

# OIML and ASTM Weights



## Trust in Your Results

Accurate Test Weights

Efficient Routine Testing

Professional Calibration

**Expertly Manufactured Weights**  
For Reliable Testing Applications

**METTLER TOLEDO**

# Metrology Expertise You Can Rely On

**METTLER TOLEDO is a world leader in metrology and precision weighing equipment. Building on decades of weighing expertise and experience, you can trust our test weights and calibration services to be of the highest quality and value for money.**

Our portfolio of weights includes OIML and ASTM weights from 50 micrograms to 5 tons in all accuracy classes as well as specialist weights for National Metrology Institutes. Furthermore, with a global network of accredited mass calibration laboratories, you can be sure of trustworthy calibration services and benefit from short weight recalibration times.



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Choose from our comprehensive range of test weights, weight sets and calibration services according to your specific process requirements and ensure your weight results are reliable.



# Routine Testing

## Ensures Accurate Weighing Results

**Routine testing of your balances and scales between scheduled calibrations helps you to maintain accuracy by ensuring early detection of non-conformance with your weighing process requirements.**

### Why is Routine Testing Necessary?

Over time, the performance of your weighing device can change due to environmental influences, wear and tear, and other non-obvious damage. With routine testing performed by the user, you can verify that your balance is performing correctly and ensure your results meet your accuracy requirements until the next calibration by a service technician. Routine testing ensures reliable, traceable results.



### The 4 Pillars of Balance Routine Testing:



#### 1. Test Weights

We support you in choosing the correct test weights for your balance or scale with our free GWP® Recommendation service. According to GWP® two test weights are sufficient:

- ≤5% capacity (for repeatability test)
- ≤100% capacity (for sensitivity and eccentricity test)

▶ [www.mt.com/carepac](http://www.mt.com/carepac)



#### 2. Testing Frequency

Industry regulations demand higher testing frequencies for higher risks. GWP® Verification provides you with an optimal routine testing and calibration schedule and an ideal maintenance plan—tailored to your specific processes.

▶ [www.mt.com/gwp-verification](http://www.mt.com/gwp-verification)



#### 3. Test Methods and SOPs

To verify the performance of a weighing instrument you need to test parameters such as sensitivity, repeatability and eccentricity. Your specific testing requirements depend on the criticality of your weighing processes. With our GWP® Verification service we support you in the evaluation of your test methods. For guidance download our free SOPs:

▶ [www.mt.com/gwp-testing-SOP](http://www.mt.com/gwp-testing-SOP)

### Which Weight Class Do I Need?

The following tables provide an indication of the weight class required for different weighing tolerances for lab applications. The weighing tolerance describes the error that is acceptable in the weighing result, specified as percentage. The safety factor is an additional safety margin that considers environmental influences such as vibrations, drafts etc.

#### OIML Weight Class Overview

Balance Capacity	Weighing Tolerance		
	≥0.04%	≥0.01%	≥0.004%
2–3 g	E2 or better	E2 or better	Contact us
5–6 g	F1 or better	E2 or better	E2 or better
10–20 g	F1 or better	E2 or better	E2 or better
50 g–50 kg	F2 or better	F1 or better	E2 or better

Assuming a safety factor of 2.

#### ASTM Weight Class Overview

Balance Capacity	Weighing Tolerance		
	≥0.04%	≥0.01%	≥0.004%
2–3 g	ASTM 2 or better	ASTM 1 or better	Contact us
5–6 g	ASTM 2 or better	ASTM 1 or better	ASTM 1 or better
10–20 g	ASTM 3 or better	ASTM 2 or better	ASTM 1 or better
50 g–50 kg	ASTM 4 or better	ASTM 2 or better	ASTM 1 or better

Assuming a safety factor of 2.

If you require a more detailed weight recommendation based on your specific needs, please contact us at

► [www.mt.com/gwp](http://www.mt.com/gwp)



#### 4. User Training

Our training packages provide your staff with the necessary skills to conduct routine testing of equipment and maintain compliance. The free online training course “Balance Routine Testing” provides practical information and tips on how to test a lab balance correctly.



#### Good Weighing Practice™

Good Weighing Practice™ (GWP®) is the global weighing standard that ensures consistent accuracy of any weighing process, independent of the equipment model or brand. It involves the secure selection, calibration and operation of weighing equipment.

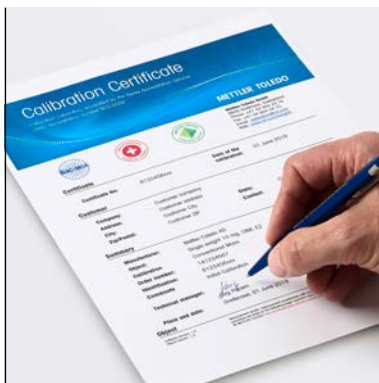
► [www.mt.com/lab-elearning](http://www.mt.com/lab-elearning)

# Test Weights With a Calibration Certificate

**Monitoring the performance of your weighing equipment is a requirement of many standards, such as GMP and ISO 9001. Your internal Quality Assurance department may also specify what testing is necessary. In addition, audits of weighing equipment typically require documented proof of balance testing and calibration that can be traced to official reference standards.**

METTLER TOLEDO's stainless steel test weights with a calibration certificate satisfy the highest requirements for periodic checking of balance performance. Each test weight is delivered with a calibration certificate from a METTLER TOLEDO calibration laboratory, produced in accordance with ISO/IEC 17025 requirements to fulfill metrological traceability requirements.

