



Platinum Labware

Platinum is recognised for the important part that it plays within the fabrication of essential tools in chemical analysis.

Platinum is the standard material used for laboratory apparatus. Unless otherwise stated, crucibles and dishes will be supplied from platinum. Laboratory apparatus is also made in 10% rhodium-platinum, 5% gold-platinum, pure platinum, silver and gold.

All dishes will be supplied without a pouring lip unless otherwise specified.

The items shown in the Platinum Labware section are standard and are in general use. However we will supply items to your specifications. To order from the following schedules it is important to quote the reference number. In the case of crucibles and dishes state whether you require the standard product or reinforced rim with or without lid.

All weights are in grams and dimensions in millimetres.

All products are manufactured to a tolerance of +/-5% of size.



tms europe

over 3 decades of thermal measurement solutions

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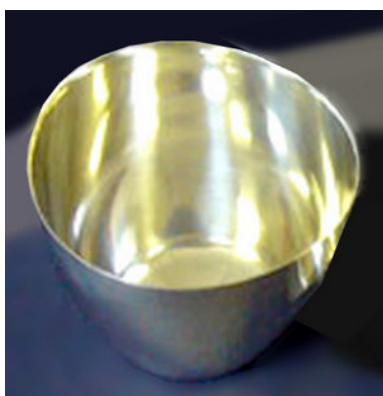
The Use & Care of Platinum Laboratory Ware

Care Instructions

- Avoid unnecessarily prolonged heating at high temperatures because this promotes coarse crystal growth, which eventually produces cracks.
- Place hot platinum vessels on a refractory material; never on a cold metallic surface or on a dirty surface.
- Heat under oxidising conditions whenever possible. In making fusions or ignitions in platinum apparatus over a Bunsen or Meker Burner only the upper non-luminous cone should be employed and not the inner cone. Nor should a smoky flame be used as the action of a flame containing free carbon or carbon monoxide will cause the metal to become brittle.
- Use clean platinum tipped tongs to handle hot platinum vessels. When only base metal tongs are available, allow the vessel to cool before handling.
- Dislodge melts carefully from crucibles.
- Avoid distortion as much as possible, if distortion occurs, reshape crucibles according to the procedure recommended under the heading, "Reshaping Apparatus".
- Use clean Triangles, preferably of porcelain or alumina, to support crucibles when making fusions.



Although platinum's unusual properties make it ideal for laboratory ware, there are some elements that attack it... particularly at high temperatures where our refractory crucibles are more suitable. Examples are: lead, tin, zinc, bismuth, arsenic, antimony, phosphorous, selenium, and tellurium.



The life of crucibles and dishes can be prolonged through the regular use of re-shapers to smooth out dents and distortions.

Cleaning of Crucibles and Dishes

The regular cleaning and burnishing of platinum ware will prolong the life of crucibles and dishes.

Immersion in the commonly employed chromic acid cleaning mixture will remove many impurities, particularly organic matter. Boiling in hydrochloric acid may be required to remove insoluble carbonates or metal oxides. Boiling in nitric acid may follow this treatment, but care should be taken to first rinse the article thoroughly since the presence of hydrochloric acid in the nitric acid solution would result in an attack upon the platinum. The solvent action of fused potassium bisulphate may usually be relied upon to remove adherent silica, silicates, metals and metal oxides. After fusion, carefully run the molten bisulphate over the inner surface, allow to cool, dissolve the melt in boiling water and rinse thoroughly. Boiling in hydrochloric acid may be required to supplement this procedure. After cleaning, the platinum crucible or dish may be polished by gently rubbing with an alumina impregnated nylon webbing having a fine grit. One such material is called "Scotch-Brite" Type A, fine grit, and is made by 3M Company.

Reshaping Apparatus

Platinum is a relatively soft metal and it is not surprising, therefore, that inadvertent mishandling of laboratory apparatus will produce dents or other distortions. Using a reshaping block and plug may reshape crucibles.

For sales information call us on 01433 620535 or email sales@tmseurope.co.uk.

