

Non-Precious Metal Labware



FEATURING:

- Crucibles & Dishes
- PTFE Labware
- Quartz Products
- Carbon Graphite labware
- Ruby & Sapphire Spheres
- Glassy Carbon

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Where Science Meets Service

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Non-Precious Metal Labware

Non-Precious Metal Labware



Introduction

The information in this section is designed to acquaint you with the wide range of refractory metal crucibles now available to help reduce laboratory costs. They provide long life, increase efficiency and lower long-run costs making them an indispensable part of a laboratory's analytical equipment.

You will find precision is the hallmark of this fine line of Johnson Matthey crucibles now offered by Alfa Aesar. Research and experimentation have developed a method of deep drawing exotic metals and alloys into laboratory vessels of unusually high precision in virtually unlimited shapes and sizes. This provides you with crucibles that are unparalleled when judged on the basis of cost, efficiency and length of service.

Standard crucibles are offered in the following metals and alloys:

Zirconium

Each zirconium crucible is handmade to an exacting tolerance for uniform wall thickness. Only high-purity zirconium material is used -- produced under the most stringent requirements to ensure ultimate tensile strength, yield strength, elongation and chemical purity.

Zirconium crucibles hold several advantages over other materials:

1. Improper heating over a Bunsen burner will not cause the reducible contents to be converted into harmful, low-fusing metals which may react with the vessel.
2. Special apparatus is not required for handling hot zirconium crucibles.
3. Sudden contact with cold, metallic surfaces will have no deleterious effect on a zirconium crucible.
4. The only cleaning agent which should not be used to clean zirconium crucibles is hydrofluoric acid.
5. Zirconium crucibles require a minimum of specialized care so smoothing and shaping is not a special consideration.
6. The inherent strength of zirconium precludes the necessity of reinforced rims and thicker bottoms.

Inconel® Alloy 601

Inconel® nickel-chromium-iron alloy 601 is a general purpose engineering material for applications that require resistance to heat and corrosion. Inconel has excellent resistance to oxidation in the 1000 to 1200 degree Centigrade temperature range and also has good corrosion resistance to many acid and aqueous salt solutions. The limiting chemical composition of the alloy is as follows:

Limiting Chemical Composition, %, of Inconel® alloy 601.

Nickel	58.0-63.0
Chromium	21.0-25.0
Iron	Remainder
Aluminum	1.0-1.7
Carbon	0.10 max
Manganese	1.0 max
Sulfur	0.015 max
Silicon	0.50 max
Copper	1.0 max

Inconel® nickel-chromium-iron alloy 601 may be your answer to high-temperature applications requiring resistance to oxidation and spalling. In addition to its resistance to corrosive oxidation, the alloy is also unaffected by rapid changes from hot to cold, and it also retains its mechanical strength at elevated temperatures. The high resistance of Inconel® Alloy 601 to oxidation, carburization or sulfidation make it well suited for vessels used in determining moisture, volatiles, fixed-carbon and ash located in most coal and coke products, or wood pulp or fiber.

It has also been recommended for use in drying and ashing biological materials whose residues are soluble in dilute acid or alkali for subsequent analysis. Trace-level determinations of principal constituent elements are excluded.

Smoothing and reshaping after use is not necessary. Uniform heating is assured, since the inherent strength of Inconel® alloy 601 laboratory ware precludes the necessity of reinforced rims and thicker bottoms. The vessels can be cleaned simply by scouring with sea-sand or some other mild abrasive.

NOTE: Strong alkaline or oxidizing fusions are not recommended with Inconel® Alloy 601 laboratory ware.

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Nickel

In the analytical laboratory, nickel crucibles offer high resistance to dilute alkalies at a very low cost per crucible. In some instances, nickel crucibles are preferable to zirconium; for instance, sodium peroxide fusions in which zirconium itself is to be determined; also in analysis for columbium (niobium), tantalum or low phosphorus.