- OIML Classes E1, E2, F1, F2, M1 with a calibration certificate
- ASTM Classes 1–4 with a calibration certificate



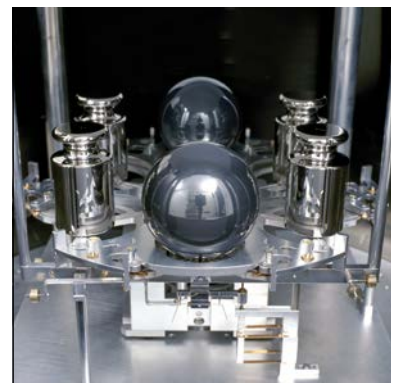
### Calibration Certificate

Our accredited mass calibration laboratories meet or exceed ISO/IEC 17025 standards. Weight calibration is the only way to obtain accurate and reliable data.



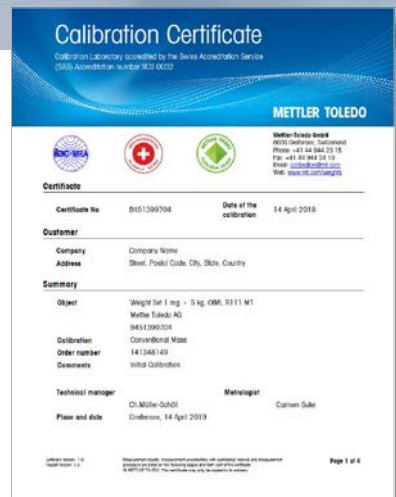
### CarePac® Solution

A CarePac only contains two carefully selected weights—all you need for safe and accurate weighing processes between manufacturer-performed calibrations.



### Recalibration

Our global network of weight calibration laboratories guarantees a fast and cost-effective weight calibration service wherever you are based.



### Professional Accessories

Ergonomic tweezers (or weight forks for larger weights) as well as clean-room approved gloves and cleaning cloths meet the highest industry requirements and assure professional testing.

# OIML Weights With Certificate



## Individual Weights

Nominal Value	Class E1	Class E2	Class F1	Design	Class F1	Class F2	Class M1	Design
1 mg	30548907	158307	159417	△	30406245	30406415	30406452	□
2 mg	30548908	158317	159427	△	30406246	30406416	30406453	□
5 mg	30548909	158327	159437	△	30406247	30406417	30406454	□
10 mg	30548910	158337	159447	△	30406388	30406418	30406455	□
20 mg	30548911	158347	159457	△	30406389	30406419	30406456	□
50 mg	30548912	158357	159467	△	30406390	30406420	30406457	□
100 mg	30548913	158367	159477	△	30406391	30406421	30406458	□
200 mg	30548914	158377	159487	△	30406392	30406422	30406459	□
500 mg	30548915	158387	159497	△	30406393	30406423	30406460	□
1 g	30548916	158397	158607	■	30406394	30406424	30406371	□
2 g	30548917	158407	158617	■	30406395	30406425	30406372	□
5 g	30548918	158417	158627	■	30406396	30406426	30406373	□
10 g	30548919	158427	158637	■	30406397	30406427	30406374	□
20 g	30548920	158437	158647	■	30406398	30406428	30406375	□
50 g	30548921	158447	158657	■	30406399	30406429	30406376	□
100 g	30548922	158457	158667	■	30406400	30406430	30406377	□
200 g	30548923	158467	158677	■	30406401	30406431	30406478	□
500 g	30548924	158477	158687	■	30406402	30406432	30406479	□
1 kg	30548925	158487	158697	■	30406403	30406433	30406480	□
2 kg	30548926	158497	158707	■	30406404	30406434	30406481	□
5 kg	30548927	158507	158717	■	30406405	30406435	30406482	□
10 kg	30548928	158517	158727	■	30406406	30406436	30406483	□
20 kg	30548929	158527	158737	■	30406407	30406437	30406484	□
50 kg	30548930	158531	158741	■	-	-	-	-
Shape	△ Wire Weights				□ Sheet Weights			
Design	■ Monobloc Knob Weights				□ Knob Weights with Adjusting Cavity			
Box Material	Plastic (50 kg: Wood)				Plastic			



△ Wire weight  
■ Monobloc knob weight (stainless steel, density 8.0 kg/dm<sup>3</sup>)



□ Sheet weight  
□ Knob weight with adjusting cavity (stainless steel, density 7.9 kg/dm<sup>3</sup>)

## Weight Sets

Weight Range	Class E1	Class E2	Class F1	Class F1	Class F2	Class M1
1 mg–500 mg	30548931	158807	161707	30406408	30406438	30406445
1 mg–200 g	30548932	158847	158907	30406409	30406439	30406446
1 mg–1 kg	30548933	158857	158917	30406410	30406440	30406447
1 mg–2 kg	30548934	11117322	11119980	30406411	30406441	30406448
1 mg–5 kg	30548935	11117324	11119982	30406412	30406442	30406449
1 g–50 g	30548936	158817	158877	30406413	30406443	30406450
1 g–500 g	30548937	158827	158887	30406414	30406444	30406451
1 kg–5 kg	30548939	11125901	11125908	-	-	-
Box Material	Aluminum			Plastic		