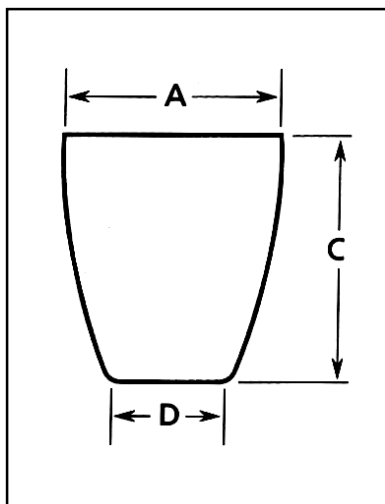


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Crucibles

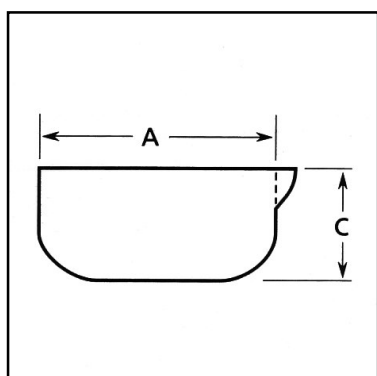
Made in platinum
approximate weight in
grams, approximate
dimensions in mm.



Ref No.	Capacity MI	C	A	D	Base Thickness	Standard Weight	Wt with Reinforced Rim	Lid Weight
BC 2	10	29	26	15.5	0.25	8.5	10.5	2.8
BC 3	10	24	29	17.5	0.25	8	10	3.6
BC 4	15	33	29	17.5	0.25	11.5	13.5	3.6
BC 5	15	27	32	19.5	0.25	13	15	4.5
BC 6	20	36	32.5	18	0.30	18	20	4.5
BC 7	20	31	37	22.5	0.25	17	20	6
BC 8	25	34	41	25	0.3	25	29	7.2
BC 9	25	39	35	21	0.3	19	21	5.2
BC 10	30	41	37.5	22.5	0.3	24	27.5	6
BC 11	35	36	43.5	26.5	0.3	26	30	8
BC 12	35	43	39	23.5	0.3	29	32.5	6
BC 13	40	46	41.5	25	0.3	31	33.5	7.2
BC 14	50	41	49	30	0.36	39	45	10
BC 15	50	49	44	26.5	0.38	42	46.5	8
BC 16	70	46	55	33.5	0.4	53	60	15
BC 17	75	55	50	30	0.41	55	60	10
BC 18	100	62	56	33	0.48	79	83.5	15
BC 19	125	64	58	35	0.48	90	95	15
BC 20	150	68	62	37	0.48	99	104	15
BC 21	175	71	65	39	0.48	110	116	18
BC 22	200	74	68	41	0.48	120	125	18.8

Dishes

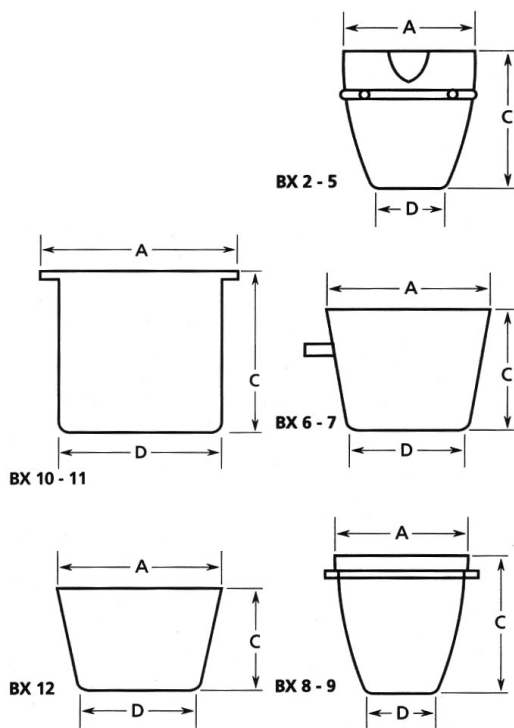
Made in platinum
approximate weight in
grams, approximate
dimensions in mm.