Although significant amounts of nickel can be introduced into samples, it can be removed easily by several ammonia separations. Life expectancy of a nickel crucible is from 4 to 6 fusions. They present an advantage, other than cost, if small amounts of zirconium are present, or if its removal with Mandelic Acid is unsuccessful. If small amounts of phosphorus are to be determined because of extremely low solubility of zirconium phosphate, then nickel must be used.

Labware

Non-Precious Metal Labware

Corrosion Resistance of Nickel

Solutions

Nickel is completely resistant to phosphoric acid as well as being highly resistant to the corrosive effect of the strongest alkalis. Nickel, however, is less than satisfactory when used for salt solutions containing oxidants such as ferric chloride or solutions of mineral acids containing oxidizing salts.

Nickel should not be used for:

1. Hypochlorite solutions when available chlorine is over 3 gram/liter
2. Strongly oxidizing acids such as nitric acid
3. Sulfurous acid and ammonium hydroxide in concentrations over 1%.

Wet and dry gases

No dry gases are actively corrosive to nickel at atmospheric temperature. Nickel is also resistant to dry hydrogen chloride, hydrogen fluoride, and chlorine up to about 535°C. Nickel is not affected by steam at temperatures usually encountered. It is corroded by gases containing sulfur.

NICKEL FORMS A TIGHTLY ADHERING OXIDE FILM AT 400°C IN OXIDIZING ATMOSPHERES AT TEMPERATURES TO 600°C.

In choosing crucibles for laboratory work, nickel can be effective with regard to cost per crucible, and for use in fusions where zirconium or other metals cannot be used.

Molybdenum

Molybdenum is a refractory metal recognized for its excellent strength at high temperatures, its high melting point of 2610°C (4370°F) and its high resistance to corrosion. It serves a definite purpose in the laboratory.

This high melting point makes molybdenum excellent for use as vapor deposition boats and dishes. Vessels of molybdenum have also been used for such applications as processing nuclear fuel pellets at temperatures up to 1650°C (3000°F), and molybdenum crucibles are durable and will withstand repeated rough handling.

In air or oxygen-containing atmospheres, molybdenum is not oxidized to any considerable degree at temperatures below 400°C (750°F). At 400°C (750°F) and up molybdenic oxide is formed and begins to sublime. It is recommended that for high temperature applications, except for brief periods, fusions should be performed in a vacuum or inert atmosphere. The crucibles could then be heated up to about 2100°C (3800°F).

Tantalum

Exhibiting a melting point of 2996°C (5432°F), among the refractory metals tantalum is outranked only by tungsten (3410°C/6170°F). Tantalum, long recognized for its superior strength at high temperatures, is also one of the most corrosion resistant metals available, exhibiting a resistance to acid attack comparable to that of glass and platinum. Due to these qualities, strength at high temperatures and excellent corrosion resistance, laboratory crucibles fabricated from tantalum are suitable for a variety of applications.

Tantalum has been used widely in the electronics, nuclear, aerospace and chemical industries in such areas as heat exchangers, where heat must be transferred to or from acids and other corrosive fluids and vapors. It is also a superior material for the fabrication of heat shields, heating elements, etc.

Tantalum is inert to most organic and inorganic compounds up to temperatures of about 150°C (300°F). The metal displays almost complete immunity to attack by most acids, and is impervious to liquid metals up to 900°C (1650°F). Like glass, one of the few exceptions to tantalum's general acid resistance is hydrofluoric acid, which will attack tantalum readily. Strong alkalis, oxalic acid and fuming sulfuric acid should also be avoided when using tantalum, as well as any solution containing fluorine ions.

Tantalum exhibits excellent resistance to most acids, especially hydrochloric, sulfuric, nitric, and aqua regia at normal temperatures, and is also completely resistant to attack by many molten metals, including sodium, lithium, magnesium, potassium, and mercury in temperatures to 1100°C (2000°F).

Tantalum is less resistant to alkaline solutions. Concentrated alkaline solutions will attack tantalum at room temperature. The degree of attack is somewhat dependent on temperature and concentration, but in general strong alkalis above room temperature should be avoided.

