

# Test weights

## Weights yesterday and today

Weights have always been used to carry out weighing procedures. This original purpose has almost disappeared. Today, weights are used almost exclusively for adjusting and testing = calibration of electronic balances. We therefore call them "Test weights" as this is their purpose of use.

## Adjustment or calibration?

► **Adjusting** a balance means that you are intervening in the weighing system, to make sure that the display is set to show the correct nominal value. With ► **calibration** on the other hand, there is no intervention, you are testing whether the display is correct and documenting any deviation.

## Testing, the right way!

The internationally valid OIML norm R111:2004 classifies test weights hierarchically in accuracy classes, where E1 is the most accurate and M3 is the least accurate weight class. With KERN you get the whole test weight range in all OIML accuracy classes E1, E2, F1, F2, M1, M2, M3.

As the test weight only becomes an ► **ISO 9000ff**-compliant test instrument when its accuracy has been proven, we offer the appropriate ► **DAkkS-calibration certificate** or verification certificate (in connection with a box) for all KERN test weights. For further details, see the calibration service section on page 210.

KERN offers you the appropriate test weight package for your balance, consisting of the test weight, box and DAkkS-calibration certificate, as proof of its accuracy. The best prerequisite for a correct adjustment or checking of your scales.

► See the glossary on page 223–225

Test weights: classes of accuracy E, F, M and their general relation to the types of balances:

- E1 Test weights for customers who require a high degree of accuracy for the most demanding applications.  
For high-resolution balances with  $d > 1,000,000$   
Use recommended with DAkkS calibration certificate only.
- E2 Most accurate test weights for high resolution analytical balances of verification class I  $\geq 100,000$  e
- F1 Test weights for analytical balances/precision balances for verification class I/II  $\leq 100,000$  e
- F2 Test weights for precision balances of verification class II  $\leq 30,000$  e
- M1 Test weights for industrial and commercial scales of verification class III  $\leq 10,000$  e

The appropriate test weight for your new KERN balance can also be found directly in the accessories of the balance in our webshop.

KERN DAkkS delivery times & shipping type	Total weight $\leq 30$ kg (gross weight, incl. packaging)	Total weight $> 30$ kg (gross weight, incl. packaging)
DAkkS standard service Class E2 – M3	 4 DAYS	 4 DAYS
DAkkS standard service Class E1, 1 mg – 500 mg and recalibration 1 g – 10 kg with a known volume	 10 DAYS	 10 DAYS
Class E1, $\geq 1$ g, incl. volume determination (new weights)	 15 DAYS	 15 DAYS
Special weights, Newton weights, heavy duty weights, weight carriers, containers for individual weight sets etc.	on request	

## Just lean back – we have just the right test weight for your measuring device

KERN offers you a large range of OIML test weights, which you can use at any time to quickly and reliably check your balance, force-measuring device, etc.. From milligram weights to tonne weights, from the classic OIML design to special weights which are specifically manufactured to your specifications, we can offer you just the right test weight, and naturally the weights have the relevant DAkkS calibration certificate or factory calibration certificate.

On the following pages you will see a selection of standard test weights for OIML error limit classes E1, E2, F1, F2, M1, M2, M3.

We will be happy to manufacture special (large) weights, weight containers, Newton weights or weights with special weight values for you on request. Our test weights product specialist will be happy to give you expert, comprehensive advice.

**Note:** In our webshop you can conveniently select test weights for your scale that have been calculated and matched to your accuracy requirements and intended use - with or without calibration. We will be happy to determine the minimum sample quantity according to USP Chapter <41> and recommend a KERN Safety Set especially designed for your scale.



### Marking – never lose track again!

With the large variety of test equipment used then it is essential that they are identified accurately. We can help you with this and can mark or etch your test weights to your specifications. Whether it's letters, numbers, your logo, barcodes or something else - it's your choice. Our product specialist "Test weights" will gladly help you with any questions about this service, prices, etc.

## PREMIUM<sup>+</sup> TEST WEIGHTS

**Note:** Our highly-accurate OIML test weights are also available as **PREMIUM<sup>+</sup> test weights** for that extra level of safety. Thanks to the most modern manufacturing technology, these test weights can also be adjusted within the specified error limit classes (= tolerances).

I.e. this means that these **PREMIUM<sup>+</sup> test weights** have a significantly longer service life, thanks to this guaranteed positive tolerance. This is of particular benefit with intensive use of the test weights.

For all the details on this **PREMIUM<sup>+</sup> service** please see [www.kern-lab.com/premium+](http://www.kern-lab.com/premium+) or look at the weight you want in our online shop at [www.kern-sohn.com](http://www.kern-sohn.com)





## KERN SAFETY SETS

### All the security you need!

„KERN Safety Sets“ which have been specially developed, put together and contain the right test weights to test and monitor your balance. This “KERN Safety Set” contains one test weight for testing the upper end of the weighing range of your balance and one test weight for testing the lower end. As an option, the “KERN Safety Set” has space for another test weight, for testing your balance at a weight which is relevant for you.

Useful accessories which have been selected to suit that particular “KERN Safety Set”, such as, for example, special gloves, tweezers, weight grips, brushes, etc. will assist you in handling your test weights properly. Stored in the practical protective case next to your balance, you can check and ensure the high precision of your balance at any time.

Just ask our test weight product specialist, he will be happy to recommend the right “KERN Safety Set” for your balance. You can also find the matching “KERN Safety Set” for each model on the Internet at [www.kern-sohn.com](http://www.kern-sohn.com)



## Our KERN weight cases at a glance:



### It's your choice!

To protect your test weights we can offer you an appropriate weight case. If there are no legal or normative specifications, then you have the choice between plastic, aluminium protected or wood. The available weight cases are shown as a symbol in the test weight tables on the following pages. In this way you have all the materials, versions, sizes and prices at a glance, listed in a concise way.

## It's so easy to order your suitable test weight

1. According to your safety requirements or the specifications of your QM system, you select the test weight with the appropriate weight value and the required tolerance.
2. We offer many test weights in different designs, giving you complete freedom to decide which test weights you want to use for your application. It goes without saying that all our test weights comply with the OIML R111:2004 directive.
3. To protect your high-quality test equipment, we offer you cases in various designs. From low-priced plastic weight cases to aluminium protected weight cases to classic, high-quality wooden weight cases.
4. A DAkkS calibration certificate - the auditor's favourite! With this certificate you provide the standard-compliant proof of all important values of your test equipment and are on the safe side when operating and testing your measuring equipment.

1.	2.	3.	4.
Weight	Tol +/- mg	Individual weights, compact shape	Individual weights, knob shape
		KERN	€ KERN
1 g	0,03	316-01	32,- 317-01
2 g	0,04	316-02	34,- 317-02
5 g	0,05	316-03	36,- 317-03
10 g	0,06	316-04	38,- 317-04
20 g	0,08	316-05	43,- 317-05
			46,- 317-06
			73,-
			317-07
			317-08
			317-09
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## Selection of the appropriate test weight for your balance

A balance can never be more accurate than the test weight used to adjust it, it all depends on its tolerance. The accuracy of the test weight should correspond to the readout [d] of the balance, or rather be better. Nominal weight value is shown in adjust mode "CAL" in the balance display. Given a choice, the heaviest weight is the most suitable for accurate measurement.

Once accuracy and nominal weight value are specified, the suitable test weight is selected according to the tolerances "Tol" of the individual accuracy classes E2 – M3, see column "Tol ± mg" at the respective weight and table at page 188.

### Example:

Balance with weighing range [Max] 2000 g = 2 kg  
and readout [d] = 0,01 g = 10 mg

- The accuracy of the required test weight is determined by readout [d]: max. tolerance  $\pm 10$  mg.
- Displayed weight size on "CAL" mode: 1000 g or 2000 g.  
The required test weight has a 2 kg weight size.
- Suitable test weights with  $\pm 10$  mg tolerance and 2 kg weight size, can be found in accuracy class F1. KERN-No 326-12, see page 194.

### Exception, analytical balances (readout [d] $\leq 0,1$ mg):

E1 test weights are recommended. Depending on the safety requirements, E2 test weights with a DAkkS calibration certificate will also be sufficient.

From brass to stainless steel - the right test weight for every situation



Test weight →	Knob shape with lifting knob, polished stainless steel	Compact shape with carrying grip, polished stainless steel	Knob shape with lifting knob, polished stainless steel	ECO shape, polished stainless steel	Knob shape with lifting knob, finely turned stainless steel	Knob shape with lifting knob, finely turned brass
Features ↓						
Conforms to OIML:R111	yes	yes	yes	yes	yes	yes
Available classes	E1, E2	E2	F1	F1	F2, M1	M1, M2, M3
Upper surface	polished	polished	polished	polished	finely turned	finely turned
Material	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Brass
Adjusting cavity	no	no	yes	yes, from 50 g, readjustment can only be carried out by KERN	yes, from 20 g	yes, from 20 g
Marking (Milligram weights, generally none)	no	none	Nominal value, etched	Nominal value, etched	F2: Class + nominal value, etched; M1: Class + nominal value, adopted	Class + nominal value, adopted
Verification possible	yes	yes	yes	no	yes	yes, M1 only
Checking equipment for verification purposes	approved	approved	approved	approved	approved	approved, M1 only
Ideal as checking equipment in QM systems (e.g. ISO 9000 ff)	yes	yes	yes	yes	yes	yes
Benefits	<ul style="list-style-type: none"> <li>High-quality test weight for analytical and precision balances</li> <li>Highly-refined surface</li> <li>Ideal shape of the top for good grip</li> </ul>	<ul style="list-style-type: none"> <li>Affordable test weight for analytical and precision balances</li> <li>Highly refined surface</li> </ul>	<ul style="list-style-type: none"> <li>Ideal, high-quality test weight for precision balances</li> <li>No visible adjustment chamber</li> <li>High long-term stability</li> <li>Ideal shape of the top for good grip</li> </ul>	<ul style="list-style-type: none"> <li>Affordable test weight for analytical and precision balances</li> <li>Highly refined surface</li> <li>Optimum shape of the top for good grip</li> </ul>	<ul style="list-style-type: none"> <li>Ideal test weight for commercial and industrial scales</li> <li>Ideal shape of the top for good grip</li> </ul>	<ul style="list-style-type: none"> <li>Affordable test weight for commercial and industrial scales</li> <li>Ideal shape of the top for good grip</li> </ul>

Composition table, valid for all KERN test weight sets from 1 mg

Individual weights per set →	1	2	2	5	10	20	20	50	100	200	200	500	1	2	2	5	10	20	20	50	100	200	200	500	1	2	2	5	10	
Test weight set ↓	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	g	g	g	g	g	g	g	g	g	g	g	kg	kg	kg	kg	kg		
1 mg-500 mg	Total weight												1,11 g																	
1 mg-50 g																														
1 mg-100 g																														
1 mg-200 g																														
1 mg-500 g																														
1 mg-1 kg																														
1 mg-2 kg																														
1 mg-5 kg																														
1 mg-10 kg																														

**The key points from the OIML norm R111:2004**

OIML (Organisation Internationale de Metrologie Legale) has established the exact metrological requirements for weights in verified applications in approx. 100 states all over the world. The OIML recommendation R111 (2004 Edition) for weights relates to sizes 1 mg – 5000 kg. Statements are made on the accuracy, materials, geometric shape, marking and storage of the weights.

**Error limits for weights of classes E1 to M3**

The error limit classes are in fixed hierarchical levels in the proportion of 1:3, where E1 is the most accurate and M3 is the least accurate weight class. When testing weights with other weights, the correct test class is the next highest class.

**Error limit classes (= tolerances)**

The values given in the table below (tolerances  $\pm \dots$  mg) are the respective permitted fabrication tolerances. They are to be equal to the ► **measuring uncertainty** of the weight, if no ► **DAkkS calibration certificate** is available.

**Conventional mass**

The problem is the air buoyancy, which makes the weight appear lighter. In order to avoid this "distortion" in daily use, all weights are adjusted to the unit specifications as given in R111, e.g. it is accepted that: material density of the weights is 8000 kg/m<sup>3</sup>, air density is 1.2 kg/m<sup>3</sup> and measuring temperature is 20 °C.