## Weight Set Contents

Weight Range	1 mg	2 mg	5 mg	10 mg	20 mg	50 mg	100 mg	200 mg	500 mg	1 g	2 g	5 g	10 g	20 g	50 g	100 g	200 g	500 g	1 kg	2 kg	5 kg
1 mg–500 mg	1x	2x	1x	1x	2x	1x	1x	2x	1x	-	-	-	-	-	-	-	-	-	-	-	-
1 mg–200 g	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	-	-	-	-
1 mg–1 kg	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	-	-
1 mg–2 kg	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	-
1 mg–5 kg	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x
1 g–50 g	-	-	-	-	-	-	-	-	-	1x	2x	1x	1x	2x	1x	-	-	-	-	-	-
1 g–500 g	-	-	-	-	-	-	-	-	-	1x	2x	1x	1x	2x	1x	1x	2x	1x	-	-	-
1 kg–5 kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1x	2x	1x



# ASTM Weights With Certificate



- Sheet weight
- Knob weight with adjusting cavity



Weight Set

## Individual Weights

Nominal Value	Class 1	Class 2	Class 3	Class 4	Design
1 mg	11123469	11123515	11123561	11123607	<input type="checkbox"/>
2 mg	11123470	11123516	11123562	11123608	<input type="checkbox"/>
5 mg	11123471	11123517	11123563	11123609	<input type="checkbox"/>
10 mg	11123472	11123518	11123564	11123610	<input type="checkbox"/>
20 mg	11123473	11123519	11123565	11123611	<input type="checkbox"/>
50 mg	11123474	11123520	11123566	11123612	<input type="checkbox"/>
100 mg	11123475	11123521	11123567	11123613	<input type="checkbox"/>
200 mg	11123476	11123522	11123568	11123614	<input type="checkbox"/>
500 mg	11123477	11123523	11123569	11123615	<input type="checkbox"/>
1 g	11123478	11123524	11123570	11123616	<input type="checkbox"/>
2 g	11123479	11123525	11123571	11123617	<input type="checkbox"/>
5 g	11123480	11123526	11123572	11123618	<input type="checkbox"/>
10 g	11123481	11123527	11123573	11123619	<input type="checkbox"/>
20 g	11123482	11123528	11123574	11123620	<input type="checkbox"/>
50 g	11123483	11123529	11123575	11123621	<input type="checkbox"/>
100 g	11123484	11123530	11123576	11123622	<input type="checkbox"/>
200 g	11123485	11123531	11123577	11123623	<input type="checkbox"/>
500 g	11123486	11123532	11123578	11123624	<input type="checkbox"/>
1 kg	11123487	11123533	11123579	11123625	<input type="checkbox"/>
2 kg	11123488	11123534	11123580	11123626	<input type="checkbox"/>
5 kg	11123489	11123535	11123581	11123627	<input type="checkbox"/>
10 kg	11123490	11123536	11123582	11123628	<input type="checkbox"/>
20 kg	11123491	11123537	11123583	11123629	<input type="checkbox"/>
Shape	<input type="checkbox"/> Sheet Weights				
Design	<input type="checkbox"/> Knob Weights with Adjusting Cavity				
Box Material	Plastic				

## Weight Sets

Weight Range	Class 1	Class 2	Class 3	Class 4
1 mg–500 mg	11124001	11124023	11124045	11124067
1 mg–100 g	11124003	11124025	11124047	11124069
1 mg–200 g	11124005	11124027	11124049	11124071
1 mg–500 g	11124007	11124029	11124051	11124073
1 mg–1 kg	11124009	11124031	11124053	11124075
1 mg–2 kg	11124011	11124033	11124055	11124077
1 mg–5 kg	11124013	11124035	11124057	11124079
10 mg–50 g	11124015	11124037	11124059	11124081
1 mg–50 mg	11124017	11124039	11124061	11124083
1 g–100 g	11124019	11124041	11124063	11124085
1 g–500 g	11124021	11124043	11124065	11124087
Box Material	Plastic			

## Weight Set Contents

Weight Range	1 mg	2 mg	5 mg	10 mg	20 mg	50 mg	100 mg	200 mg	500 mg	1 g	2 g	5 g	10 g	20 g	50 g	100 g	200 g	500 g	1 kg	2 kg	5 kg
1 mg–500 mg	1x	2x	1x	1x	2x	1x	1x	2x	1x	-	-	-	-	-	-	-	-	-	1x	2x	-
1 mg–100 g	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	-	-	-	-	-
1 mg–200 g	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	-	-	-	-
1 mg–500 g	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	-	-	-
1 mg–1 kg	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	-	-
1 mg–2 kg	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	-
1 mg–5 kg	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x
10 mg–50 g	-	-	-	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	-	-	-	-	-	-
1 mg–50 mg	1x	2x	1x	1x	2x	1x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1 g–100 g	-	-	-	-	-	-	-	-	-	1x	2x	1x	1x	2x	1x	1x	-	-	-	-	-
1 g–500 g	-	-	-	-	-	-	-	-	-	1x	2x	1x	1x	2x	1x	1x	2x	1x	-	-	-

# The CarePac® Solution For Routine Testing

**A CarePac® contains everything you need to limit the risk of working outside specified process tolerances. The two test weights are carefully selected to correspond to 5% and 100% of your balance's capacity—precisely what USP chapter 41 recommends for balance testing.**

Tailored to your specific requirements, the three sizes of CarePac weight sets enable you to test balances of up to 8 kg weighing capacity. CarePac weights are specified to validate process tolerances up to 0.03%.