Most gases, including either wet or dry chlorine or bromine are not reactive with tantalum at temperatures below 150°C (300°F). As temperature and concentration of such gases as oxygen, nitrogen, chlorine, hydrogen chloride and ammonia are increased, oxidation becomes more rapid. Fluorine, hydrogen, fluoride and gaseous SO₃ attack tantalum at all temperatures.

Salts and their solutions generally do not attack tantalum unless they are prone to alkaline hydrolysis or contain fluorine ions. Chlorides and bromides such as ferric chloride, mercuric and stannous up to 175°C (350°F) are satisfactory for use with tantalum.

Heating and vaporization elements made of tantalum are frequently used in flameless atomic absorption equipment, thus eliminating the "carry-over" of ions often found when using graphite elements.

Copper

Copper is considered one of the most important metallic elements, due to its unique physical and chemical properties. Copper provides high electrical and thermal conductivities, corrosive resistance, easy workability and low toxicity. With similar reactivity to silver and gold, it is classified as a noble metal.

Aluminium

Aluminium is the most abundant metallic element on the earth and has many desirable physical and chemical properties. A highly impervious oxide film (approximately 5nm-thick) is resistant to corrosion by seawater, and other aqueous and chemical solutions. Additionally, this element offers chemical stability in the presence of most organic compounds. Aluminium's reactivity increases with temperature, therefore, the use of aluminium labware at high temperatures is not recommended.

Non-Precious Metal Labware

Beakers with Pour Lip



Aluminum Beakers

Stock #	Cap(ml)	Top Dia(mm)	Bottom Dia(mm)	Ht(mm)
39046	125	56	48	57
39047	250	63	57	92
39048	500	87	76	114
39049	1000	108	95	137
39050	2000	137	117	171

Copper Beakers

Stock #	Cap(ml)	Top Dia(mm)	Bottom Dia(mm)	Ht(mm)
39051	60	46	40	51
39052	125	56	48	67
39053	250	63	57	92
39054	500	87	76	114
39055	1000	108	95	137
39056	2000	137	117	171

Nickel Beakers

Stock #	Cap(ml)	Top Dia(mm)	Bottom Dia(mm)	Ht(mm)
39057	60	46	40	51
39058	125	56	48	67
39059	250	63	57	92
39060	500	87	76	114
39061	1000	108	95	137
39062	2000	137	117	171

Zirconium Crucibles for Automatic Fusion Equipment

Listed below are some fluxes that can be used in zirconium crucibles.

Sodium Peroxide Fusion

Used with very refractory or high-silica materials such as chromite, magnetite, ilmenite, rutile, silicon, silicon carbide, and certain alloys and steels. An excellent general flux for almost any material.

Sodium Carbonate Fusion

Decomposes most silicates of aluminum, calcium, chromium, nickel; also halides of silver; and sulfates of barium and lead.

Lithium Salt Fusion

Flux for oxide and silicate materials when sodium and potassium need to be determined or when large amounts of sodium would interfere with x-ray fluorescence or atomic absorption procedures.

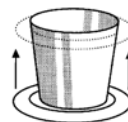
While prolonged exposure to air at temperatures of more than 750°C can have a negative effect on zirconium, this can be reduced by either: (1) using the cooler, but reducing, portion of the flame, or (2) enveloping the crucible in an inert atmosphere.

Three Styles Available

Slide-On Ring

A removable ring that slides up, fitting approximately 0.20 in. below the top of the crucible

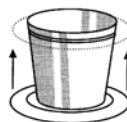
Stock #	Top Dia (mm)	Bottom Dia (mm)	Ht (mm)	Ring/Rim OD (mm)
35882	36	25	35	44
35924	42	29	44	48
35986	47	36	35	54



Snap-On Ring

Also removable, but snap-fits into a machined groove located approximately 0.20 in. below the top of the crucible.