**KERN test weights:** Unless otherwise specified, they conform to OIML R111:2004 in every detail.

► See the glossary, page 223–225

Nominal value ↓	OIML R111:2004 Maximum permissible errors for weights = permissible tolerances "Tol $\pm$ mg"						
	E1	E2	F1	F2	M1	M2	M3
1 mg	$\pm 0,003$ mg	$\pm 0,006$ mg	$\pm 0,020$ mg	$\pm 0,06$ mg	$\pm 0,20$ mg	-	-
2 mg	$\pm 0,003$ mg	$\pm 0,006$ mg	$\pm 0,020$ mg	$\pm 0,06$ mg	$\pm 0,20$ mg	-	-
5 mg	$\pm 0,003$ mg	$\pm 0,006$ mg	$\pm 0,020$ mg	$\pm 0,06$ mg	$\pm 0,20$ mg	-	-
10 mg	$\pm 0,003$ mg	$\pm 0,008$ mg	$\pm 0,025$ mg	$\pm 0,08$ mg	$\pm 0,25$ mg	-	-
20 mg	$\pm 0,003$ mg	$\pm 0,010$ mg	$\pm 0,03$ mg	$\pm 0,10$ mg	$\pm 0,3$ mg	-	-
50 mg	$\pm 0,004$ mg	$\pm 0,012$ mg	$\pm 0,04$ mg	$\pm 0,12$ mg	$\pm 0,4$ mg	-	-
100 mg	$\pm 0,005$ mg	$\pm 0,016$ mg	$\pm 0,05$ mg	$\pm 0,16$ mg	$\pm 0,5$ mg	$\pm 1,6$ mg	-
200 mg	$\pm 0,006$ mg	$\pm 0,020$ mg	$\pm 0,06$ mg	$\pm 0,20$ mg	$\pm 0,6$ mg	$\pm 2,0$ mg	-
500 mg	$\pm 0,008$ mg	$\pm 0,025$ mg	$\pm 0,08$ mg	$\pm 0,25$ mg	$\pm 0,8$ mg	$\pm 2,5$ mg	-
1 g	$\pm 0,010$ mg	$\pm 0,03$ mg	$\pm 0,10$ mg	$\pm 0,3$ mg	$\pm 1,0$ mg	$\pm 3,0$ mg	$\pm 10$ mg
2 g	$\pm 0,012$ mg	$\pm 0,04$ mg	$\pm 0,12$ mg	$\pm 0,4$ mg	$\pm 1,2$ mg	$\pm 4,0$ mg	$\pm 12$ mg
5 g	$\pm 0,016$ mg	$\pm 0,05$ mg	$\pm 0,16$ mg	$\pm 0,5$ mg	$\pm 1,6$ mg	$\pm 5,0$ mg	$\pm 16$ mg
10 g	$\pm 0,020$ mg	$\pm 0,06$ mg	$\pm 0,20$ mg	$\pm 0,6$ mg	$\pm 2,0$ mg	$\pm 6,0$ mg	$\pm 20$ mg
20 g	$\pm 0,025$ mg	$\pm 0,08$ mg	$\pm 0,25$ mg	$\pm 0,8$ mg	$\pm 2,5$ mg	$\pm 8,0$ mg	$\pm 25$ mg
50 g	$\pm 0,03$ mg	$\pm 0,10$ mg	$\pm 0,3$ mg	$\pm 1,0$ mg	$\pm 3,0$ mg	$\pm 10$ mg	$\pm 30$ mg
100 g	$\pm 0,05$ mg	$\pm 0,16$ mg	$\pm 0,5$ mg	$\pm 1,6$ mg	$\pm 5,0$ mg	$\pm 16$ mg	$\pm 50$ mg
200 g	$\pm 0,10$ mg	$\pm 0,3$ mg	$\pm 1,0$ mg	$\pm 3,0$ mg	$\pm 10$ mg	$\pm 30$ mg	$\pm 100$ mg
500 g	$\pm 0,25$ mg	$\pm 0,8$ mg	$\pm 2,5$ mg	$\pm 8,0$ mg	$\pm 25$ mg	$\pm 80$ mg	$\pm 250$ mg
1 kg	$\pm 0,5$ mg	$\pm 1,6$ mg	$\pm 5,0$ mg	$\pm 16$ mg	$\pm 50$ mg	$\pm 160$ mg	$\pm 500$ mg
2 kg	$\pm 1,0$ mg	$\pm 3,0$ mg	$\pm 10$ mg	$\pm 30$ mg	$\pm 100$ mg	$\pm 300$ mg	$\pm 1\,000$ mg
5 kg	$\pm 2,5$ mg	$\pm 8,0$ mg	$\pm 25$ mg	$\pm 80$ mg	$\pm 250$ mg	$\pm 800$ mg	$\pm 2\,500$ mg
10 kg	$\pm 5,0$ mg	$\pm 16$ mg	$\pm 50$ mg	$\pm 160$ mg	$\pm 500$ mg	$\pm 1\,600$ mg	$\pm 5\,000$ mg
20 kg	$\pm 10$ mg	$\pm 30$ mg	$\pm 100$ mg	$\pm 300$ mg	$\pm 1\,000$ mg	$\pm 3\,000$ mg	$\pm 10$ g
50 kg	$\pm 25$ mg	$\pm 80$ mg	$\pm 250$ mg	$\pm 800$ mg	$\pm 2\,500$ mg	$\pm 8\,000$ mg	$\pm 25$ g
100 kg	-	$\pm 160$ mg	$\pm 500$ mg	$\pm 1\,600$ mg	$\pm 5\,000$ mg	$\pm 16$ g	$\pm 50$ g
200 kg	-	$\pm 300$ mg	$\pm 1\,000$ mg	$\pm 3\,000$ mg	$\pm 10$ g	$\pm 30$ g	$\pm 100$ g
500 kg	-	$\pm 800$ mg	$\pm 2\,500$ mg	$\pm 8\,000$ mg	$\pm 25$ g	$\pm 80$ g	$\pm 250$ g
1 000 kg	-	$\pm 1\,600$ mg	$\pm 5\,000$ mg	$\pm 16$ g	$\pm 50$ g	$\pm 160$ g	$\pm 500$ g
2 000 kg	-	-	$\pm 10$ g	$\pm 30$ g	$\pm 100$ g	$\pm 300$ g	$\pm 1\,000$ g
5 000 kg	-	-	$\pm 25$ g	$\pm 80$ g	$\pm 250$ g	$\pm 800$ g	$\pm 2\,500$ g

# Test weights and boxes

## Class E1



Milligram weights, wire shape



Individual weights, knob shape



Wooden box, for milligram weights



Plastic box, lined,  
for individual weights  
 $\leq 50$  g

Plastic box, lined,  
for individual weights  
 $\geq 100$  g



Wooden box, lined,  
for individual weights  $\leq 500$  g



Wooden box, lined,  
for individual weights  $\geq 1$  kg



Milligram weight set  
in plastic box (308-  
22)



Milligram weight  
set in aluminium  
protected box, lined  
(308-226)



Aluminium protected case, lined, for weight  
sets, knob shape



Wooden case, lined, for weight sets,  
knob shape

**Class E1 · Milligram weights, wire shape, stainless steel**

Test weight material: stainless steel

Weight	Tol +/- mg	Milligram weight, wire shape		Plastic box		Aluminium protected box		Wooden box		DAkkS certificate	
		KERN	€	KERN	■	KERN	□	KERN	■	KERN	€
1 mg	0,003	308-31	58,-	347-009-400	2,-	317-009-600	15,-	338-090-200	19,-	962-251	57,-
2 mg	0,003	308-32	58,-	347-009-400	2,-	317-009-600	15,-	338-090-200	19,-	962-252	57,-
5 mg	0,003	308-33	58,-	347-009-400	2,-	317-009-600	15,-	338-090-200	19,-	962-253	57,-
10 mg	0,003	308-34	58,-	347-009-400	2,-	317-009-600	15,-	338-090-200	19,-	962-254	57,-
20 mg	0,003	308-35	58,-	347-009-400	2,-	317-009-600	15,-	338-090-200	19,-	962-255	57,-
50 mg	0,004	308-36	58,-	347-009-400	2,-	317-009-600	15,-	338-090-200	19,-	962-256	57,-
100 mg	0,005	308-37	58,-	347-009-400	2,-	317-009-600	15,-	338-090-200	19,-	962-257	57,-
200 mg	0,006	308-38	58,-	347-009-400	2,-	317-009-600	15,-	338-090-200	19,-	962-258	57,-
500 mg	0,008	308-39	58,-	347-009-400	2,-	317-009-600	15,-	338-090-200	19,-	962-259	57,-

**Class E1 · Individual weights, knob shape, stainless steel polished**

Test weight material: stainless steel polished

Weight	Tol +/- mg	Individual weight, knob shape		Plastic box		Aluminium protected box		Wooden box		DAkks certificate	DAkks certificate		
		KERN	€	KERN	■	KERN	□	KERN	■	KERN	€		
1 g	0,010	307-01	87,-	317-020-400	4,-	317-010-600	14,-	317-010-100	26,-	963-231	210,-	962-231R	57,-
2 g	0,012	307-02	95,-	317-020-400	4,-	317-020-600	14,-	317-020-100	26,-	963-232	210,-	962-232R	57,-
5 g	0,016	307-03	98,-	317-030-400	4,-	317-030-600	14,-	317-030-100	26,-	963-233	210,-	962-233R	57,-
10 g	0,020	307-04	106,-	317-040-400	4,-	317-040-600	14,-	317-040-100	26,-	963-234	210,-	962-234R	57,-
20 g	0,025	307-05	113,-	317-050-400	4,-	317-050-600	14,-	317-050-100	26,-	963-335	210,-	962-235R	57,-
50 g	0,030	307-06	135,-	317-060-400	5,-	317-060-600	14,-	317-060-100	27,-	963-236	210,-	962-236R	57,-
100 g	0,050	307-07	170,-	317-070-400	5,-	317-070-600	14,-	317-070-100	29,-	963-237	210,-	962-237R	57,-
200 g	0,100	307-08	210,-	317-080-400	6,-	317-080-600	14,-	317-080-100	29,-	963-238	210,-	962-238R	57,-
500 g	0,250	307-09	280,-	317-090-400	7,-	317-090-600	15,-	317-090-100	30,-	963-239	210,-	962-239R	57,-
1 kg	0,500	307-11	450,-	317-110-400	9,-	317-110-600	22,-	317-110-100	50,-	963-241	210,-	962-241R	57,-
2 kg	1,000	307-12	630,-	317-120-400	12,-	317-120-600	26,-	317-120-100	58,-	963-242	465,-	962-242R	70,-
5 kg	2,500	307-13	1060,-	317-130-400	20,-	317-130-600	44,-	317-130-100	86,-	963-243	465,-	962-243R	70,-
10 kg	5,000	307-14	1620,-	317-140-400	20,-	317-140-600	62,-	317-140-100	97,-	963-244	465,-	962-244R	70,-
20 kg	10,000	307-15	4200,-	-	-	317-150-600	110,-	317-150-100	550,-	963-245	1160,-	962-245R	590,-
50 kg	25,000	307-16	8050,-	-	-	317-160-600	215,-	317-160-100	670,-	963-246	1360,-	962-246R	660,-

\* For E1 weights > 1g at the point of initial calibration, a volume determination will be carried out in accordance with OIML:R111.  
When recalibrating, this is not required.