All CarePac sets are delivered with a calibration certificate and include tweezers, gloves and other accessories for professional weight handling.



### Effortless Weight Selection

With just two carefully selected weights, a CarePac® has everything you need for efficient balance routine testing in accordance with USP chapter 41 and GWP®.



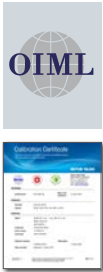
### Optional 3<sup>rd</sup> Weight

All CarePac sets have the option to add a third weight to accommodate individual testing requirements. The nominal value of the third weight is between 1 mg and 100 g.



### Accessories Included

Supplied as standard with each CarePac are ergonomic accessories such as tweezers or weight forks and a cleaning cloth. This allows professional weight handling and testing right from the first day without wasting time searching for the right tools.



### OIML

Nominal Values	Class	Material No.
0.1 g / 2 g	E2	11123004
0.2 g / 5 g	F1	30550648
1 g / 20 g	F1	30550617
2 g / 50 g	F2	30550616
5 g / 100 g	F2	30550615
10 g / 200 g	F2	30550614
20 g / 200 g	F2	30550613
20 g / 500 g	F2	30550649
50 g / 1,000 g	F2	11123008
100 g / 2,000 g	F2	11123009
200 g / 2,000 g	F2	11123010
200 g / 5,000 g	F2	11123011



### ASTM

Nominal Values	Class	Material No.
0.1 g / 2 g	1	11123104
0.2 g / 5 g	1	11123105
1 g / 20 g	1	11123106
2 g / 50 g	1	11123103
5 g / 100 g	1	11123102
10 g / 200 g	1	11123101
20 g / 200 g	1	11123100
20 g / 500 g	1	11123107
50 g / 1,000 g	1	11123108
100 g / 2,000 g	1	11123109
200 g / 2,000 g	4	11123110
200 g / 5,000 g	4	11123111

### 3<sup>rd</sup> Weight

Nominal Value	OIML Class E2	ASTM Class 1
1 mg	11123044	11123144
2 mg	11123045	11123145
5 mg	11123046	11123146
10 mg	11123047	11123147
20 mg	11123048	11123148
50 mg	11123049	11123149
100 mg	11123050	11123150
200 mg	11123051	11123151
500 mg	11123052	11123152
1 g	11123053	11123153
2 g	11123054	11123154
5 g	11123055	11123155
10 g	11123056	11123156
20 g	11123057	11123157
50 g	11123058	11123158
100 g	11123059	11123159



Optional 3<sup>rd</sup> weight for CarePac sets—fits perfectly into your CarePac carrying case

# Test Weights

## Without a Calibration Certificate

**High quality stainless steel test weights provide the best way to verify balance and scale performance and prevent out-of-specification errors. Premium stainless steel weights are corrosion resistant and guarantee long-term stability over their entire life span.**

Using test weights without a calibration certificate may be acceptable in certain cases. However, test weights with a calibration certificate provide a more comprehensive option in case documentation should ever be requested. Certification relates to verifying and documenting accuracy. Even if not required by regulations, using test weights with a calibration certificate provides the reassurance that all your weight measurements can be validated at any time. For example, working according to ISO 9001 requires documented metrological traceability, so test weights with a certificate are necessary.

- OIML Classes E1, E2, F1, F2, M1 without a calibration certificate
- ASTM Classes 1–4 without a calibration certificate



### Design and Construction

All weights are made of premium stainless steel to make them corrosion resistant. Monobloc weights are designed for long-term stability, and weights with an adjusting cavity simplify weight adjustment without the need for specialized equipment.



### Expertly Crafted

Our unique manufacturing process involves traditional mechanical polishing, final stage electrolytic polishing, fully automated cleaning and final calibration using state-of-the-art mass comparators.



### Protection and Longevity

To protect the integrity of the weight and ensure a long life-time, all weights are supplied in a robust, easy-to-clean plastic container. Approved materials, including foam inserts, make them a durable solution.



### **Stable Weight Properties**

Experience and specialist skills acquired through years' of weight production guarantee the consistent high quality our customers demand.