Stock #	Top Dia (mm)	Bottom Dia (mm)	Ht (mm)	Ring/Rim OD (mm)
35903	39	29	33	44
36020	42	29	44	48
35966	47	38	36	50



Flanged Rim

A formed rim, integral to the crucible (not welded on), at the crucible's top edge.

Stock #	Top Dia (mm)	Bottom Dia (mm)	Ht (mm)	Ring/Rim OD (mm)
35945	39	29	33	44
35999	42	29	44	48
35902	47	36	35	54



Non-Precious Metal Labware

High Form Crucibles



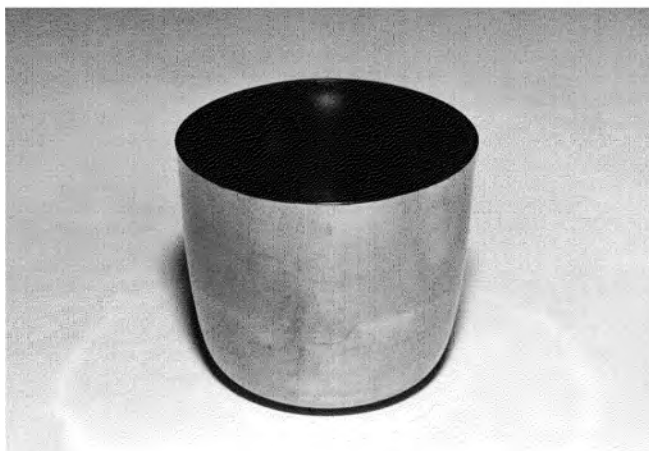
Nickel Crucibles

Stock #	Cap(ml)	Top Dia(mm)	Bottom Dia(mm)	Depth(mm)
35883	20	38	22	35.00
35904	30	41	25	43.00
35925	50	44	32	51.00
35946	75	54	37	57.00
35967	100	61	37	62.00
35998	150	71	37	68.00
36019	250	84	50	78.00
36040	500	101	62	91.00

Nickel Crucible Covers

Stock #	Description
36000	Nickel Cover for Crucible 35883, 20ml
36059	Nickel Cover for Crucible 35904, 30ml
36021	Nickel Cover for Crucible 35925, 50ml
35987	Nickel Cover for Crucible 35946, 75ml
35965	Nickel Cover for Crucible 35967, 100ml
35944	Nickel Cover for Crucible 35998, 150ml
35923	Nickel Cover for Crucible 36019, 250ml
35901	Nickel Cover for Crucible 36040, 500ml

Low Form Crucibles



Zirconium Crucibles

Stock #	Cap(ml)	Top Dia(mm)	Bottom Dia(mm)	Depth(mm)
35884	15	33	25	23.00
35905	20	33	25	30.00
35926	25	45	38	23.00
35947	35	46	38	30.00
35968	45	46	38	35.00
35997	55	47	38	43.00
36018	75	51	41	43.00
36083	100	59	50	46.00
36058	250	82	66	60.00
36039	500	102	89	66.00

Zirconium Crucible Covers

Stock #	Description
36001	Zirconium Cover for Crucible 35884, 15ml
36041	Zirconium Cover for Crucible 35905, 20ml
36069	Zirconium Cover for Crucible 35926, 25ml
36060	Zirconium Cover for Crucible 35947, 35ml
36022	Zirconium Cover for Crucible 35968, 45ml
35985	Zirconium Cover for Crucible 35997, 55ml
35964	Zirconium Cover for Crucible 36018, 75ml
35943	Zirconium Cover for Crucible 36083, 100ml
35922	Zirconium Cover for Crucible 36058, 250ml
35900	Zirconium Cover for Crucible 36039, 500ml

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Low Form Crucibles (Continued)

Nickel Crucibles

Stock #	Cap(ml)	Top Dia(mm)	Bottom Dia(mm)	Depth(mm)
35885	15	36	32	23.00
35906	20	33	25	30.00
35927	25	45	38	23.00
35948	35	46	38	30.00
35969	45	46	38	35.00
35996	55	47	38	43.00
36017	75	51	41	43.00
36057	100	59	50	46.00
36084	250	82	66	60.00
36038	500	102	89	66.00