**Class E1 · Weight sets, knob shape, stainless steel polished**

Test weight material: stainless steel polished

\*\*Plastic case      \*\*\*Aluminium protected case

Weight set	Aluminium protected case, knob shape		Wooden case, knob shape		DAkkS certificate		DAkkS certificate	
	KERN	■	KERN	■	KERN	€	KERN	€
1 mg - 500 mg	308-426***	780,-	308-42**	810,-	962-250	370,-	962-250R	370,-
1 mg - 50 g	303-026	1570,-	303-02	1600,-	963-201	1180,-	962-201R	610,-
1 mg - 100 g	303-036	1750,-	303-03	1780,-	963-202	1290,-	962-202R	630,-
1 mg - 200 g	303-046	2160,-	303-04	2190,-	963-203	1490,-	962-203R	690,-
1 mg - 500 g	303-056	2490,-	303-05	2520,-	963-204	1580,-	962-204R	720,-
1 mg - 1 kg	303-066	2930,-	303-06	2990,-	963-205	1680,-	962-205R	770,-
1 mg - 2 kg	303-076	4230,-	303-07	4290,-	963-206	2190,-	962-206R	820,-
1 mg - 5 kg	303-086	5390,-	303-08	5490,-	963-207	2450,-	962-207R	850,-
1 mg - 10 kg	303-096	7150,-	303-09	7250,-	963-208	2790,-	962-208R	880,-
1 g - 50 g	304-026	920,-	304-02	950,-	963-215	850,-	962-215R	270,-
1 g - 100 g	304-036	1090,-	304-03	1120,-	963-216	940,-	962-216R	290,-
1 g - 200 g	304-046	1510,-	304-04	1540,-	963-217	1140,-	962-217R	350,-
1 g - 500 g	304-056	1820,-	304-05	1850,-	963-218	1240,-	962-218R	385,-
1 g - 1 kg	304-066	2230,-	304-06	2290,-	963-219	1350,-	962-219R	410,-
1 g - 2 kg	304-076	3590,-	304-07	3650,-	963-220	1900,-	962-220R	470,-
1 g - 5 kg	304-086	4690,-	304-08	4790,-	963-221	2230,-	962-221R	495,-
1 g - 10 kg	304-096	6490,-	304-09	6590,-	963-222	2590,-	962-222R	530,-

# Test weights and boxes

## Class E2

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Milligram weights, flat polygonal sheet



Individual weights, compact shape



Individual weights, knob shape



Plastic box,  
lined, for  
individual  
weights  $\leq 50$  g

Plastic box,  
lined, for  
individual  
weights  $\geq 100$  g



Aluminium protected box, lined,  
for individual weights



Wooden box, lined,  
for individual weights  $\leq 500$  g



Wooden box, lined,  
for individual weights  $\geq 1$  kg



Milligram weight  
set in plastic box  
(318-22)



Milligram weight  
set in aluminium  
protected box,  
lined (318-226)



Plastic case, lined,  
for weight sets, compact shape/  
knob shape



Aluminium protected case, lined,  
for weight sets, compact shape/  
knob shape



Wooden case, lined,  
for weight sets, compact shape/  
knob shape

## Class E2 · Milligram weights, flat polygonal sheet, stainless steel

Test weight material: stainless steel

Weight	Tol +/- mg	Milligram weight, flat polygonal sheet		Plastic box		Aluminium protected box		Wooden box		DAkkS certificate	
		KERN	€	KERN	€	KERN	€	KERN	€	KERN	€
1 mg	0,006	318-01	23,-	347-009-400	2,-	317-009-600	15,-	338-090-200	19,-	962-351	27,-
2 mg	0,006	318-02	23,-	347-009-400	2,-	317-009-600	15,-	338-090-200	19,-	962-352	27,-
5 mg	0,006	318-03	23,-	347-009-400	2,-	317-009-600	15,-	338-090-200	19,-	962-353	27,-
10 mg	0,008	318-04	23,-	347-009-400	2,-	317-009-600	15,-	338-090-200	19,-	962-354	27,-
20 mg	0,010	318-05	23,-	347-009-400	2,-	317-009-600	15,-	338-090-200	19,-	962-355	27,-
50 mg	0,012	318-06	23,-	347-009-400	2,-	317-009-600	15,-	338-090-200	19,-	962-356	27,-
100 mg	0,016	318-07	23,-	347-009-400	2,-	317-009-600	15,-	338-090-200	19,-	962-357	27,-
200 mg	0,020	318-08	23,-	347-009-400	2,-	317-009-600	15,-	338-090-200	19,-	962-358	27,-
500 mg	0,025	318-09	23,-	347-009-400	2,-	317-009-600	15,-	338-090-200	19,-	962-359	27,-

## Class E2 · Individual weights, compact shape or knob shape, polished stainless steel

Test weight material: stainless steel polished

Weight	Tol +/- mg	Individual weights, compact shape		Individual weights, knob shape		Plastic box		Aluminium protected box		Wooden box		DAkkS certificate	
		KERN	€	KERN	€	KERN	€	KERN	€	KERN	€	KERN	€
1 g	0,03	316-01	32,-	317-01	49,-	317-020-400	4,-	317-010-600	14,-	317-010-100	26,-	962-331	27,-
2 g	0,04	316-02	34,-	317-02	53,-	317-020-400	4,-	317-020-600	14,-	317-020-100	26,-	962-332	27,-
5 g	0,05	316-03	36,-	317-03	56,-	317-030-400	4,-	317-030-600	14,-	317-030-100	26,-	962-333	27,-
10 g	0,06	316-04	38,-	317-04	60,-	317-040-400	4,-	317-040-600	14,-	317-040-100	26,-	962-334	27,-
20 g	0,08	316-05	43,-	317-05	68,-	317-050-400	4,-	317-050-600	14,-	317-050-100	26,-	962-335	27,-
50 g	0,10	316-06	46,-	317-06	73,-	317-060-400	5,-	317-060-600	14,-	317-060-100	27,-	962-336	27,-
100 g	0,16	316-07	50,-	317-07	80,-	317-070-400	5,-	317-070-600	14,-	317-070-100	29,-	962-337	35,-
200 g	0,30	316-08	62,-	317-08	101,-	317-080-400	6,-	317-080-600	14,-	317-080-100	29,-	962-338	35,-
500 g	0,80	316-09	93,-	317-09	168,-	317-090-400	7,-	317-090-600	15,-	317-090-100	30,-	962-339	35,-
1 kg	1,60	316-11	135,-	317-11	245,-	317-110-400	9,-	317-110-600	22,-	317-110-100	50,-	962-341	35,-
2 kg	3,00	316-12	230,-	317-12	380,-	317-120-400	12,-	317-120-600	26,-	317-120-100	58,-	962-342	43,-
5 kg	8,00	316-13	360,-	317-13	550,-	317-130-400	20,-	317-130-600	44,-	317-130-100	86,-	962-343	43,-
10 kg	16,00	316-14	530,-	317-14	800,-	317-140-400	20,-	317-140-600	62,-	317-140-100	97,-	962-344	43,-
20 kg	30,00	-	-	317-15	2280,-	-	-	317-150-600	110,-	317-150-100	550,-	962-345	55,-
50 kg	80,00	-	-	317-16	4730,-	-	-	317-160-600	215,-	317-160-100	670,-	962-346	64,-

## Class E2 · Weight sets, compact shape or knob shape, polished stainless steel

Test weight material: Milligramm weights stainless steel, individual weights: polished stainless steel.

\*Plastic case      \*\*Aluminium protected case

Weight sets	Compact shape in plastic case		Knob shape in plastic case		Knob shape in aluminium protected case		Knob shape in wooden case		DAkkS certificate	
	KERN	€	KERN	€	KERN	€	KERN	€	KERN	€
1 mg - 500 mg	318-22*	320,-	-	-	318-226**	330,-	-	-	962-350	190,-
1 mg - 50 g	-	-	313-024	830,-	313-026	850,-	313-02	880,-	962-301	315,-
1 mg - 100 g	-	-	313-034	900,-	313-036	920,-	313-03	960,-	962-302	340,-
1 mg - 200 g	-	-	313-044	1070,-	313-046	1090,-	313-04	1120,-	962-303	395,-
1 mg - 500 g	-	-	313-054	1230,-	313-056	1250,-	313-05	1340,-	962-304	420,-
1 mg - 1 kg	-	-	313-064	1520,-	313-066	1540,-	313-06	1600,-	962-305	450,-
1 mg - 2 kg	-	-	313-074	2330,-	313-076	2350,-	313-07	2410,-	962-306	495,-
1 mg - 5 kg	-	-	313-084	2880,-	313-086	2900,-	313-08	3060,-	962-307	530,-
1 mg - 10 kg	-	-	-	-	313-096	3800,-	313-09	3950,-	962-308	560,-
1 g - 50 g	312-024	355,-	314-024	550,-	314-026	570,-	314-02	590,-	962-315	129,-
1 g - 100 g	312-034	400,-	314-034	620,-	314-036	640,-	314-03	670,-	962-316	155,-
1 g - 200 g	312-044	500,-	314-044	790,-	314-046	810,-	314-04	840,-	962-317	205,-
1 g - 500 g	312-054	600,-	314-054	970,-	314-056	990,-	314-05	1050,-	962-318	230,-
1 g - 1 kg	312-064	790,-	314-064	1230,-	314-066	1250,-	314-06	1310,-	962-319	260,-
1 g - 2 kg	312-074	1220,-	314-074	2050,-	314-076	2070,-	314-07	2130,-	962-320	320,-
1 g - 5 kg	312-084	1560,-	314-084	2600,-	314-086	2620,-	314-08	2780,-	962-321	360,-
1 g - 10 kg	-	-	-	-	314-096	3490,-	314-09	3670,-	962-322	390,-

**! Note**

Our highly-accurate OIML test weights are also available as **Premium<sup>+</sup> weights** for that extra level of safety.  
See all details page 184 or on [www.kern-lab.com/premium+](http://www.kern-lab.com/premium+)

# Test weights and boxes

## Class F1

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Milligram weights,  
flat polygonal sheet



Individual weights/  
Weight sets,  
ECO shape



Individual weights/  
Weight sets,  
knob shape



Test weights (10 – 50 kg),  
polished stainless steel, KERN  
327-141 ff, optional: Wooden box



Block weight,  
polished stainless steel



Plastic box,  
lined, for  
individual  
weights  
 $\leq 200$  g



Plastic box,  
lined, for  
individual  
weights  
 $\geq 500$  g



Aluminium protected box, lined,  
for individual weights



Wooden box, lined,  
for individual weights  $\leq 500$  g



Wooden box, lined,  
for individual weights  $\geq 1$  kg



Milligram weight  
set in plastic box  
(328-22)

Milligram weight  
set in aluminium  
protected box,  
lined  
(328-226)



Plastic case, lined  
for weight sets, knob shape



Aluminium protected case, lined,  
for weight sets ECO shape/  
knob shape



Wooden case, lined,  
for weight sets ECO shape/  
knob shape

**Class F1 · Milligram weights, flat polygonal sheet, stainless steel**

Test weight material: stainless steel

Weight	Tol +/- mg	Milligram weight, flat polygonal sheet	Plastic box	Aluminium protected box	Wooden box	DAkkS certificate
		KERN €	KERN  €	KERN  €	KERN  €	KERN €
1 mg	0,020	328-01 <b>11,-</b>	347-009-400 <b>2,-</b>	317-009-600 <b>15,-</b>	338-090-200 <b>19,-</b>	962-451 <b>18,-</b>
2 mg	0,020	328-02 <b>11,-</b>	347-009-400 <b>2,-</b>	317-009-600 <b>15,-</b>	338-090-200 <b>19,-</b>	962-452 <b>18,-</b>
5 mg	0,020	328-03 <b>11,-</b>	347-009-400 <b>2,-</b>	317-009-600 <b>15,-</b>	338-090-200 <b>19,-</b>	962-453 <b>18,-</b>
10 mg	0,025	328-04 <b>11,-</b>	347-009-400 <b>2,-</b>	317-009-600 <b>15,-</b>	338-090-200 <b>19,-</b>	962-454 <b>18,-</b>
20 mg	0,03	328-05 <b>11,-</b>	347-009-400 <b>2,-</b>	317-009-600 <b>15,-</b>	338-090-200 <b>19,-</b>	962-455 <b>18,-</b>
50 mg	0,04	328-06 <b>11,-</b>	347-009-400 <b>2,-</b>	317-009-600 <b>15,-</b>	338-090-200 <b>19,-</b>	962-456 <b>18,-</b>
100 mg	0,05	328-07 <b>11,-</b>	347-009-400 <b>2,-</b>	317-009-600 <b>15,-</b>	338-090-200 <b>19,-</b>	962-457 <b>18,-</b>
200 mg	0,06	328-08 <b>11,-</b>	347-009-400 <b>2,-</b>	317-009-600 <b>15,-</b>	338-090-200 <b>19,-</b>	962-458 <b>18,-</b>
500 mg	0,08	328-09 <b>11,-</b>	347-009-400 <b>2,-</b>	317-009-600 <b>15,-</b>	338-090-200 <b>19,-</b>	962-459 <b>18,-</b>