Ref No.	Capacity MI	C	A	Base Thickness	Standard Weight	Wt with Reinforced Rim	Lid Weight
BD 2	10	17	35.0	0.17	8.0	10.0	5.2
BD 3	15	19	38.0	0.17	10.0	12.5	6.0
BD 4	20	20	42.0	0.17	12.5	15.0	7.2
BD 5	30	22	50.0	0.17	15.5	18.0	10.0
BD 6	50	26	57.5	0.17	18.5	21.5	15.0
BD 7	60	27	62.5	0.17	23.5	26.0	15.0
BD 8	80	28	70.0	0.17	28.0	31.0	18.8
BD 9	100	29	75.0	0.23	37.0	41.5	23.4
BD 10	125	31	82.5	0.23	39.0	45.0	-
BD 11	150	34	82.5	0.25	52.0	58.0	-
BD 12	175	38	90.0	0.25	62.0	68.5	-
BD 13	200	40	90.0	0.28	65.0	71.5	-
BD 14	250	41	100.0	0.33	93.0	99.5	-
BD 15	500	50	125.0	0.33	171.0	181.5	-
BD 16	700	58	143.0	0.33	202.0	211.5	-

Sample Bead Preparation and Casting Vessels

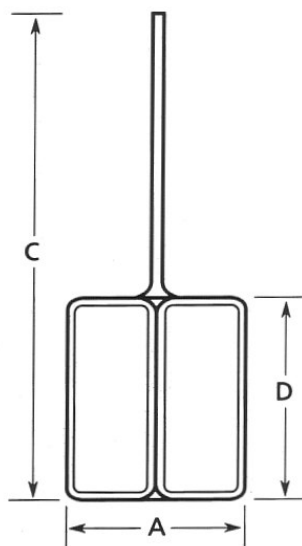
Used in XRF, ICP, AA Analysis.



Ref No.	Description	C	A	D	Base Thickness	Standard Weight
BX 2	Crucibles suitable for Schoeps Automatic Fusion Machine with Supporting Wire Cage and Pouring Lip	39	35.0	21.0	0.40	29.5
BX 3	Crucibles suitable for Schoeps Automatic Fusion Machine with Supporting Wire Cage and Pouring Lip	41	37.5	22.5	0.40	34.5
BX 4	Crucibles suitable for Schoeps Automatic Fusion Machine with Supporting Wire Cage and Pouring Lip	43	39.0	23.5	0.40	39.0
BX 5	Crucibles suitable for Schoeps Automatic Fusion Machine with Supporting Wire Cage and Pouring Lip	49	44.0	26.8	0.40	52.0
BX 6	Crucibles suitable for Schoeps Semi-automatic Fusion Machine with Supporting Pins	30	40.0	30.0	0.45	30.0
BX 7	Crucibles suitable for Schoeps Semi-automatic Fusion Machine with Supporting Pins	30	40.0	30.0	0.60	41.0
BX 8	Crucibles suitable for Leco FX-100 & FX-200 Automatic Fluxer with Supporting Ring	35	37.0	20.0	0.60	45.0
BX 9	Crucibles suitable for Leco FX-100 & FX-200 Automatic Fluxer with Supporting Ring	39	35.0	21.0	0.60	45.0
BX 10	Crucibles for Perl X2 Machine with 5mm wide Flange	40	50.0	40.0	0.80	83.0
BX 11	Crucibles for Perl X2 Machine with 5mm wide Flange	40	50.0	40.0	0.90	116.0
BX 12	Crucibles for Herzog Automatic Fusion Machine	40	50.0	38.5	1.00	83.0

Electrodes

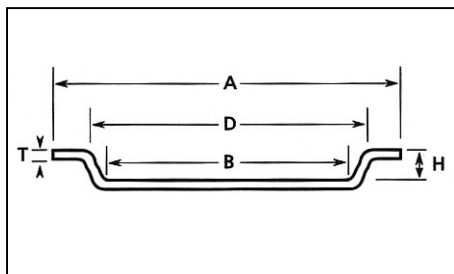
Approximate weight in grams, approximate dimensions in mm.