Nickel Crucible Covers

Stock #	Description
36002	Nickel Cover for Crucible 35885, 15ml
36042	Nickel Cover for Crucible 35906, 20ml
36082	Nickel Cover for Crucible 35927, 25ml
36061	Nickel Cover for Crucible 35948, 35ml
36023	Nickel Cover for Crucible 35969, 45ml
35984	Nickel Cover for Crucible 35996, 55ml
35963	Nickel Cover for Crucible 36017, 75ml
35942	Nickel Cover for Crucible 36057, 100ml
35921	Nickel Cover for Crucible 36084, 250ml
35899	Nickel Cover for Crucible 36038, 500ml

Inconel[®] Alloy 601 Crucibles

Stock #	Cap(ml)	Top Dia(mm)	Bottom Dia(mm)	Depth(mm)
35886	15	33	25	23.00
35907	20	33	25	30.00
35928	25	45	38	23.00
35949	35	46	38	30.00
35970	45	46	38	35.00
35994	55	47	38	43.00
36016	75	51	41	43.00
36056	100	59	50	46.00
36085	250	82	66	60.00
36037	500	102	89	66.00

Low Form Crucibles (Continued)

Inconel® Alloy 601 Crucible Covers

Stock #	Description
36003	Inconel Cover for Crucible 35886, 15ml
36043	Inconel Cover for Crucible 35907, 20ml
36081	Inconel Cover for Crucible 35928, 25ml
36062	Inconel Cover for Crucible 35949, 35ml
36024	Inconel Cover for Crucible 35970, 45ml
35983	Inconel Cover for Crucible 35994, 55ml
35962	Inconel Cover for Crucible 36016, 75ml
35941	Inconel Cover for Crucible 36056, 100ml
35920	Inconel Cover for Crucible 36085, 250ml
35898	Inconel Cover for Crucible 36037, 500ml

Tantalum Crucibles

Stock #	Cap(ml)	Top Dia(mm)	Bottom Dia(mm)	Depth(mm)
35887	15	36	32	23.00
35929	25	45	38	23.00
35950	35	46	38	30.00
35971	45	46	38	35.00
36015	75	51	41	43.00
36036	500	102	89	66.00

Tantalum Crucible Covers

Stock #	Description
36044	Tantalum Cover for Crucible 35950, 35ml
36025	Tantalum Cover for Crucible 35971, 45ml
35897	Tantalum Cover for Crucible 36036, 500ml

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Straight Wall Crucibles



Zirconium Crucibles

Stock #	Cap(ml)	Outside Dia(mm)	Depth(mm)
35888	5	21	18
35909	10	27	22
35930	15	33	22
35951	20	33	29
35972	25	45	22
35992	35	46	29
36014	45	46	34
36070	55	47	41
36106	75	51	41
36054	100	59	45
36097	250	82	59
36087	500	101	65
36035	1000	127	89

Straight Wall Crucibles (Continued)

Zirconium Crucible Covers

Stock #	Description
36005	Zirconium Cover for Crucible 35888, 5ml
36045	Zirconium Cover for Crucible 35909, 10ml
36079	Zirconium Cover for Crucible 35930, 15ml
36107	Zirconium Cover for Crucible 35951, 20ml
36064	Zirconium Cover for Crucible 35972, 25ml
36093	Zirconium Cover for Crucible 35992, 35ml
36111	Zirconium Cover for Crucible 36014, 45ml
36026	Zirconium Cover for Crucible 36070, 55ml
35980	Zirconium Cover for Crucible 36106, 75ml
35960	Zirconium Cover for Crucible 36054, 100ml
35939	Zirconium Cover for Crucible 36097, 250ml
35918	Zirconium Cover for Crucible 36087, 500ml
35896	Zirconium Cover for Crucible 36035, 1000ml