**Class F1 · Individual weights, ECO shape or knob shape, polished stainless steel**

Test weight material: stainless steel polished

Weight	Tol +/- mg	Individual weight, ECO shape	Individual weight, knob shape	Plastic box	Aluminium protected box	Wooden box	DAkkS certificate
		KERN €	KERN €	KERN  €	KERN  €	KERN  €	KERN €
1 g	0,10	326-01 <b>23,-</b>	327-01 <b>30,-</b>	347-030-400 <b>2,-</b>	317-010-600 <b>14,-</b>	317-010-100 <b>26,-</b>	962-431 <b>18,-</b>
2 g	0,12	326-02 <b>24,-</b>	327-02 <b>31,-</b>	347-030-400 <b>2,-</b>	317-020-600 <b>14,-</b>	317-020-100 <b>26,-</b>	962-432 <b>18,-</b>
5 g	0,16	326-03 <b>26,-</b>	327-03 <b>33,-</b>	347-030-400 <b>2,-</b>	317-030-600 <b>14,-</b>	317-030-100 <b>26,-</b>	962-433 <b>18,-</b>
10 g	0,20	326-04 <b>28,-</b>	327-04 <b>37,-</b>	347-050-400 <b>2,-</b>	317-040-600 <b>14,-</b>	317-040-100 <b>26,-</b>	962-434 <b>18,-</b>
20 g	0,25	326-05 <b>29,-</b>	327-05 <b>40,-</b>	347-050-400 <b>2,-</b>	317-050-600 <b>14,-</b>	317-050-100 <b>26,-</b>	962-435 <b>18,-</b>
50 g	0,30	326-06 <b>34,-</b>	327-06 <b>43,-</b>	347-070-400 <b>2,-</b>	317-060-600 <b>14,-</b>	317-060-100 <b>27,-</b>	962-436 <b>18,-</b>
100 g	0,50	326-07 <b>38,-</b>	327-07 <b>52,-</b>	347-070-400 <b>2,-</b>	317-070-600 <b>14,-</b>	317-070-100 <b>29,-</b>	962-437 <b>20,-</b>
200 g	1,00	326-08 <b>49,-</b>	327-08 <b>68,-</b>	347-080-400 <b>2,-</b>	317-080-600 <b>14,-</b>	317-080-100 <b>29,-</b>	962-438 <b>20,-</b>
500 g	2,50	326-09 <b>79,-</b>	327-09 <b>111,-</b>	347-090-400 <b>3,-</b>	317-090-600 <b>15,-</b>	317-090-100 <b>30,-</b>	962-439 <b>20,-</b>
1 kg	5,00	326-11 <b>104,-</b>	327-11 <b>154,-</b>	347-110-400 <b>3,-</b>	317-110-600 <b>22,-</b>	317-110-100 <b>50,-</b>	962-441 <b>20,-</b>
2 kg	10	326-12 <b>179,-</b>	327-12 <b>240,-</b>	347-120-400 <b>4,-</b>	317-120-600 <b>26,-</b>	317-120-100 <b>58,-</b>	962-442 <b>25,-</b>
5 kg	25	326-13 <b>260,-</b>	327-13 <b>355,-</b>	347-130-400 <b>9,-</b>	317-130-600 <b>44,-</b>	317-130-100 <b>86,-</b>	962-443 <b>25,-</b>
10 kg	50	326-14 <b>485,-</b>	327-14 <b>650,-</b>	347-140-400 <b>10,-</b>	317-140-600 <b>62,-</b>	317-140-100 <b>97,-</b>	962-444 <b>25,-</b>
20 kg	100	- <b>-</b>	327-15 <b>1790,-</b>	-	317-150-600 <b>110,-</b>	317-150-100 <b>550,-</b>	962-445 <b>28,-</b>
50 kg	250	- <b>-</b>	327-16 <b>3850,-</b>	-	317-160-600 <b>215,-</b>	317-160-100 <b>670,-</b>	962-446 <b>39,-</b>

**Class F1 · Block weights, stainless steel polished**

Block weight material: stainless steel polished

Weight	Tol +/- mg	Dimensions $\varnothing \times H$	Block weight, stainless steel	Aluminium protected case	DAkkS certificate
			KERN €	KERN  €	KERN €
5 kg	25	145×68×96	326-36 <b>910,-</b>	346-060-600 <b>80,-</b>	962-443 <b>25,-</b>
10 kg	50	193×96×117	326-37 <b>1310,-</b>	346-070-600 <b>100,-</b>	962-444 <b>25,-</b>
20 kg	100	233×115×145	326-38 <b>1730,-</b>	346-080-600 <b>130,-</b>	962-445 <b>28,-</b>
50 kg	250	295×158×191	326-39 <b>4290,-</b>	346-090-600 <b>180,-</b>	962-446 <b>39,-</b>

**Class F1 · Test weights, stainless steel polished, stackable**

Test weight material: stainless steel polished

Weight	Tol +/- mg	Test weight, stainless steel	Wooden case	DAkkS certificate
		KERN €	KERN  €	KERN €
10 kg	50	327-141 <b>570,-</b>	337-141-100 <b>340,-</b>	962-444 <b>25,-</b>
20 kg	100	327-151 <b>720,-</b>	337-151-100 <b>370,-</b>	962-445 <b>28,-</b>
50 kg	250	327-161 <b>1820,-</b>	337-161-100 <b>570,-</b>	962-446 <b>39,-</b>

**Class F1 · Weight sets, ECO shape, polished stainless steel**

Test weight material: Milligramm weights stainless steel, Individual weights: polished stainless steel.

\*Plastic case      \*\*Aluminium protected case

Weight sets	ECO shape in plastic case		ECO shape in aluminium protected case		ECO shape in wooden case		DAkkS certificate	
	KERN	€	KERN	€	KERN	€	KERN	€
1 mg - 500 mg	328-22*	<b>184,-</b>	328-226**	<b>195,-</b>	328-22*	<b>184,-</b>	962-450	<b>100,-</b>
1 mg - 50 g	325-024	<b>395,-</b>	325-026	<b>405,-</b>	325-022	<b>450,-</b>	962-401	<b>167,-</b>
1 mg - 100 g	325-034	<b>430,-</b>	325-036	<b>440,-</b>	325-032	<b>480,-</b>	962-402	<b>178,-</b>
1 mg - 200 g	325-044	<b>520,-</b>	325-046	<b>530,-</b>	325-042	<b>570,-</b>	962-403	<b>199,-</b>
1 mg - 500 g	325-054	<b>580,-</b>	325-056	<b>610,-</b>	325-052	<b>690,-</b>	962-404	<b>210,-</b>
1 mg - 1 kg	325-064	<b>760,-</b>	325-066	<b>770,-</b>	325-062	<b>780,-</b>	962-405	<b>220,-</b>
1 mg - 2 kg	325-074	<b>1010,-</b>	325-076	<b>1080,-</b>	325-072	<b>1110,-</b>	962-406	<b>250,-</b>
1 mg - 5 kg	325-084	<b>1250,-</b>	325-086	<b>1350,-</b>	325-082	<b>1460,-</b>	962-407	<b>265,-</b>
1 mg - 10 kg	-	-	325-096	<b>1950,-</b>	325-092	<b>1980,-</b>	962-408	<b>285,-</b>
1 g - 50 g	326-024	<b>235,-</b>	326-026	<b>240,-</b>	326-022	<b>290,-</b>	962-415	<b>67,-</b>
1 g - 100 g	326-034	<b>270,-</b>	326-036	<b>290,-</b>	326-032	<b>330,-</b>	962-416	<b>77,-</b>
1 g - 200 g	326-044	<b>355,-</b>	326-046	<b>390,-</b>	326-042	<b>425,-</b>	962-417	<b>98,-</b>
1 g - 500 g	326-054	<b>420,-</b>	326-056	<b>490,-</b>	326-052	<b>550,-</b>	962-418	<b>109,-</b>
1 g - 1 kg	326-064	<b>600,-</b>	326-066	<b>620,-</b>	326-062	<b>660,-</b>	962-419	<b>119,-</b>
1 g - 2 kg	326-074	<b>850,-</b>	326-076	<b>920,-</b>	326-072	<b>1020,-</b>	962-420	<b>151,-</b>
1 g - 5 kg	326-084	<b>1090,-</b>	326-086	<b>1190,-</b>	326-082	<b>1400,-</b>	962-421	<b>166,-</b>
1 g - 10 kg	-	-	326-096	<b>1790,-</b>	326-092	<b>1840,-</b>	962-422	<b>182,-</b>

**Class F1 · Weight sets, knob shape, polished stainless steel**

Test weight material: Milligramm weights stainless steel, Individual weights: polished stainless steel.

\*Plastic case      \*\*Aluminium protected case

Weight sets	Knob shape in plastic case		Knob shape in aluminium protected case		Knob shape in wooden case		DAkkS certificate	
	KERN	€	KERN	€	KERN	€	KERN	€
1 mg - 500 mg	328-22*	<b>184,-</b>	328-226**	<b>195,-</b>	328-22*	<b>184,-</b>	962-450	<b>100,-</b>
1 mg - 50 g	323-024	<b>500,-</b>	323-026	<b>520,-</b>	323-02	<b>550,-</b>	962-401	<b>167,-</b>
1 mg - 100 g	323-034	<b>560,-</b>	323-036	<b>580,-</b>	323-03	<b>600,-</b>	962-402	<b>178,-</b>
1 mg - 200 g	323-044	<b>670,-</b>	323-046	<b>690,-</b>	323-04	<b>710,-</b>	962-403	<b>199,-</b>
1 mg - 500 g	323-054	<b>780,-</b>	323-056	<b>830,-</b>	323-05	<b>880,-</b>	962-404	<b>210,-</b>
1 mg - 1 kg	323-064	<b>1000,-</b>	323-066	<b>1020,-</b>	323-06	<b>1040,-</b>	962-405	<b>220,-</b>
1 mg - 2 kg	323-074	<b>1490,-</b>	323-076	<b>1510,-</b>	323-07	<b>1570,-</b>	962-406	<b>250,-</b>
1 mg - 5 kg	323-084	<b>1830,-</b>	323-086	<b>1870,-</b>	323-08	<b>2010,-</b>	962-407	<b>265,-</b>
1 mg - 10 kg	-	-	323-096	<b>2650,-</b>	323-09	<b>2750,-</b>	962-408	<b>285,-</b>
1 g - 50 g	324-024	<b>345,-</b>	324-026	<b>370,-</b>	324-02	<b>400,-</b>	962-415	<b>67,-</b>
1 g - 100 g	324-034	<b>405,-</b>	324-036	<b>425,-</b>	324-03	<b>455,-</b>	962-416	<b>77,-</b>
1 g - 200 g	324-044	<b>520,-</b>	324-046	<b>540,-</b>	324-04	<b>570,-</b>	962-417	<b>98,-</b>
1 g - 500 g	324-054	<b>630,-</b>	324-056	<b>670,-</b>	324-05	<b>720,-</b>	962-418	<b>109,-</b>
1 g - 1 kg	324-064	<b>850,-</b>	324-066	<b>870,-</b>	324-06	<b>890,-</b>	962-419	<b>119,-</b>
1 g - 2 kg	324-074	<b>1340,-</b>	324-076	<b>1370,-</b>	324-07	<b>1410,-</b>	962-420	<b>151,-</b>
1 g - 5 kg	324-084	<b>1680,-</b>	324-086	<b>1760,-</b>	324-08	<b>1870,-</b>	962-421	<b>166,-</b>
1 g - 10 kg	-	-	324-096	<b>2510,-</b>	324-09	<b>2600,-</b>	962-422	<b>182,-</b>

# Test weights and boxes

## Class F2

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Milligram weights, flat polygonal sheet



Individual weights/Weight sets, knob shape



Block weight, stainless steel



Test weights (10 – 50 kg), finely turned stainless steel KERN 337-141 ff, optional: Wooden box



Plastic box,  
lined, for  
individual  
weights  
 $\leq 200\text{ g}$



Plastic box,  
lined, for  
individual  
weights  
 $\geq 500\text{ g}$



Aluminium protected box, lined,  
for individual weights



Wooden box, not lined  
for individual weights  $\leq 500\text{ g}$



Wooden box, not lined,  
for individual weights  $\geq 1\text{ kg}$



Milligram weight  
set in plastic box  
(338-22)

Milligram weight  
set in aluminium  
protected box,  
lined (338-226)