# OIML Weights Without Certificate



## Individual Weights

Nominal Value	Class E1	Class E2	Class F1	Design	Class F1	Class F2	Class M1	Design
1 mg	30548940	158306	159416	△	30402662	30402648	30402184	□
2 mg	30548941	158316	159426	△	30402629	30402649	30402510	□
5 mg	30548942	158326	159436	△	30402630	30402650	30402355	□
10 mg	30548943	158336	159446	△	30402631	30402651	30402585	□
20 mg	30548944	158346	159456	△	30402632	30402652	30402586	□
50 mg	30548945	158356	159466	△	30402633	30402653	30402587	□
100 mg	30548946	158366	159476	△	30402634	30402654	30402638	□
200 mg	30548947	158376	159486	△	30402635	30402655	30402639	□
500 mg	30548948	158386	159496	△	30402636	30402656	30402640	□
1 g	30548949	158396	158606	■	30402637	30402657	30402641	■
2 g	30548950	158406	158616	■	30402688	30402658	30402642	■
5 g	30548951	158416	158626	■	30402689	30402659	30402643	■
10 g	30548952	158426	158636	■	30402690	30402603	30402644	■
20 g	30548953	158436	158646	■	30402691	30402604	30402645	■
50 g	30548954	158446	158656	■	30402574	30402660	30402646	■
100 g	30548955	158456	158666	■	30402783	30402661	30402647	■
200 g	30548956	158466	158676	■	30402698	30402577	30402576	■
500 g	30548957	158476	158686	■	30402701	30402700	30402699	■
1 kg	30548958	158486	158696	■	30402664	30402663	30402702	■
2 kg	30548959	158496	158706	■	30402667	30402666	30402665	■
5 kg	30548960	158506	158716	■	30402710	30402709	30402708	■
10 kg	30548961	158516	158726	■	30402714	30402712	30402711	■
20 kg	30548962	158526	158736	■	30402782	30402781	30402780	■
50 kg	30548963	158530	158740	■	-	-	-	-
Shape	△ Wire Weights				□ Sheet Weights			
Design	■ Monobloc Knob Weights				▣ Knob Weights with Adjusting Cavity			
Box Material	Plastic (50 kg: Wood)				Plastic			



△ Wire weight  
■ Monobloc knob weight



□ Sheet weight  
▣ Knob weight with adjusting cavity

## Weight Sets

Weight Range	Class E1	Class E2	Class F1	Class F1	Class F2	Class M1
1 mg–500 mg	30548964	158806	161706	30402723	30402722	30402721
1 mg–200 g	30548965	158846	158906	30402717	30402716	30402715
1 mg–1 kg	30548966	158856	158916	30402735	30402734	30402732
1 mg–2 kg	30548967	11117321	11119979	30402684	30402683	30402682
1 mg–5 kg	30549208	11117323	11119981	30402687	30402686	30402685
1 g–50 g	30549209	158816	158876	30402681	30402680	30402679
1 g–500 g	30549210	158826	158886	30402730	30402729	30402728
1 kg–5 kg	30549212	11125900	11125907	-	-	-
Box Material	Aluminum			Plastic		

## Weight Set Contents

Weight Range	1 mg	2 mg	5 mg	10 mg	20 mg	50 mg	100 mg	200 mg	500 mg	1 g	2 g	5 g	10 g	20 g	50 g	100 g	200 g	500 g	1 kg	2 kg	5 kg
1 mg–500 mg	1x	2x	1x	1x	2x	1x	1x	2x	1x	-	-	-	-	-	-	-	-	-	-	-	-
1 mg–200 g	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	-	-	-	-
1 mg–1 kg	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	-	-
1 mg–2 kg	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	-
1 mg–5 kg	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x
1 g–50 g	-	-	-	-	-	-	-	-	-	1x	2x	1x	1x	2x	1x	-	-	-	-	-	-
1 g–500 g	-	-	-	-	-	-	-	-	-	1x	2x	1x	1x	2x	1x	1x	2x	1x	-	-	-
1 kg–5 kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1x	2x	1x

# ASTM Weights Without Certificate



- Sheet weight
- Knob weight with adjusting cavity



Weight Set

## Individual Weights

Nominal Value	Class 1	Class 2	Class 3	Class 4	Design
1 mg	11123446	11123492	11123538	11123584	<input type="checkbox"/>
2 mg	11123447	11123493	11123539	11123585	<input type="checkbox"/>
5 mg	11123448	11123494	11123540	11123586	<input type="checkbox"/>
10 mg	11123449	11123495	11123541	11123587	<input type="checkbox"/>
20 mg	11123450	11123496	11123542	11123588	<input type="checkbox"/>
50 mg	11123451	11123497	11123543	11123589	<input type="checkbox"/>
100 mg	11123452	11123498	11123544	11123590	<input type="checkbox"/>
200 mg	11123453	11123499	11123545	11123591	<input type="checkbox"/>
500 mg	11123454	11123500	11123546	11123592	<input type="checkbox"/>
1 g	11123455	11123501	11123547	11123593	<input checked="" type="checkbox"/>
2 g	11123456	11123502	11123548	11123594	<input checked="" type="checkbox"/>
5 g	11123457	11123503	11123549	11123595	<input checked="" type="checkbox"/>
10 g	11123458	11123504	11123550	11123596	<input checked="" type="checkbox"/>
20 g	11123459	11123505	11123551	11123597	<input checked="" type="checkbox"/>
50 g	11123460	11123506	11123552	11123598	<input checked="" type="checkbox"/>
100 g	11123461	11123507	11123553	11123599	<input checked="" type="checkbox"/>
200 g	11123462	11123508	11123554	11123600	<input checked="" type="checkbox"/>
500 g	11123463	11123509	11123555	11123601	<input checked="" type="checkbox"/>
1 kg	11123464	11123510	11123556	11123602	<input checked="" type="checkbox"/>
2 kg	11123465	11123511	11123557	11123603	<input checked="" type="checkbox"/>
5 kg	11123466	11123512	11123558	11123604	<input checked="" type="checkbox"/>
10 kg	11123467	11123513	11123559	11123605	<input checked="" type="checkbox"/>
20 kg	11123468	11123514	11123560	11123606	<input checked="" type="checkbox"/>
Shape	<input type="checkbox"/> Sheet Weights				
Design	<input checked="" type="checkbox"/> Knob Weights with Adjusting Cavity				
Box Material	Plastic				