Nickel Crucibles

Stock #	Cap(ml)	Outside Dia(mm)	Depth(mm)
35889	5	21	18
35910	10	27	22
35931	15	33	22
35952	20	33	29
35973	25	45	22
35991	35	46	29
36013	45	46	34
36071	55	47	41
36112	75	51	41
36053	100	59	45
36098	250	82	59
36088	500	101	65
36034	1000	127	89

Non-Precious Metal Labware

Straight Wall Crucibles (Continued)

Nickel Crucible Covers

Stock #	Description
36006	Nickel Cover for Crucible 35889, 5ml
36078	Nickel Cover for Crucible 35910, 10ml
36109	Nickel Cover for Crucible 35931, 15ml
36094	Nickel Cover for Crucible 35952, 20ml
36065	Nickel Cover for Crucible 35973, 25ml
36113	Nickel Cover for Crucible 35991, 35ml
36046	Nickel Cover for Crucible 36013, 45ml
36027	Nickel Cover for Crucible 36071, 55ml
35981	Nickel Cover for Crucible 36112, 75ml
35959	Nickel Cover for Crucible 36053, 100ml
35938	Nickel Cover for Crucible 36098, 250ml
35917	Nickel Cover for Crucible 36088, 500ml
35895	Nickel Cover for Crucible 36034, 1000ml

Inconel[®] Alloy 601 Crucibles

Stock #	Cap(ml)	Outside Dia(mm)	Depth(mm)
35890	5	21	18
35911	10	27	22
35932	15	33	22
35953	20	33	29
35974	25	45	22
35990	35	46	29
36012	45	46	34
36072	55	47	41
36099	75	51	41
36052	100	59	45
36102	250	82	59
36090	500	101	65
36033	1000	127	89

Straight Wall Crucibles (Continued)

Inconel® Alloy 601 Crucible Covers

Stock #	Description
36007	Inconel Cover for Crucible 35890, 5ml
36095	Inconel Cover for Crucible 35911, 10ml
36066	Inconel Cover for Crucible 35932, 15ml
36103	Inconel Cover for Crucible 35953, 20ml
36047	Inconel Cover for Crucible 35974, 25ml
36077	Inconel Cover for Crucible 35990, 35ml
36089	Inconel Cover for Crucible 36012, 45ml
36028	Inconel Cover for Crucible 36072, 55ml
35979	Inconel Cover for Crucible 36099, 75ml
35958	Inconel Cover for Crucible 36052, 100ml
35937	Inconel Cover for Crucible 36102, 250ml
35916	Inconel Cover for Crucible 36090, 500ml
35894	Inconel Cover for Crucible 36033, 1000ml

Molybdenum Crucibles

Stock #	Cap(ml)	Outside Dia(mm)	Depth(mm)
35891	5	21	18
35912	10	27	22
35933	15	33	22
35954	20	33	29
35975	25	45	22
35989	35	46	29
36011	45	46	34
36073	55	47	41
36051	75	51	41
36032	100	59	45

Non-Precious Metal Labware

Straight Wall Crucibles (Continued)

Molybdenum Crucible Covers

Stock #	Description
36008	Molybdenum Cover for Crucible 35891, 5ml
36067	Molybdenum Cover for Crucible 35912, 10ml
36076	Molybdenum Cover for Crucible 35933, 15ml
36048	Molybdenum Cover for Crucible 35954, 20ml
36029	Molybdenum Cover for Crucible 35975, 25ml
35978	Molybdenum Cover for Crucible 35989, 35ml
35957	Molybdenum Cover for Crucible 36011, 45ml
35936	Molybdenum Cover for Crucible 36073, 55ml
35915	Molybdenum Cover for Crucible 36051, 75ml
35893	Molybdenum Cover for Crucible 36032, 100ml

Tantalum Crucibles

Stock #	Cap(ml)	Outside Dia(mm)	Depth(mm)
35892	5	21	18
35913	10	27	22
35988	35	46	29
36091	100	59	45
36108	250	82	59
36050	500	101	65
36031	1000	127	89