Plastic case, lined,  
for weight sets knob shape



Aluminium protected case, lined,  
for weight sets knob shape



Wooden case,  
for weight sets knob shape



## Test weights class F2

### Class F2 · Milligram weights, flat polygonal sheet, stainless steel

Test weight material: stainless steel

Weight	Tol +/- mg	Milligram weight, flat polygonal sheet	Plastic box		Aluminium protected box		Wooden box		DAkkS certificate	
			KERN	€	KERN	€	KERN	€	KERN	€
1 mg	0,06	338-01	9,-	347-009-400	2,-	317-009-600	15,-	338-090-200	19,-	962-451 18,-
2 mg	0,06	338-02	9,-	347-009-400	2,-	317-009-600	15,-	338-090-200	19,-	962-452 18,-
5 mg	0,06	338-03	9,-	347-009-400	2,-	317-009-600	15,-	338-090-200	19,-	962-453 18,-
10 mg	0,08	338-04	9,-	347-009-400	2,-	317-009-600	15,-	338-090-200	19,-	962-454 18,-
20 mg	0,10	338-05	9,-	347-009-400	2,-	317-009-600	15,-	338-090-200	19,-	962-455 18,-
50 mg	0,12	338-06	9,-	347-009-400	2,-	317-009-600	15,-	338-090-200	19,-	962-456 18,-
100 mg	0,16	338-07	9,-	347-009-400	2,-	317-009-600	15,-	338-090-200	19,-	962-457 18,-
200 mg	0,20	338-08	9,-	347-009-400	2,-	317-009-600	15,-	338-090-200	19,-	962-458 18,-
500 mg	0,25	338-09	9,-	347-009-400	2,-	317-009-600	15,-	338-090-200	19,-	962-459 18,-

### Class F2 · Individual weights, knob shape, finely turned stainless steel

Test weight material: finely turned polished

Weight	Tol +/- mg	Individual weight, knob shape	Plastic box		Aluminium protected box		Wooden box		DAkkS certificate	
			KERN	€	KERN	€	KERN	€	KERN	€
1 g	0,3	337-01	19,-	347-030-400	2,-	317-010-600	14,-	337-010-200	17,-	962-431 18,-
2 g	0,4	337-02	20,-	347-030-400	2,-	317-020-600	14,-	337-020-200	17,-	962-432 18,-
5 g	0,5	337-03	21,-	347-030-400	2,-	317-030-600	14,-	337-030-200	18,-	962-433 18,-
10 g	0,6	337-04	23,-	347-050-400	2,-	317-040-600	14,-	337-040-200	18,-	962-434 18,-
20 g	0,8	337-05	25,-	347-050-400	2,-	317-050-600	14,-	337-050-200	18,-	962-435 18,-
50 g	1,0	337-06	27,-	347-070-400	2,-	317-060-600	14,-	337-060-200	18,-	962-436 18,-
100 g	1,6	337-07	30,-	347-070-400	2,-	317-070-600	14,-	337-070-200	20,-	962-437 20,-
200 g	3,0	337-08	40,-	347-080-400	2,-	317-080-600	14,-	337-080-200	20,-	962-438 20,-
500 g	8,0	337-09	57,-	347-090-400	3,-	317-090-600	14,-	337-090-200	22,-	962-439 20,-
1 kg	16	337-11	80,-	347-110-400	3,-	317-110-600	22,-	337-110-200	36,-	962-441 20,-
2 kg	30	337-12	120,-	347-120-400	4,-	317-120-600	26,-	337-120-200	36,-	962-442 25,-
5 kg	80	337-13	205,-	347-130-400	9,-	317-130-600	44,-	337-130-200	60,-	962-443 25,-
10 kg	160	337-14	395,-	347-140-400	9,-	317-140-600	62,-	337-140-200	63,-	962-444 25,-
20 kg	300	337-15	690,-	-	-	317-150-600	110,-	337-150-200	360,-	962-445 28,-
50 kg	800	337-16	1240,-	-	-	317-160-600	215,-	337-160-200	560,-	962-446 39,-

### Class F2 · Test weights, finely turned stainless steel

Test weight material: finely turned stainless steel

Weight	Tol +/- mg	Test weight, stainless steel	Wooden box		DAkkS certificate	
			KERN	€	KERN	€
10 kg	160	337-141	600,-	337-141-200	335,-	962-444 25,-
20 kg	300	337-151	730,-	337-151-200	360,-	962-445 28,-
50 kg	800	337-161	1970,-	337-161-200	560,-	962-446 39,-

### Class F2 · Block weights, stainless steel glass bead blasted

Block weight material: stainless steel glass bead blasted

Weight	Tol +/- mg	Block weight, stainless steel	Aluminium protected case		DAkkS certificate	
			KERN	€	KERN	€
5 kg	80	336-36	510,-	346-060-600	80,-	962-443 25,-
10 kg	160	336-37	680,-	346-070-600	100,-	962-444 25,-
20 kg	300	336-38	860,-	346-080-600	130,-	962-445 28,-
50 kg	800	336-39	2280,-	346-090-600	180,-	962-446 39,-

**Class F2 · Weight sets, knob shape, finely turned stainless steel**

Test weight material: Milligramm weights stainless steel, individual weights stainless steel.

\*Plastic case      \*\*Aluminium protected case

Weight	Knob shape in plastic case		Knob shape in aluminium protected case		Knob shape in wooden case		DAkkS certificate	
	KERN	€	KERN	€	KERN	€	KERN	€
1 mg - 500 mg	338-22*	<b>143,-</b>	338-226**	<b>183,-</b>	338-22*	<b>143,-</b>	962-450	<b>100,-</b>
1 mg - 50 g	333-024	<b>345,-</b>	333-026	<b>365,-</b>	333-02	<b>370,-</b>	962-401	<b>167,-</b>
1 mg - 100 g	333-034	<b>385,-</b>	333-036	<b>400,-</b>	333-03	<b>405,-</b>	962-402	<b>178,-</b>
1 mg - 200 g	333-044	<b>450,-</b>	333-046	<b>465,-</b>	333-04	<b>470,-</b>	962-403	<b>199,-</b>
1 mg - 500 g	333-054	<b>510,-</b>	333-056	<b>530,-</b>	333-05	<b>540,-</b>	962-404	<b>210,-</b>
1 mg - 1 kg	333-064	<b>630,-</b>	333-066	<b>650,-</b>	333-06	<b>660,-</b>	962-405	<b>220,-</b>
1 mg - 2 kg	333-074	<b>890,-</b>	333-076	<b>910,-</b>	333-07	<b>920,-</b>	962-406	<b>250,-</b>
1 mg - 5 kg	333-084	<b>1150,-</b>	333-086	<b>1180,-</b>	333-08	<b>1190,-</b>	962-407	<b>265,-</b>
1 mg - 10 kg	-	-	333-096	<b>1640,-</b>	333-09	<b>1650,-</b>	962-408	<b>285,-</b>
1 g - 50 g	334-024	<b>220,-</b>	334-026	<b>235,-</b>	334-02	<b>240,-</b>	962-415	<b>67,-</b>
1 g - 100 g	334-034	<b>260,-</b>	334-036	<b>270,-</b>	334-03	<b>275,-</b>	962-416	<b>77,-</b>
1 g - 200 g	334-044	<b>345,-</b>	334-046	<b>365,-</b>	334-04	<b>370,-</b>	962-417	<b>98,-</b>
1 g - 500 g	334-054	<b>410,-</b>	334-056	<b>425,-</b>	334-05	<b>430,-</b>	962-418	<b>109,-</b>
1 g - 1 kg	334-064	<b>520,-</b>	334-066	<b>530,-</b>	334-06	<b>540,-</b>	962-419	<b>119,-</b>
1 g - 2 kg	334-074	<b>760,-</b>	334-076	<b>800,-</b>	334-07	<b>810,-</b>	962-420	<b>151,-</b>
1 g - 5 kg	334-084	<b>990,-</b>	334-086	<b>1060,-</b>	334-08	<b>1070,-</b>	962-421	<b>166,-</b>
1 g - 10 kg	-	-	334-096	<b>1520,-</b>	334-09	<b>1530,-</b>	962-422	<b>182,-</b>

# Test weights and boxes

## Class M1



Milligram weights,  
flat polygonal sheet



Individual weights/Weight sets,  
knob shape, finely turned  
stainless steel or finely turned brass



Hook weights,  
finely turned brass (stainless  
steel, on request)



Slotted weights, finely turned brass  
or finely turned stainless steel (on  
request)



Plastic box, for individual  
weights  $\leq$  200 g, for hook  
weights and slotted  
weights  $\leq$  50 g



Plastic box, lined, for  
individual weights  $\geq$  500 g,  
for hook weights and  
slotted weights  $\geq$  100 g



Aluminium protected  
box, lined, for individual  
weights



Wooden box, not lined, for  
individual weights  $\leq$  500 g



Wooden box, not lined, for  
individual weights  $\geq$  1 kg



Milligram weight  
set in plastic box  
(348-22)



Milligram weight  
set in aluminium  
protected box,  
lined (348-226)



Plastic case, lined, for weight sets,  
knob shape, stainless steel or  
finely turned brass



Aluminium protected case, lined,  
for weight sets, knob shape, stain-  
less steel or finely turned brass



Wooden case, for weight sets,  
knob shape, stainless steel or  
finely turned brass



Test weights (10 – 50 kg),  
finely turned stainless steel KERN  
347-141 ff, optional: Wooden box



Beam bars, for fixing slotted  
weights, aluminium or finely  
turned brass

\* | \*\* | \*\*\* see page 202



Block weights, lacquered cast iron/stainless steel,  
optional: Aluminium protected case, lined



**Class M1 · Milligram weights, flat polygonal sheet, stainless steel**

Test weight material: stainless steel

Weight	Tol +/- mg	Milligram weight, flat polygonal sheet	Plastic box	Aluminium protected box	Wooden box	DAkkS certificate
		KERN €	KERN  €	KERN  €	KERN  €	KERN €
1 mg	0,20	348-01 <b>3,90</b>	347-009-400 <b>2,-</b>	317-009-600 <b>15,-</b>	338-090-200 <b>19,-</b>	962-651 <b>15,-</b>
2 mg	0,20	348-02 <b>3,90</b>	347-009-400 <b>2,-</b>	317-009-600 <b>15,-</b>	338-090-200 <b>19,-</b>	962-652 <b>15,-</b>
5 mg	0,20	348-03 <b>3,90</b>	347-009-400 <b>2,-</b>	317-009-600 <b>15,-</b>	338-090-200 <b>19,-</b>	962-653 <b>15,-</b>
10 mg	0,25	348-04 <b>3,90</b>	347-009-400 <b>2,-</b>	317-009-600 <b>15,-</b>	338-090-200 <b>19,-</b>	962-654 <b>15,-</b>
20 mg	0,30	348-05 <b>3,90</b>	347-009-400 <b>2,-</b>	317-009-600 <b>15,-</b>	338-090-200 <b>19,-</b>	962-655 <b>15,-</b>
50 mg	0,40	348-06 <b>3,90</b>	347-009-400 <b>2,-</b>	317-009-600 <b>15,-</b>	338-090-200 <b>19,-</b>	962-656 <b>15,-</b>
100 mg	0,50	348-07 <b>3,90</b>	347-009-400 <b>2,-</b>	317-009-600 <b>15,-</b>	338-090-200 <b>19,-</b>	962-657 <b>15,-</b>
200 mg	0,60	348-08 <b>3,90</b>	347-009-400 <b>2,-</b>	317-009-600 <b>15,-</b>	338-090-200 <b>19,-</b>	962-658 <b>15,-</b>
500 mg	0,80	348-09 <b>3,90</b>	347-009-400 <b>2,-</b>	317-009-600 <b>15,-</b>	338-090-200 <b>19,-</b>	962-659 <b>15,-</b>

**Class M1 · Individual weights, knob shape, finely turned brass or stainless steel**

Test weights material: 347-41 - 347-54 finely turned brass, 347-01 - 347-14 stainless steel