## Weight Sets

Weight Range	Class 1	Class 2	Class 3	Class 4
1 mg–500 mg	11124000	11124022	11124044	11124066
1 mg–100 g	11124002	11124024	11124046	11124068
1 mg–200 g	11124004	11124026	11124048	11124070
1 mg–500 g	11124006	11124028	11124050	11124072
1 mg–1 kg	11124008	11124030	11124052	11124074
1 mg–2 kg	11124010	11124032	11124054	11124076
1 mg–5 kg	11124012	11124034	11124056	11124078
10 mg–50 g	11124014	11124036	11124058	11124080
1 mg–50 mg	11124016	11124038	11124060	11124082
1 g–100 g	11124018	11124040	11124062	11124084
1 g–500 g	11124020	11124042	11124064	11124086
Box Material	Plastic			

## Weight Set Contents

Weight Range	1 mg	2 mg	5 mg	10 mg	20 mg	50 mg	100 mg	200 mg	500 mg	1 g	2 g	5 g	10 g	20 g	50 g	100 g	200 g	500 g	1 kg	2 kg	5 kg
1 mg–500 mg	1x	2x	1x	1x	2x	1x	1x	2x	1x	-	-	-	-	-	-	-	-	-	1x	2x	-
1 mg–100 g	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	-	-	-	-	-
1 mg–200 g	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	-	-	-	-
1 mg–500 g	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	-	-	-
1 mg–1 kg	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	-	-
1 mg–2 kg	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	-
1 mg–5 kg	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x
10 mg–50 g	-	-	-	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	-	-	-	-	-	-
1 mg–50 mg	1x	2x	1x	1x	2x	1x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1 g–100 g	-	-	-	-	-	-	-	-	-	1x	2x	1x	1x	2x	1x	1x	-	-	-	-	-
1 g–500 g	-	-	-	-	-	-	-	-	-	1x	2x	1x	1x	2x	1x	1x	2x	1x	-	-	-

# Reference Weights

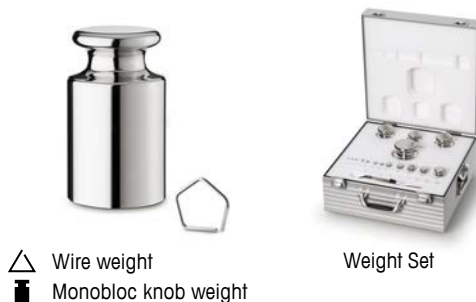
## For Highest Metrological Performance

National Metrology Institutes (NMIs) strive for measurements with the smallest uncertainty. "E0" calibration weights, which have a higher accuracy than E1, enable calibration of mass standards to be done with the highest metrological performance.

To produce "E0" weights, METTLER TOLEDO hand selects the best E1 weights which are then calibrated by an NMI with an uncertainty of  $1/5 \cdot \text{MPE} (E1)$ . These reference weights are delivered with the NMI calibration certificate.

### Individual Weights

Nominal Value	Class "E0"	Design
1 mg	30541858	△
2 mg	30541859	△
5 mg	30541860	△
10 mg	30541861	△
20 mg	30541862	△
50 mg	30541863	△
100 mg	30541864	△
200 mg	30541865	△
500 mg	30541866	△
1 g	30541867	■
2 g	30541868	■
5 g	30541869	■
10 g	30541870	■
20 g	30541871	■
50 g	30541872	■
100 g	30541873	■
200 g	30541874	■
500 g	30541875	■
1 kg	30541876	■
2 kg	30541877	■
5 kg	30541878	■
10 kg	30541879	■
20 kg	30548856	■
50 kg	30548857	■
Shape	△ Wire Weights	
Design	■ Monobloc Knob Weights	
Box Material	Plastic (50 kg: Wood)	



NMI  
Calibration  
Certificate



### Weight Sets

Weight Range	Class "E0"
1 mg–500 mg	30548898
1 mg–200 g	30548899
1 mg–1 kg	30548900
1 mg–2 kg	30548901
1 mg–5 kg	30548902
1 g–50 g	30548903
1 g–500 g	30548904
1 kg–5 kg	30548906
Box Material	Aluminum