Ref No.	Description	C	D	A	Weight	Approx. Surface Area cm ²
BE 2	Fischer Cathode Mesh Cylinder with rings on Stem	125	45	45	33	125
BE 3	Fischer Anode Mesh Cylinder	140	32	32	19	70
BE 4	Fischer Cathode Mesh Cylinder without Rings on Stem	150	45	45	31	125
BE 5	Anode Wire Helix	140	32	32	13	0.75
BE 6	Anode Wire Helix	140	30	10	10	0.35
BE 7	Anode Mesh Cylinder with Central Stem	170	45	25	36	70
BE 8	Cathode Mesh Cylinder	140	40	40	19	100
BE 9	Winkler Cathode divides Mesh Cylinder	150	45	45	28	120
BE 10	Cathode Mesh Cylinder	130	50	30	16	-
BE 11	Anode Mesh Cylinder	130	50	12	7	-
BE 12	Anode Wire Helix	130	50	10	5	-
BE 13	Anode Rotating Paddle. Shaped	140	-	-	13	18
BE 14	Shoniger Basket	70	20	7	2.5	-

Casting Moulds

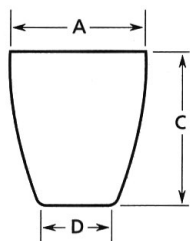
Approximate weight in grams, approximate dimensions in mm.



Ref No.	H	A	B	D	T	Weight	Top Flange Shape
BM2 Perl X Type	4	55	30.5	32.0	0.5	26	Round
BM3 Perl X Type	4	55	30.5	32.0	0.7	41	Round
BM4 Perl X Type	10	65	39.5	40.5	1.0	63	Round
BM5 Perl X Type	10	65	30.5	31.5	1.0	63	Round
BM6 Leco Type	8	44	35.0	-	0.76	32	Round
BM7 Standard	3	51	39.0	41.0	0.8	46	Square
BM8 Standard	3	51	39.0	41.0	1.0	55	Square
BM9 Standard	3	44	33.5	36.5	0.8	28	Round
BM10 Standard	3	44	33.5	36.5	1.0	36	Round
BM11 Standard	3	51	33.5	36.5	0.8	46	Square
BM12 Standard	3	51	33.5	36.5	1.0	55	Square
BM13 Standard	3	41	29.0	31.0	0.8	29	Square

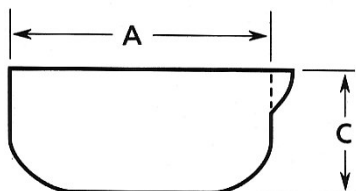
Micro-Crucibles

Made in platinum approximate weight in grams, approximate dimensions in mm.



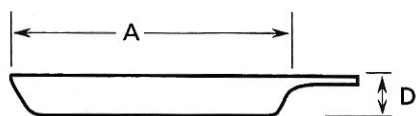
Ref No.	Capacity ml	C	A	D	Weight	Lid Weight
BMC 2	1	13	12.0	7.2	2	0.56
BMC 3	3	19	17.0	10.0	5	1.30
BMC 4	5	22	20.5	12.0	7	1.50
BMC 5	10	28	26.0	15.5	9	2.60

Micro-Dishes



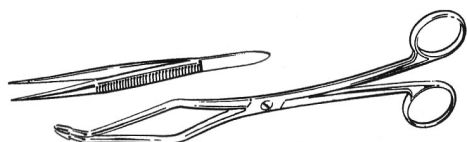
Ref No.	Description	C	A	Weight
BMD 2	Flat Bottom Plain	2	10	0.3
BMD 3	Flat Bottom Plain	2	15	0.7
BMD 4	Round Bottom with Handle	8	15	2.0
BMD 5	Round Bottom with Handle	11	22	4.0

Combustion Boats



Ref No.	Capacity ml	A	Width	D	Handle	Weight
BB 2	3	60	9	9	With	11.6
BB 3	3	60	9	9	Without	11.2
BB 4	12	100	16	13	Without	28.0
BB 5	4	48	13	10	With	6.0
BB 6	6	60	13	10	With	8.0
BB 7	9	85	13	10	With	14.0
BB 8	12	110	13	10	With	20.0

Tongs & Tweezers



Ref No.	Description	Length	Pt Weight
BT 2	Bowed Stainless Steel Tongs with Pt Tips	200	1.25
BT 3	Stainless Steel Tweezers with Pt Tips	130	1.40