Weight	Tol +/- mg	Individual weight, brass*	Individual weight, stainless steel	Plastic box	Aluminium protected box	Wooden box	DAkkS certificate
		KERN €	KERN €	KERN  €	KERN  €	KERN  €	KERN €
1 g	1,0	347-41 <b>4,70</b>	347-01 <b>4,60</b>	347-030-400 <b>2,-</b>	317-010-600 <b>14,-</b>	337-010-200 <b>17,-</b>	962-631 <b>15,-</b>
2 g	1,2	347-42 <b>5,00</b>	347-02 <b>4,90</b>	347-030-400 <b>2,-</b>	317-020-600 <b>14,-</b>	337-020-200 <b>17,-</b>	962-632 <b>15,-</b>
5 g	1,6	347-43 <b>5,30</b>	347-03 <b>5,20</b>	347-030-400 <b>2,-</b>	317-030-600 <b>14,-</b>	337-030-200 <b>18,-</b>	962-633 <b>15,-</b>
10 g	2,0	347-44 <b>5,70</b>	347-04 <b>5,60</b>	347-050-400 <b>2,-</b>	317-040-600 <b>14,-</b>	337-040-200 <b>18,-</b>	962-634 <b>15,-</b>
20 g	2,5	347-45 <b>8,00</b>	347-05 <b>7,20</b>	347-050-400 <b>2,-</b>	317-050-600 <b>14,-</b>	337-050-200 <b>18,-</b>	962-635 <b>15,-</b>
50 g	3,0	347-46 <b>9,40</b>	347-06 <b>9,00</b>	347-070-400 <b>2,-</b>	317-060-600 <b>14,-</b>	337-060-200 <b>18,-</b>	962-636 <b>15,-</b>
100 g	5,0	347-47 <b>12,-</b>	347-07 <b>11,-</b>	347-070-400 <b>2,-</b>	317-070-600 <b>14,-</b>	337-070-200 <b>20,-</b>	962-637 <b>16,-</b>
200 g	10	347-48 <b>17,-</b>	347-08 <b>15,-</b>	347-080-400 <b>2,-</b>	317-080-600 <b>14,-</b>	337-080-200 <b>20,-</b>	962-638 <b>16,-</b>
500 g	25	347-49 <b>31,-</b>	347-09 <b>30,-</b>	347-090-400 <b>3,-</b>	317-090-600 <b>15,-</b>	337-090-200 <b>22,-</b>	962-639 <b>16,-</b>
1 kg	50	347-51 <b>47,-</b>	347-11 <b>45,-</b>	347-110-400 <b>3,-</b>	317-110-600 <b>22,-</b>	337-110-200 <b>36,-</b>	962-641 <b>16,-</b>
2 kg	100	347-52 <b>84,-</b>	347-12 <b>82,-</b>	347-120-400 <b>4,-</b>	317-120-600 <b>26,-</b>	337-120-200 <b>36,-</b>	962-642 <b>17,-</b>
5 kg	250	347-53 <b>190,-</b>	347-13 <b>180,-</b>	347-130-400 <b>9,-</b>	317-130-600 <b>44,-</b>	337-130-200 <b>60,-</b>	962-643 <b>17,-</b>
10 kg	500	347-54 <b>360,-</b>	347-14 <b>350,-</b>	347-140-400 <b>10,-</b>	317-140-600 <b>62,-</b>	337-140-200 <b>63,-</b>	962-644 <b>17,-</b>

! \*Material brass – only while stocks last! (Alternatively: stainless steel)

**Class M1 · Block weights, lacquered cast iron or stainless steel**

Block weight material: cast iron or stainless steel, surface and edges refined

Weight	Tol +/- g	Block weight, cast iron	Block weight, stainless steel	Aluminium protected case	DAkkS certificate
		KERN €	KERN €	KERN  €	KERN €
5 kg	0,25	346-86 <b>54,-</b>	346-06 <b>380,-</b>	346-060-600 <b>80,-</b>	962-643 <b>17,-</b>
10 kg	0,50	346-87 <b>90,-</b>	346-07 <b>510,-</b>	346-070-600 <b>100,-</b>	962-644 <b>17,-</b>
20 kg	1,00	346-88 <b>158,-</b>	346-08 <b>680,-</b>	346-080-600 <b>130,-</b>	962-645 <b>22,-</b>
50 kg	2,50	346-89 <b>395,-</b>	346-09 <b>1820,-</b>	346-090-600 <b>180,-</b>	962-646 <b>24,-</b>

**Class M1 · ECO Block weights, lacquered cast iron**

ECO Block weight material: cast iron, surface and edges machined

Weight	Tol +/- g	ECO Block weight, cast iron	Aluminium protected case	DAkkS certificate
		KERN €	KERN  €	KERN €
5 kg	0,25	346-76 <b>45,-</b>	346-060-600 <b>80,-</b>	962-643 <b>17,-</b>
10 kg	0,50	346-77 <b>72,-</b>	346-070-600 <b>100,-</b>	962-644 <b>17,-</b>
20 kg	1,00	346-78 <b>125,-</b>	346-080-600 <b>130,-</b>	962-645 <b>22,-</b>
50 kg	2,50	346-79 <b>300,-</b>	346-090-600 <b>180,-</b>	962-646 <b>24,-</b>

**Class M1 · Test weights, stainless steel, stackable**

Test weight material: finely turned stainless steel

Weight	Tol +/- g	Test weight, stainless steel KERN	Wooden box		DAkkS certificate	
			€	KERN	€	KERN
10 kg	0,5	347-141	600,-	337-141-200	335,-	962-644
20 kg	1,0	347-151	740,-	337-151-200	360,-	962-645
50 kg	2,5	347-161	1970,-	337-161-200	560,-	962-646
						24,-

**Class M1 · Heavy duty weights, lacquered cast iron, stackable**

Heavy duty weight material: cast iron

Designed to be lifted with forklift trucks or cranes, delivery time is approx. 4 weeks

Dimensions: see internet on [www.kern-sohn.com](http://www.kern-sohn.com)**! Note**

Weight	Tol +/- g	Heavy duty weight, cast iron KERN	DAkkS certificate	
			€	KERN
100 kg	5	346-81	1880,-	962-691
200 kg	10	346-82	2390,-	962-692
500 kg	25	346-83	4470,-	962-693
1000 kg	50	346-84	7430,-	962-694
2000 kg	100	346-85	13790,-	962-695
				250,-



We also offer a large range of heavy-duty weights in other materials, for example, stainless steel and in other forms, for example, discs or individual weight containers, please ask for details.

**Class M1 · Weight sets, knob shape, finely turned brass or stainless steel**

Test weight material: Milligramm weights stainless steel, individual weights finely turned brass or stainless steel.

\*Plastic case

\*\*Aluminium protected case

Weight	Knob shape, finely turned brass*, in plastic case KERN	Knob shape, finely turned stainless steel, in plastic case KERN	Knob shape, finely turned brass*, in wooden case KERN	Knob shape, finely turned stainless steel, in wooden case KERN	Knob shape, finely turned brass*, in aluminium protected case KERN	Knob shape, finely turned stainless steel, in aluminium protected case KERN	DAkkS certificate	
							€	€
1 mg - 500 mg	348-22*	83,-	348-22*	83,-	348-22*	83,-	348-226**	130,-
1 mg - 50 g	343-424	194,-	343-024	193,-	343-42	178,-	343-02	177,-
1 mg - 100 g	343-434	210,-	343-034	205,-	343-43	193,-	343-03	192,-
1 mg - 200 g	343-444	240,-	343-044	255,-	343-44	230,-	343-04	225,-
1 mg - 500 g	343-454	270,-	343-054	265,-	343-45	260,-	343-05	255,-
1 mg - 1 kg	343-464	420,-	343-064	415,-	343-46	405,-	343-06	395,-
1 mg - 2 kg	343-474	590,-	343-074	550,-	343-47	590,-	343-07	550,-
1 mg - 5 kg	343-484	770,-	343-084	700,-	343-48	810,-	343-08	760,-
1 mg - 10 kg	-	-	-	343-49	1230,-	343-09	1100,-	343-496
1 g - 50 g	344-424	128,-	344-024	127,-	344-42	124,-	344-02	123,-
1 g - 100 g	344-434	139,-	344-034	138,-	344-43	135,-	344-03	134,-
1 g - 200 g	344-444	169,-	344-044	168,-	344-44	165,-	344-04	163,-
1 g - 500 g	344-454	200,-	344-054	199,-	344-45	199,-	344-05	196,-
1 g - 1 kg	344-464	355,-	344-064	345,-	344-46	320,-	344-06	310,-
1 g - 2 kg	344-474	520,-	344-074	485,-	344-47	500,-	344-07	465,-
1 g - 5 kg	344-484	710,-	344-084	630,-	344-48	750,-	344-08	670,-
1 g - 10 kg	-	-	-	344-49	1170,-	344-09	1020,-	344-496
								1140,-

! Material brass – only while stocks last! (Alternatively: stainless steel)

**Class M1 · Hook weights, finely turned brass**

Hook weight material: finely turned brass

Weight	Tol +/- mg	Hook weight, brass	Plastic box, lined	DAkkS certificate
KERN			KERN	
1 g	1,0	347-416	18,-	347-030-400
2 g	1,2	347-426	19,-	347-030-400
5 g	1,6	347-436	19,-	347-030-400
10 g	2,0	347-446	19,-	347-050-400
20 g	2,5	347-456	20,-	347-050-400
50 g	3,0	347-466	23,-	347-070-400
100 g	5,0	347-476	27,-	347-090-400
200 g	10,0	347-486	31,-	347-090-400
500 g	25,0	347-496	57,-	347-110-400
1 kg	50,0	347-516	82,-	347-120-400
2 kg	100,0	347-526	132,-	347-130-400
5 kg	250,0	347-536	245,-	347-140-400
10 kg	500,0	347-546	390,-	-

**! Note**Stainless steel hook weights,  
on request**Class M1 · Slotted weights, finely turned brass**

Slotted weight material: finely turned brass

Weight	Tol +/- mg	Slotted weight, brass	Plastic box, lined	DAkkS certificate
KERN			KERN	
1 g	1,0	347-415	14,-	347-030-400
2 g	1,2	347-425	14,-	347-030-400
5 g	1,6	347-435	15,-	347-030-400
10 g	2,0	347-445	17,-	347-030-400
20 g	2,5	347-455	21,-	347-080-400
50 g	3,0	347-465	24,-	347-080-400
100 g	5,0	347-475	27,-	347-090-400
200 g	10	347-485	36,-	347-090-400
500 g	25	347-495	58,-	347-110-400
1 kg	50	347-515	90,-	347-130-400
2 kg	100	347-525	146,-	347-130-400
5 kg	250	347-535	230,-	347-140-400
10 kg	500	347-545	425,-	347-140-400

**! Note**Stainless steel slotted weights,  
on request**Class M1 · Beam bars, for fixing slotted weights**

Beam bars material: 10 g: aluminium, 100 g-1 kg: brass

Own weight beam bar	Maximum total load <sup>(1)</sup>	Largest slotted weight possible	Material	Length	Beam bar		DAkkS certificate
					KERN	€	
10 g	200 g	100 g	Aluminium	117,5	347-445-100*	30,-	962-634 15,-
100 g	2 kg	1 kg	Brass	238	347-475-100**	53,-	962-637 16,-
500 g	20 kg	10 kg	Brass	639	347-495-100***	77,-	962-639 16,-
1 kg	40 kg	10 kg	Brass	1020	347-515-100***	114,-	962-641 16,-

<sup>(1)</sup> is exclusive of the own weight of the beam bar, e.g. the maximum possible total weight is calculated from

"Maximum total load" + "own weight beam bar";

\* | \*\* | \*\*\* see page 199

**Newton weights (N)**All hook and slotted weights as well as beam bars are available with N adjustment according to M1 tolerances, additional price € 8,-/pc.  
We need to know the location of use and postal code.**DAkkS calibration certificate for N weights:** identical to DAkkS prices for individual weights M1, additional price € 8,-.