Tantalum Crucible Covers

Stock #	Description
36075	Tantalum Cover for Crucible 35913, 10ml
36096	Tantalum Cover for Crucible 35955, 20ml
35956	Tantalum Cover for Crucible 36091, 100ml
35935	Tantalum Cover for Crucible 36108, 250ml
36115	Tantalum Cover for Crucible 36031, 1000ml

Vacuum Evaporation/Aperture Cleaning Metal Boats

Stock #	Description	Thickness (mm)	Length (mm)	#/Pk
41215	Molybdenum boat	0.05	75	5
41217	Tantalum boat	0.05	75	5
42981	Tungsten boat	0.05	32	5

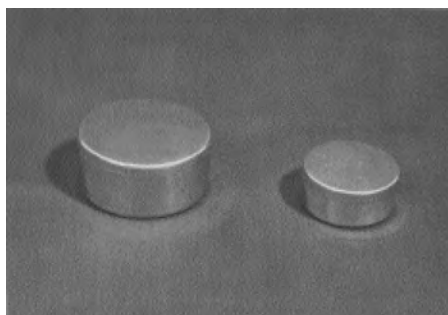
Tungsten Wire Baskets

Stock #	# Turns	ID (mm)	Ht (mm)	Wire Leads (cm)	#/Pk
41177	9	4	7	3.5	10
41178	8	7	9	5.0	10
41176	8	9	14	4.0	10

Aluminum Dishes, Flat Bottom & Straight Sides



Stock #	Dia(mm)	Wall Ht(mm)
39069	51	12.5
39070	51	23
39071	63	44
39072	76	25
39073	90	51
39074	126	25
39075	204	25
39076	204	51



Stock #	Dia(mm)	Wall Ht(mm)
39077	51	12.5
39078	51	23
39079	63	44
39080	76	25
39081	90	51
39082	126	25
39083	204	25
39084	204	51

Labware

Non-Precious Metal Labware

Pour Plates



Pour plates provide an excellent heat-sink for quenching fusions or pouring fluid melts to solidify into a button for rapid, easy handling and solution.

Alkali metal carbonates, bisulfates or lithium fluxes are readily employed without contamination. These pour plates also provide safe handling of carbonate or bisulfate fluxings in platinum ware cleaning. Copper plate is readily cleaned with cold, diluted aqueous ammonia washing.

Available in either copper or stainless steel, these pour plates are fabricated from one solid piece of high-purity metal. Outside diameter is 6 in. Material thickness is 1/8 in. Plates are finished with a 4 in. diameter flat depression in the center and raised edges to avoid spillage.

Stock #	Material	Thickness			Net Wt (lb)
		OD(in)	(in)	Depression (in)	
37993	Stainless Steel (304SS)	6	1/8	4	0.9
37994	Copper	6	1/8	4	1.1

Cleaning Kit for Laboratory Crucibles



Crucible cleaning kit contains all the materials you'll need to safely clean most types of laboratory crucibles, including metallic crucibles such as zirconium, nickel, molybdenum, tantalum and platinum, as well as crucibles of ceramic or glass.

Kit includes a supply of liquid cleaner, variety of abrasive materials and instructions to:

Extend the life of your laboratory crucibles by safely cleaning them for reuse, without damaging the crucibles.

Reduce sample contamination, either from residue resulting from unclean crucibles, or contamination from the cleaning materials themselves.

Reduce the amount of time necessary to clean your crucibles by supplying effective, safe cleaning agents, with cleaning instructions

Stock #	Description	Standard Selling Sizes
37995	Cleaning Kit for Laboratory Crucibles	1each

Poly(tetrafluoroethylene) (PTFE) Labware

PTFE Labware

Alfa Aesar is pleased to offer this complete range of laboratory products in PTFE. PTFE is uniquely suitable for many laboratory applications because of its almost total chemical inertness and its wide range of working temperatures with an upper limit of about 290°C. Additionally, PTFE has a built-in safety factor since the material remains rigid if heated above its notional melting point of 327°C, and articles in PTFE do not melt and deform if overheated although some decomposition will commence at about 400°C.