### Weight Set

Contents	1 mg	2 mg	5 mg	10 mg	20 mg	50 mg	100 mg	200 mg	500 mg	1 g	2 g	5 g	10 g	20 g	50 g	100 g	200 g	500 g	1 kg	2 kg	5 kg
1 mg–500 mg	1x	2x	1x	1x	2x	1x	1x	2x	1x	-	-	-	-	-	-	-	-	-	-	-	-
1 mg–200 g	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	-	-	-	-
1 mg–1 kg	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	-	-
1 mg–2 kg	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	-
1 mg–5 kg	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x	1x	2x	1x
1 g–50 g	-	-	-	-	-	-	-	-	-	1x	2x	1x	1x	2x	1x	-	-	-	-	-	-
1 g–500 g	-	-	-	-	-	-	-	-	-	1x	2x	1x	1x	2x	1x	1x	2x	1x	-	-	-
1 kg–5 kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1x	2x	1x





# Microgram Weights For Specialized Applications

Microgram weights are used predominantly by national institutes for scientific research and calibration. They also support general industrial research in areas where instrument calibration with milligram weights is not sufficiently accurate. Together with the specially developed handling tools and accessories, these weights offer a complete solution for users that go beyond traditional weighing boundaries.

## Individual Weights

Nominal Value	Class "E0"	incl. NMI Certificate
0.05 mg	30078800	30080144
0.1 mg	30078801	30080145
0.2 mg	30078802	30080146
0.5 mg	30078803	30080147
Shape	△ Wire Weights	
Box Material	Aluminum/Plastic	



Weight Set, Weight Set with accessories and Individual Weights

Weight Sets	Class "E0"	incl. NMI Certificate	0.05 mg	0.1 mg	0.2 mg	0.5 mg	Accessories
0.05 mg–0.5 mg	30078805	30078807	1x	1x	2x	1x	Included
0.05 mg–0.5 mg	30078804	30078806	1x	1x	2x	1x	–
Box Material	Aluminum						

# Test Weights for Industrial Scales

## Solid, Innovative Designs Meet Tough Requirements

**Test weights made of stainless steel or cast iron ensure longevity and durability. Grip-handle weights with a flat top for secure stacking allow the testing of scales with maximum capacities up to 200 kilograms. Heavy-capacity test weights with a unique design for safe lifting allow convenient testing of scales of several tons.**

Handling heavy test weights always poses certain risks. To prevent injury and minimize manual handling, we have designed weights that allow four-side and top access using forklifts, cranes and hoists to enhance operator safety.

Our industrial-scale test weights include:

- OIML classes F1, F2, M1, M2, M3, with and without a calibration certificate
- Nominal values of 1 kilogram up to 5 tons



### High-Quality Grip-Handle Weights

Our polished, stainless steel weights are forged and not cast. Forging closes the porosity, prevents sand inclusions during forming and ensures the best possible corrosion resistance. They meet the highest requirements in regulated industries.



### Stackable to Your Requirements

Grip-handle weights, cylindrical weights and heavy-capacity weights are designed to allow safe and convenient stacking. Heavy-capacity weights can be easily stacked to test scales with maximum capacities of several tons.



### Safe and Efficient Lifting

To ensure productive work, weight dimensions fit all common pallet jacks and forklifts and allow access from all sides. Heavy-duty, stainless steel handles facilitate the lifting of single weights or stacks by hoists and cranes.

# Test Weights for Industrial Scales

## Classes F1–M3

### Grip-Handle Weights, Stainless Steel

Nominal Value	OIML F1		OIML M1	
	Weight	incl. Certificate	Weight	incl. Certificate
1 kg	11125424	11125429	30013625	30024245
2 kg	11125425	11125430	30013626	30024246
5 kg	11125426	11125431	30006805	30024247
10 kg	11125427	11125432	30006806	30024248
20 kg	11125428	11125433	30006807	30024249
Material	Stainless steel, high gloss finish		Stainless steel, glass bead blasted, passivated	
Density	7.9 kg/dm <sup>3</sup>		7.9 kg/dm <sup>3</sup>	



### Cylindrical Weights, Stainless Steel

Nominal Value	OIML F2		OIML M1	
	Weight	incl. Certificate	Weight	incl. Certificate
5 kg	11116650	11116656	11116600	11116601
10 kg	11116651	11116657	11116610	11116611
20 kg	11116652	11116658	11116620	11116621
50 kg	11116653	11116659	11116630	11116631
Weight carrier 40 kg	11116654	11116660	11116640	11116641
Material	Stainless steel		Stainless steel	
Density	7.9 kg/dm <sup>3</sup>		7.9 kg/dm <sup>3</sup>	



### Grip-Handle Weights, Cast Iron

Nominal Value	OIML M1		OIML M2		OIML M3	
	Weight	incl. Certificate	Weight	incl. Certificate	Weight	incl. Certificate
5 kg	11125400	11125404	11125408	11125412	11125416	11125420
10 kg	11125401	11125405	11125409	11125413	11125417	11125421
20 kg	11125402	11125406	11125410	11125414	11125418	11125422
50 kg	11125403	11125407	11125411	11125415	11125419	11125423
Material	Cast iron, two-component coating		Cast iron, two-component coating		Cast iron, two-component coating	
Density	7.2 kg/dm <sup>3</sup>		7.2 kg/dm <sup>3</sup>		7.2 kg/dm <sup>3</sup>	