# Test weights and boxes

## Classes M2 • M3



Individual weights/Weight sets,  
knob shape, finely turned brass



Individual weights/Weight sets,  
knob shape, lacquered cast iron



Block weights,  
lacquered cast iron



Plastic box, lined,  
for individual weights



Aluminium protected box,  
lined, for individual weights



Wooden box, not lined, for  
individual weights  $\leq 500$  g,  
 not appropriate for cast  
iron weights



Wooden box, not lined, for  
individual weights  $\geq 1$  kg,  
 not appropriate for cast  
iron weights



Aluminium protected case,  
lined, for block weights



Plastic case, lined, for weight sets  
knob shape, stainless steel or  
finely turned brass



Aluminium protected case, lined,  
for weight sets knob shape, finely  
turned brass, not appropriate  
for cast iron weights



Wooden case,  
for weight sets knob shape,  
finely turned brass



Wooden block,  
for weight sets knob shape,  
lacquered cast iron

## Class M2 · Individual weights, knob shape, finely turned brass

Test weight material: finely turned brass\*

Weight	Tol +/- mg	Individual weight, knob shape	Plastic box, lined		Aluminium protected box		Wooden box		DAkkS certificate	
			KERN	€	KERN	€	KERN	€	KERN	€
1 g	3	357-41	4,00	347-030-400	2,-	317-010-600	14,-	337-010-200	17,-	962-631 15,-
2 g	4	357-42	4,00	347-030-400	2,-	317-020-600	14,-	337-020-200	17,-	962-632 15,-
5 g	5	357-43	4,10	347-030-400	2,-	317-030-600	14,-	337-030-200	18,-	962-633 15,-
10 g	6	357-44	4,40	347-050-400	2,-	317-040-600	14,-	337-040-200	18,-	962-634 15,-
20 g	8	357-45	8,00	347-050-400	2,-	317-050-600	14,-	337-050-200	18,-	962-635 15,-
50 g	10	357-46	9,40	347-070-400	2,-	317-060-600	14,-	337-060-200	18,-	962-636 15,-
100 g	16	357-47	12,-	347-070-400	2,-	317-070-600	14,-	337-070-200	20,-	962-637 16,-
200 g	30	357-48	17,-	347-080-400	2,-	317-080-600	14,-	337-080-200	20,-	962-638 16,-
500 g	80	357-49	31,-	347-090-400	3,-	317-090-600	15,-	337-090-200	22,-	962-639 16,-
1 kg	160	357-51	46,-	347-110-400	3,-	317-110-600	22,-	337-110-200	36,-	962-641 16,-
2 kg	300	357-52	84,-	347-120-400	4,-	317-120-600	26,-	337-120-200	36,-	962-642 17,-
5 kg	800	357-53	183,-	347-130-400	9,-	317-130-600	44,-	337-130-200	60,-	962-643 17,-
10 kg	1600	357-54	360,-	347-140-400	10,-	317-140-600	62,-	337-140-200	63,-	962-644 17,-

! \*Material brass – only while stocks last! (Alternatively: stainless steel)

## Class M2 · Block weights, lacquered cast iron

Block weight material: cast iron, surface and edges refined

Weight	Tol +/- g	Block weight, cast iron	Aluminium protected box		DAkkS certificate	
			KERN	€	KERN	€
5 kg	0,8	356-86	54,-	346-060-600	80,-	962-643 17,-
10 kg	1,6	356-87	90,-	346-070-600	100,-	962-644 17,-
20 kg	3,0	356-88	158,-	346-080-600	130,-	962-645 22,-
50 kg	8,0	356-89	395,-	346-090-600	180,-	962-646 24,-

## Class M2 · ECO Block weights, lacquered cast iron

ECO Block weight material: lacquered cast iron, surface and edges refined

Weight	Tol +/- g	ECO block weight, cast iron	Aluminium protected box		DAkkS certificate	
			KERN	€	KERN	€
5 kg	0,8	356-76	45,-	346-060-600	80,-	962-643 17,-
10 kg	1,6	356-77	72,-	346-070-600	100,-	962-644 17,-
20 kg	3,0	356-78	125,-	346-080-600	130,-	962-645 22,-
50 kg	8,0	356-79	300,-	346-090-600	180,-	962-646 24,-

## Class M2 · Weight sets, knob shape, finely turned brass

Test weight material: finely turned brass\*

Weight	Knob shape, in aluminium protected case	Knob shape, in wooden case	DAkkS certificate		
			KERN	€	KERN
1 g - 50 g	354-426	117,-	354-42	93,-	962-615 42,-
1 g - 100 g	354-436	128,-	354-43	113,-	962-616 49,-
1 g - 200 g	354-446	162,-	354-44	153,-	962-617 61,-
1 g - 500 g	354-456	194,-	354-45	198,-	962-618 68,-
1 g - 1 kg	354-466	275,-	354-46	315,-	962-619 74,-
1 g - 2 kg	354-476	480,-	354-47	495,-	962-620 89,-
1 g - 5 kg	354-486	710,-	354-48	730,-	962-621 96,-
1 g - 10 kg	354-496	1140,-	354-49	1150,-	962-622 104,-

! \*Material brass – only while stocks last! (Alternatively: stainless steel)

## Test weights classes M3

### Class M3 · Individual weights, knob shape, finely turned brass

Test weight material: finely turned brass\*

\*Material brass – only while stocks last! (Alternatively: stainless steel)

Weight	Tol +/- mg	Individual weight, knob shape	Plastic box, lined	Aluminium protected box	Wooden box	DAkkS certificate	
		KERN	€	KERN	€	KERN	
1 g	10	367-41	<b>3,30</b>	347-030-400	<b>2,-</b>	317-010-600	<b>14,-</b>
2 g	12	367-42	<b>3,40</b>	347-030-400	<b>2,-</b>	317-020-600	<b>14,-</b>
5 g	16	367-43	<b>3,90</b>	347-030-400	<b>2,-</b>	317-030-600	<b>14,-</b>
10 g	20	367-44	<b>4,10</b>	347-050-400	<b>2,-</b>	317-040-600	<b>14,-</b>
20 g	25	367-45	<b>7,10</b>	347-050-400	<b>2,-</b>	317-050-600	<b>14,-</b>
50 g	30	367-46	<b>8,50</b>	347-070-400	<b>2,-</b>	317-060-600	<b>14,-</b>
100 g	50	367-47	<b>11,-</b>	347-070-400	<b>2,-</b>	317-070-600	<b>14,-</b>
200 g	100	367-48	<b>16,-</b>	347-080-400	<b>2,-</b>	317-080-600	<b>14,-</b>
500 g	250	367-49	<b>31,-</b>	347-090-400	<b>3,-</b>	317-090-600	<b>15,-</b>
1 kg	500	367-51	<b>46,-</b>	347-110-400	<b>3,-</b>	317-110-600	<b>22,-</b>
2 kg	1000	367-52	<b>84,-</b>	347-120-400	<b>4,-</b>	317-120-600	<b>26,-</b>
						KERN	€
						337-120-200	<b>36,-</b>
						962-642	<b>17,-</b>

### Class M3 · Individual weights, knob and cylindrical shape, lacquered cast iron

Test weight material: cast iron

Weight	Tol +/- g	Individual weight, knob and cylindrical shape	DAkkS certificate
		KERN	€
100 g*	0,05	366-91	<b>17,-</b>
200 g*	0,10	366-92	<b>18,-</b>
500 g**	0,25	366-93	<b>25,-</b>
1 kg**	0,50	366-94	<b>30,-</b>
2 kg**	1,0	366-95	<b>55,-</b>
5 kg**	2,5	366-96	<b>99,-</b>
10 kg**	5,0	366-97	<b>170,-</b>
		KERN	€
		962-637	<b>16,-</b>
		962-638	<b>16,-</b>
		962-639	<b>16,-</b>
		962-641	<b>16,-</b>
		962-642	<b>17,-</b>
		962-643	<b>17,-</b>
		962-644	<b>17,-</b>



### Class M3 · Block weights, lacquered cast iron

Block weight material: cast iron, surface and edges refined

Weight	Tol +/- g	Block weight, cast iron	Aluminium protected box	DAkkS certificate
		KERN	€	KERN
5 kg	2,5	366-86	<b>54,-</b>	346-060-600
10 kg	5,0	366-87	<b>90,-</b>	346-070-600
20 kg	10	366-88	<b>158,-</b>	346-080-600
50 kg	25	366-89	<b>395,-</b>	346-090-600
				80,-
				962-643
				<b>17,-</b>
				962-644
				<b>17,-</b>
				962-645
				<b>22,-</b>
				962-646
				<b>24,-</b>

### Class M3 · ECO Block weights, lacquered cast iron

ECO Block weight material: lacquered cast iron, surface and edges refined

Weight	Tol +/- g	ECO block weight, cast iron	Aluminium protected box	DAkkS certificate
		KERN	€	KERN
5 kg	2,5	366-76	<b>45,-</b>	346-060-600
10 kg	5,0	366-77	<b>72,-</b>	346-070-600
20 kg	10	366-78	<b>125,-</b>	346-080-600
50 kg	25	366-79	<b>300,-</b>	346-090-600
				80,-
				962-643
				<b>17,-</b>
				962-644
				<b>17,-</b>
				962-645
				<b>22,-</b>
				962-646
				<b>24,-</b>

### Class M3 · Weight sets, knob and cylindrical shape, brass and lacquered cast iron

Test weight material: ≤ 50 g brass\*, ≥ 100 g cast iron

Weight	Knob and cylindrical shape, in wooden block	DAkkS certificate
	KERN	€
1 g - 1 kg	362-96	<b>220,-</b>
1 g - 2 kg	362-97	<b>360,-</b>
1 g - 5 kg	362-98	<b>450,-</b>
1 g - 10 kg	362-99	<b>620,-</b>
	KERN	€
	962-619	<b>74,-</b>
	962-620	<b>89,-</b>
	962-621	<b>96,-</b>
	962-622	<b>104,-</b>

\*Material brass – only while stocks last! (Alternatively: stainless steel)



Individual weights ≤ 50 g      Individual weights 100 g and 200 g      Individual weights ≥ 500 g

**Tweezers, weight grips, gloves, dusting brush****Tweezers**

to be able to safely grip small test weights

For class	For weight	Length	Version	KERN	€
E1 - M3	1 mg - 200 g	105 mm	1 Stainless steel with silicone-coated tips	315-243	14,-
E1 - M3	500 g - 2 kg	250 mm	1 Stainless steel with silicone-coated tips	315-245	46,-
E1 - M3	≤ 5 g	130 mm	2 Stainless steel, curved, high-quality plastic tips	315-246	22,-
E1 - M3	≤ 5 g	136 mm	3 Stainless steel, straight, high quality plastic tips	315-247	22,-
E1 - M3	≤ 200 g	225 mm	4 Stainless steel, straight, high-quality plastic tips, with a special shape for gripping weights of various shapes and sizes	315-248	38,-
F2 - M3	1 mg - 200 g	100 mm	5 Stainless steel	335-240	9,00
E1 - M3	1 mg - 200 g	100 mm	6 Plastic	315-242	6,20

**Weight grip**  
plastic coated

For class	for knob shaped weights	KERN	€
E1 - M3	2 kg	315-273	28,-
E1 - M3	5 kg	315-274	32,-
E1 - M3	10 kg	315-275	36,-
E1 - M3	20 kg	315-276	53,-

! not appropriate for cast iron weights

**Gloves**

cotton, 1 pair. Help to protect the test weights when being used daily, from grease from fingers, damp etc.

KERN	€
317-280	2,50

**Gloves**

leather/cotton, 1 pair. Help to protect the test weights when being used daily, from grease from fingers, damp etc.

KERN	€
317-290	6,90

**Premium gloves**Nylon, 1 pair.  
Particularly elastic, one size fits all, with special fingertip coating to ensure a safe grip. Helps to protect the test weights in everyday use from grease from fingers, damp etc.