Wire

Standard wire diameters

Diameter	99.99% Gold	99.99% Platinum	99.99% Palladium	99.99% Silver
0.1 mm	x	x	x	x
0.2 mm	x	x	x	x
0.5 mm	x	x	x	x
1.0 mm	x	x	x	x
1.5 mm	x	x	x	x
2.0 mm	x	x	x	x

Alloys of the above metals are also available on request

Rod

Standard rod diameters

Diameter	99.99% Gold	99.99% Platinum	99.99% Palladium	99.99% Silver
2.0 mm	x	x	x	x
3.0 mm	x	x	x	x
4.0 mm	x	x	x	x
5.0 mm	x	x	x	x
6.0 mm	x	x	x	x
7.0 mm	x	x	x	x
8.0 mm	x	x	x	x
9.0 mm	x	x	x	x
10.0 mm	x	x	x	x

Alloys of the above metals are also available on request

Platinum/Rhodium Thermocouple

Wire

Standard thermocouple
wire diameters

Diameter	Type R	Type S	Type B
0.3 mm	x	x	x
0.45 mm	x	x	x
0.5 mm	x	x	x
0.020"	x	x	x

<u>Grade</u>	<u>Type</u>	<u>Temperature Range</u>	
Class 1	R & S	0°C	- 1450°C
Class 2	R & S	0°C	- 1450°C
	B	870°C	- 1700°C

Specification

All thermocouple wire is calibrated using standards traceable to national standards.

Calibration are performed with measuring equipment which is calibrated in accordance with established procedures and is traceable to national standards.

All calibration are performed in a controlled environment.

Sputtering Targets

Standard disk sizes

We can supply sputtering targets with diameters ranging from 4mm to 304.8mm (12").

Our sputtering targets are available with thickness' ranging from 0.05mm to 6mm.

	99.99% Gold	99.99% Platinum	99.99% Palladium	Gold 80% Palladium 20%	Gold 60% Palladium 40%	Platinum 80% Palladium 20%	99.99% Silver
12.5 mm	X	X	X	X	X	X	X
20.0 mm	X	X	X	X	X	X	X
25.4 mm	X	X	X	X	X	X	X
25.0 mm	X	X	X	X	X	X	X
32.0 mm	X	X	X	X	X	X	X
38.0 mm	X	X	X	X	X	X	X
42.0 mm	X	X	X	X	X	X	X
50.8 mm	X	X	X	X	X	X	X
50.0 mm	X	X	X	X	X	X	X
54.0 mm	X	X	X	X	X	X	X
57.0 mm	X	X	X	X	X	X	X
63.5 mm	X	X	X	X	X	X	X
75.0 mm	X	X	X	X	X	X	X
76.0 mm	X	X	X	X	X	X	X

Annular Targets

Our annular targets are available with thickness' ranging from 0.05mm to 6mm

	99.99% Gold	99.99% Platinum	99.99% Palladium	Gold 80% Palladium 20%	Gold 60% Palladium 40%	Platinum 80% Palladium 20%	99.99% Silver
117mm od x 89mm id	X	X	X	X	X	X	X
87mm od x 57mm id	X	X	X	X	X	X	X
59mm od x 33mm id	X	X	X	X	X	X	X
57mm od x 40mm id	X	X	X	X	X	X	X

Evaporation Material

Typical pellet/slug sizes

	99.99% Gold	99.99% Platinum	99.99% Palladium
3mm dia x 3mm long	x	x	x
3mm dia x 6mm long	x	x	x
6mm dia x 6mm long	x	x	x

Alloyed Pellets

Supplied as randomly sized pellets

	Gold Based	99% Gold Based	Indium Based	99% Indium Based
Gallium	Gold 84% / Gallium 16%	Gold 99% / Gallium 1%	-	-
Germanium	Gold 88% / Germanium 12%	Gold 99% / Germanium 1%	-	-
Antimony	Gold 74% / Antimony 26%	Gold 99% / Antimony 1%	-	-
Tin	Gold 80% / Tin 20%	Gold 99% / Tin 1%	Indium 52% / Tin 48%	Indium 99% / Tin 1%
Zinc	Gold 84% / Zinc 16%	Gold 99% / Zinc 1%	Indium 97% / Zinc 3%	Indium 99% / Zinc 1%