your results via ODIN
- · Online access to individual customers reports 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

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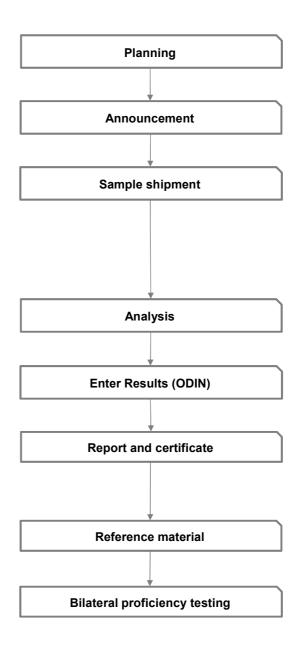
### **Proficiency testing organisation**



- 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
- According to our requirements, you will receive suitable sample material for the respective proficiency testing scheme.

We reserve the right to have an external subcontractor carry out the sample purchase and any necessary testing.

- After receiving the samples you will have a period of 4 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 3 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)



### Benefits of proficiency testing



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

### Statistical methods



We work according to:

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

Laboratory performance:

by calculation of the following paramters:

- z-score
- · z'-score
- CRD-Wert

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)

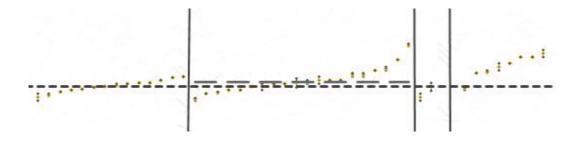
Method-specific evaluation according to the reference method (if available)

Homogenous and stable sample material

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

Selection of statistical method with the chi²-fit test

Additional extended method evaluation (in case data are available)



#### z'-score > 2: What to do?



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.

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:

Participation in a bPT is open to all laboratories. Prior participation in our regular proficiency tests is not necessary.

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 bPT

The costs are identical to the costs of the respective proficiency test from our standard program (see ODIN) plus shipping costs.

Alternative you can also order reference material.

### quality management / quality assurance



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.

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.

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.

### seminars / training / consulting



**IR-Seminar** 

The IR-seminar explains how to analyze different kind of food by IR spectroscopy. Furthermore specific peculiarties for the IR calibartion of selected food will be discussed. The specific peculiarties 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 excericise calibration data sets will be testes for suitability and critical data sets will be identifed.

#### 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.

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

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.

#### Statistics seminar for beginners

This seminar presents the Binomial-, Poisson- and Normal distribution and the application of them. Problem cases and the classis 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 users

This seminar presents the Shapiro-Wilk-Test, qui²-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.

### Sales terms and delivery conditions



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!

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#### General terms and conditions



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:

Cancelation notification period:	Permanent registration (D)		
Cancelation notification period.	single (one-time) registration €		
up to 3 months before the proficiency testing	no costs (D)		
tup to 3 months before the proficiency testing	50,00 € €		
3 months before the proficiency testing start	50,00 € (D)		
3 months before the proficiency testing start	half proficiency testing price €		
Isample 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.

#### General terms and conditions



#### § 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.

#### General terms and conditions



#### § 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

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