KERN	€
317-281	9,-

**Dusting brush**

to clean the weights

KERN	€
318-270	3,50

**Bellows**

for cleaning weights

KERN	€
318-271	7,-

**Microfibre cloth**

for cleaning weights

KERN	€
318-272	3,50

**Boxes for individual weights**

For weights ≤ 500 g, OIML class E1 - F1  
For weights ≥ 1 kg, OIML class E1 - F1

Case material: Wood, lined, suitable for single weights, KERN-Nr. 307, 316, 317, 326, 327



For weights ≤ 500 g, OIML class F2 - M3  
For weights ≥ 1 kg, OIML class F2 - M3

Case material: Wood, suitable for single weights, KERN-Nr. 337, 347, 357, 367  
! not suitable for cast iron weights



For test weights ≥ 10 kg, OIML class F1 - M1

Case material: Wood, suitable for single weights, KERN-Nr. 327, 337, 347  
! not suitable for cast iron weights

**Wooden box, lined**  
for single weights E1 - F1

For weights	KERN	€
mg	338-090-200	19,-
1 g	317-010-100	26,-
2 g	317-020-100	26,-
5 g	317-030-100	26,-
10 g	317-040-100	26,-
20 g	317-050-100	26,-
50 g	317-060-100	27,-
100 g	317-070-100	29,-
200 g	317-080-100	29,-
500 g	317-090-100	30,-
1 kg	317-110-100	50,-
2 kg	317-120-100	58,-
5 kg	317-130-100	86,-
10 kg	317-140-100	97,-
20 kg	317-150-100	550,-
50 kg	317-160-100	670,-

**Wooden box,**  
for single weights F2 - M3

For weights	KERN	€
mg	338-090-200	19,-
1 g	337-010-200	17,-
2 g	337-020-200	17,-
5 g	337-030-200	18,-
10 g	337-040-200	18,-
20 g	337-050-200	18,-
50 g	337-060-200	18,-
100 g	337-070-200	20,-
200 g	337-080-200	20,-
500 g	337-090-200	22,-
1 kg	337-110-200	36,-
2 kg	337-120-200	36,-
5 kg	337-130-200	60,-
10 kg	337-140-200	63,-
20 kg	337-150-200	360,-
50 kg	337-160-200	560,-

**Wooden box**  
for test weights F1 - M1

For weights	KERN	€
10 kg	337-141-200	335,-
20 kg	337-151-200	360,-
50 kg	337-161-200	560,-



For weights ≤ 5 kg, OIML class E1 - M3

Case material: Aluminium protected, lined, suitable for single weights, KERN-Nr. 307, 316, 317, 326, 327, 337, 347, 357, 367

! not suitable for cast iron weights



For weights ≤ 10 kg, OIML class E1 - M3

Case material: Aluminium protected, lined, suitable for single weights, KERN-Nr. 307, 316, 317, 326, 327, 337, 347, 357, 367

! not suitable for cast iron weights



For block weight ≥ 5 kg, OIML class F1 - M3

Case material: Aluminium protected, lined, suitable for block weights, KERN-Nr. 326, 336, 346, 356, 366

**Aluminium protected box, lined**  
for individual weights, knob and compact shape, class E1 - M3

For weights	KERN	€
Individual weight, mg	317-009-600	15,-
1 g	317-010-600	14,-
2 g	317-020-600	14,-
5 g	317-030-600	14,-
10 g	317-040-600	14,-
20 g	317-050-600	14,-
50 g	317-060-600	14,-
100 g	317-070-600	14,-
200 g	317-080-600	14,-
500 g	317-090-600	15,-
1 kg	317-110-600	22,-
2 kg	317-120-600	26,-
5 kg	317-130-600	44,-

**Aluminium protected box, lined**  
for individual weights, knob and compact shape, class E1 - M3

For weights	KERN	€
10 kg	317-140-600	62,-
20 kg	317-150-600	110,-
50 kg	317-160-600	250,-

**Aluminium protected case, lined**  
for individual weights F1 - M3

For weights	KERN	€
5 kg	346-060-600	80,-
10 kg	346-070-600	100,-
20 kg	346-080-600	130,-

## Carrying cases/boxes for individual weight sets

### Individual weight sets:

You can create your own "tailor-made" individual weight sets yourself. KERN will customise your own personal wooden box/plastic carrying case. The largest individual weight which will fit is given in the table.

### Sample order:

Your individual weight set:

1 × 50 g, 2 × 100 g, 1 × 500 g, 2 × 1 kg, 1 × 2 kg.

The correct individual box is **KERN-Nr. 313-080-400** (plastic) or **KERN-Nr. 315-070-100** (wood)



#### Plastic case

for individual weight sets classes E1 – M3,  
not appropriate for cast iron weights

Largest possible weight	KERN	€
≤ 500 g	313-050-400	127,-
≤ 5 kg	313-080-400	245,-

#### Wooden case

lined, for individual weight sets classes E1 – F1  
\* with side handles

Largest possible weight	KERN	€
≤ 200 g	315-040-100	200,-
≤ 1 kg	315-060-100	295,-
≤ 2 kg	315-070-100	350,-
≤ 5 kg*	315-080-100	460,-
≤ 10 kg*	315-090-100	480,-

#### Wooden case

not lined, for individual weight set  
classes F2 – M3, not appropriate for cast iron weights  
\* with side handles

Largest possible weight	KERN	€
≤ 200 g	335-040-200	110,-
≤ 500 g	335-050-200	110,-
≤ 1 kg	335-060-200	175,-
≤ 2 kg	335-070-200	186,-
≤ 5 kg*	335-080-200	280,-
≤ 10 kg*	335-090-200	300,-

## Carrying cases for standard weight sets



Fig. shows  
313-010-600

Aluminium protected case for safe storage and transportation under harsh industrial conditions.

#### Plastic case for weight sets

with standard denomination classes E1 – M3,  
not appropriate for cast iron weights

Largest possible weight	KERN	€
≤ 500 g	313-052-400	73,-
≤ 5 kg	313-082-400	182,-

#### Aluminium protected case

for weight sets with standard denomination classes E1 – M2

\* 1 front handle; \*\* 2 side handles; \*\*\* no handle

For weights	For class	KERN	€
1 mg - 500 mg	E1 - M1	313-010-600***	75,-
1 mg - 50 g	E1 - M1	313-020-600*	99,-
1 mg - 100 g	E1 - M1	313-030-600*	108,-
1 mg - 200 g	E1 - M1	313-040-600*	115,-
1 mg - 500 g	E1 - M1	313-050-600*	139,-
1 mg - 1 kg	E1 - M1	313-060-600*	169,-
1 mg - 2 kg	E1 - M1	313-070-600*	199,-
1 mg - 5 kg	E1 - M1	313-080-600**	265,-
1 mg - 10 kg	E1 - M1	313-090-600**	340,-
1 g - 50 g	E1 - M2	314-020-600 ***	94,-
1 g - 100 g	E1 - M2	314-030-600 ***	103,-
1 g - 200 g	E1 - M2	314-040-600 ***	110,-
1 g - 500 g	E1 - M2	314-050-600 ***	134,-
1 g - 1 kg	E1 - M2	314-060-600 ***	164,-
1 g - 2 kg	E1 - M2	314-070-600 ***	194,-
1 g - 5 kg	E1 - M2	314-080-600 **	260,-
1 g - 10 kg	E1 - M2	314-090-600 **	335,-

## Weight carriers for block weights or other test weights



Individual weight carriers for testing high capacity floor scales, pallet scales, pallet truck scales, crane scales, etc. This can also be used for storing the weights.

This means the weight container and the weights can be placed on the scale in one go, saving time and money.

The weight container can be calibrated to OIML accuracy classes M1 – M3.

On request, KERN will make you a “tailor-made” weight carrier to your specifications.

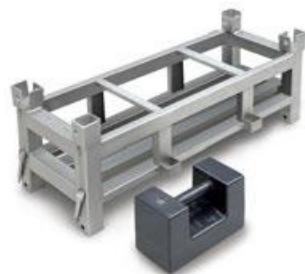
Example:

9 block weights	each 50 kg, class M1 =	450 kg
1 weight container	each 50 kg, class M1 =	50 kg
Total		= 500 kg

## Weight containers for rectangular weights or other test weights, adjusted to OIML class M1

Preconfigured weight containers for testing high-load floor scales, pallet scales, pallet truck scales, crane scales, etc. This can also be used for storing the weights. This means the weight container and the weights can be placed on the balance in one go, saving you time and money. The weight container is adjusted to OIML accuracy class M1. Other OIML accuracy classes are also available, please ask.

Weight of the weight container, OIML class M1	Tol +/- g	Possible equipment, rectangular weights, OIML class M1	Maximum total weight (weight container incl. weights)	Price (weight container excluding weights)	KERN	€
20 kg	1,0	5 × 20 kg	120 kg	346-022-005	<b>1560,-</b>	
40 kg	1,5	8 × 20 kg	200 kg	346-042-008	<b>2020,-</b>	
50 kg	2,5	10 × 20 kg	250 kg	346-052-010	<b>2020,-</b>	
50 kg	2,5	4 × 50 kg	250 kg	346-055-004	<b>2020,-</b>	
50 kg	2,5	9 × 50 kg	500 kg	346-055-009	<b>2020,-</b>	
60 kg	3,0	8 × 50 kg and 2 × 20 kg	500 kg	346-065-009	<b>2190,-</b>	



Weight of the weight container, OIML class M1	Tol +/- g	Possible equipment, test weights, OIML class M1	Maximum total weight (weight container incl. weights)	Price (weight container excluding weights)	KERN	€
20 kg	1,0	max. 10 × 10 kg or 5 × 20 kg	120 kg	347-022-005	<b>1560,-</b>	
40 kg	2,0	max. 16 × 10 kg or 8 × 20 kg	200 kg	347-042-008	<b>1840,-</b>	
50 kg	2,5	max. 20 × 10 kg or 10 × 20 kg	250 kg	347-052-010	<b>2020,-</b>	
60 kg	3,0	max. 22 × 20 kg	500 kg	347-062-022	<b>2190,-</b>	



## Individual weight containers for rectangular weights or other test weights, calibrated to OIML class M1

Weight of the weight container, OIML class M1	KERN	€
Individual weight container for rectangular weights	346-000-000	Price on request
Individual weight container for test weights	347-000-000	Price on request



Deutsche  
Akkreditierungsstelle  
D-K-19408-01-00

DAkkS calibration according to DIN EN ISO/IEC 17025:2018 for  
balances, mass, force, solids volume, solid density

### The DAkkS (German accreditation body)

The DAkkS is the national accreditation body of the Federal Republic of Germany. According to Regulation (EC) No. 765/2008 and the Accreditation Body Act (AkkStelleG), the DAkkS acts in the public interest as the sole service provider for accreditation in Germany.

In order to be able to fulfil its sovereign accreditation tasks, the DAkkS was entrusted by the Federal Government. As an entrusted body, the DAkkS is subject to federal supervision.

Only an accredited calibration laboratory can issue a DAkkS calibration certificate. This defines not only the measuring method as well as the measuring result, but also gives information on tracing the test medium to national standards and the relevant uncertainty of measurement.

- **You are certified to ...**  
ISO 9001, QS 9000, GLP, GMP, TS16949
- **You need ...**  
to control your measuring equipment
- **Our solution ...**  
DAkkS calibration certificate; (traceability, measuring uncertainty, internationally recognised)

### KERN – Precision is our business

The KERN calibration laboratory for electronic balances and weights has been accredited by DKD since 1994 and today is one of the most modern and best-equipped DKD calibration laboratories for balances, test weights and force measurement in Europe.

Thanks to the high level of automation, we can carry out DAkkS calibration of balances, test weights and force-measuring devices 24 hours a day, 7 days a week.

Do you have any further requests or questions on this matter? We would be pleased to help you or visit us on the web at [www.kern-lab.com](http://www.kern-lab.com)

### DAkkS calibration

**Why?** DAkkS calibration is always necessary when checking equipment (balance or test weight) is to be used in a QM process (e.g. to ISO 9000ff, GS 9000, TS 16949, VDA 6.1, FDA, GLP, GMP, GMP etc.)

**What?** Any checking equipment in proper condition can be DAkkS calibrated

**How?** Determination of accuracy throughout the world by a laboratory which is accredited to DIN EN ISO 17025. Traceability to internationally recognised standards. The DAkkS calibration certificate confirms both the measurement characteristics of the checking equipment and the general requirements for the control of checking equipment.

**Where?** Internationally recognised – this is monitored by ILAC (International Laboratory Accreditation Cooperation) and e.g. DAkkS (German calibration service) in Germany

**When?** The operator control the use of checking equipment and periodic recalibration time intervals themselves

### Range of services:

- DAkkS calibration of balances with a maximum load of up to 50.000 kg
- DAkkS calibration of weights in the range of 1 mg – 2.500 kg. Calibrations can be carried out in the following classes: E1, E2, F1, F2, M1, M2, M3
- DAkkS calibration of force gauges and force transducers
- Volume determination for weights of accuracy class E1
- Measuring of sensitivity (magnetic characteristics)
- Factory calibration in various sizes:
- Force (sensors and measuring devices), hardness (Shore, UCI, Leeb, etc.), thickness of coatings and walls, torque wrench testing devices, and much more
- Conformity assessments and recalibration of balances and weights at the KERN verification point, working closely with the verification authorities

And on top of all these services, we also offer additional services – see page 212/213.