### Heavy-Capacity Rectangular Weights, Cast Iron

Nominal Value	OIML M1	
	Weight	incl. Certificate
50 kg	11125498	11125499*
100 kg	11125500	11125506*
200 kg	11125501	11125507*
500 kg	11125502	11125508*
1,000 kg	11125503	11125509*
2,000 kg	11125504	11125510*
5,000 kg	11125505	11125511*
Material	Cast iron, two-component coating	
Density	7.2 kg/dm <sup>3</sup>	



\* COFRAC certificate, LNE approval no J060982-01-1/1

# Weight Accessories

## Ensure Correct Test Weight Handling

**Weights are the most frequently used and important equipment for testing scales and balances. For this reason, test weights need to be treated with care. How you handle, clean and store your test weights can make a sizeable difference to the ongoing accuracy of your weighing processes.**

Issues such as skin oils, dirt, and temperature changes can affect the accuracy of your weights and thus the result of your routine checks or calibrations. Any errors that result can cause rework, waste, regulatory fines, and more. Professional weight-handling accessories will help you avoid these potentially expensive errors and ensure the highest accuracy in your testing and calibrations.



### **Tweezers and Gloves Prevent Contamination**

Eliminating skin-to-weight contact is especially critical for weights with tighter tolerances and smaller nominal values. Non-magnetic and non-abrasive tweezers and synthetic or leather gloves protect your laboratory test weights.



### **Handles for Easy Operation of Larger Knob Test Weights**

Scratches can harm the surface of your weights, affecting their accuracy. Specialized handles for lifting knob weights protect their surface, facilitate their correct placement on the balance or scale while enhancing operator safety.



### **Stackable Weight Carriers**

For easy and fast testing of industrial scales, stackable weight carriers accommodate cylindrical weights of 20 kg, 10 kg or 5 kg, max. capacity of 200 kg. Weights including weight carrier 720×275×330 mm (L×W×H) are available in calibrated and certified versions (see p. 19).

# Weight Accessories

Choose from a comprehensive range of accessories for professional weight handling, including ergonomic tweezers, weight forks, weight handles and several types of gloves.

## Tweezers

Tips	Weight	Length	Material No.
Straight	1 mg–50 g	130 mm	00015900
Straight	1 g–1 kg	220 mm	11116544
Straight	1 mg–50 g	140 mm	11116543
Bent	1 g–1 kg	210 mm	00015901
Bent	1 g–200 g	130 mm	11116540
Straight	1 mg–500 mg	130 mm	30040321



## Weight Forks

Material	Weight	Length	Material No.
Aluminum/Polyamide	500 g–1 kg	300 mm	00222175
Aluminum/Polyamide	2 kg	320 mm	00015902
Aluminum/Polyamide	5 kg	470 mm	00015903
ABS	500 g	150 mm	11123094
ABS	1 kg	150 mm	11123095



## Weight Handles

Material	Weight	Material No.
Steel with rubber coating	2 kg	11123096
Steel with rubber coating	5 kg	11123097
Aluminum	10 and 20 kg	00015904
Aluminum	10 and 20 kg with ear for crane	11116517
Aluminum	50 kg with ear for crane	11116515



## Miscellaneous Accessories

	Material No.
Leather gloves, pair, not suitable for regulated environments	00072001
Nylon gloves, pair, suitable for all environments	11123098
Micro fibre cloth, suitable for all environments	00158798
Brush, suitable for all environments	00158799
Weight marking, up to 5 digits, alphanumeric, on 1 g–50 kg weights	11116500
Air bellow, for weight cleaning	11116548



# Calibration Services

## For Weights You Can Trust

**Accurately calibrated test weights are the basis of accurate weighing results. Periodic recalibration of test weights at an accredited mass calibration laboratory is essential to ensure ongoing traceability. At our accredited mass calibration laboratories, we clean, calibrate, and adjust each weight, and document the results in a calibration certificate. Our calibration services cover the basic reporting of conventional mass correction, uncertainty and traceability information in accordance with ISO/IEC 17025 requirements.**

Benefits of calibrating your weights with METTLER TOLEDO:

- Easy access to our global network of weight calibration laboratories
- Fast turnaround time for weight recalibration
- METTLER TOLEDO state-of-the-art mass comparators are used
- All our mass laboratories are accredited and meet or exceed ISO/IEC 17025, FDA, GMP, and nuclear industry requirements

Our mass calibration laboratories and those of our selected partners around the world ensure that the logistical routes for recalibrating your weights are short, the response times fast and our offers adapted to your local needs.



### **METTLER TOLEDO's Global Network of Mass Calibration Laboratories**





### **How Often Shall I Recalibrate My Test Weights?**

Even when weights are handled with care, they experience wear. Therefore it is important to recalibrate your routine test weights regularly. The frequency depends on the usage of the weights and the criticality of your weighing process. Our GWP® Verification (read more on page 4) service provides you not only with a calibration and testing plan to maintain consistent quality but also with a recommendation for the recalibration interval of your test weights.

► [www.mt.com/gwp-verification](http://www.mt.com/gwp-verification)

# Benefit from Our Weighing Expertise

Visit our Lab Library for a wealth of free information on weights, routine testing and good weighing practices.

- Routine Testing Guide
- SOPs for Balance Testing
- Routine Testing eLearning
- Correct Test Weight Handling Guide and more...



[www.mt.com/weights](http://www.mt.com/weights)

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