PTFE is the most important member of a family of fluoropolymers which are characterized by exceptional chemical inertness and a wide range of working temperatures.

PTFE is processed using the technology of powder forming with final sintering at about 390°C. Because of the method of processing formed PTFE may contain microscopic voids which, under some circumstances, may be penetrated by certain chemical reagents - no reaction will occur, but some discoloration may be noticed. Likewise, because of the method of processing, some shedding of the surface may occur at PTFE-PTFE interfaces.

PTFE is one of the best non-stick materials known.

PROPERTY	PTFE
Clarity	Opaque
m.p. °C	327
Max temp continuous use °C	260-290
Max temp intermittent use °C	315
Coefficient of friction - static	0.01
Chemical resistance	Excellent
Electrical resistance	Excellent

Beakers

Isostatically molded from pure PTFE, inert and with super smooth internal finish. Base machined flat for good heat transfer – use at temperatures to 260°C with controlled hot plates, ovens, etc. With pouring spout.

Safety Note: Even when heated in excess of 400°C, PTFE articles retain their shape although some decomposition will commence. Other fluorocarbons such as FEP and PFA do not have this property and articles in these materials will soften and collapse at temperatures in excess of their melting point.

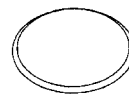
Stock #	Cap(ml)	Dia(mm)	Ht(mm)
38084	10	24	33
38085	25	32	47
38086	50	43	60
38087	100	54	68
38088	250	66	97
38089	500	80	125
38090	1000	100	155
38091	2000	120	210



Beaker Covers - Watch Glasses

Pressed from pure PTFE and used to cover beakers, etc. during digestions and for spotting out.

Stock #	Dia(mm)	Fits Beakers
38092	30	5-10ml
38093	40	25ml
38094	50	50ml
38095	65	100ml
38096	80	250ml
38097	100	500ml
38098	125	1000ml
38099	150	2000ml



PTFE

PTFE Dropping Bottles and Vials

PTFE dropping bottles are completely inert and leak-free. For use with aggressive or valuable reagents. Flexible and with PTFE cap.

Vials are for storage/shipping of valuable or aggressive materials, and have a superfine internal finish with tapered inner for ease of removal of contents. The thick-walled construction enables them to be used for small scale reactions at low pressure.



Fig. 1



Fig. 2

PTFE Dropping Bottles, Fig. 1

Stock #	Cap(ml)	Ht(mm)	Dia(mm)
38105	25	80	33
38106	50	100	43

PTFE Bottles, Fig. 2

Isostatically molded from pure PTFE and of heavy wall construction with super smooth internal finish. Inert and usable to 280°C. With screw cap.

Stock #	Cap(ml)	Ht(mm)	Dia(mm)	Mouth Dia(mm)
38109	10	50	26	12
38110	25	61	33	19
38111	50	76	43	25
38112	100	88	52	35
38113	250	115	67	42
38114	500	150	80	52
38115	1000	185	100	57
38116	2000	240	120	60

Tweezers-Forceps



Totally inert and non-contaminating. Use up to 280°C.

Square Ends

Stock #	Length(mm)
38260	100
38261	200

Sharp Ends

Stock #	Length(mm)
38262	100
38263	200

Quartz Products

Quartz Products

Fused quartz has many desirable properties including high chemical purity, high corrosion resistance, high melting point, extreme hardness, low coefficient of thermal expansion, excellent electrical insulation qualities, and optical transmission from ultra-violet to infra-red.

The fused quartz products offered below are manufactured by fusing naturally occurring crystalline silica. For additional products, please inquire.

Quartz Slides

Stock #	Description	Standard Selling Sizes
42295	Quartz microscope slide, fused, 25.4x25.4x1.0mm (1.0x1.0x0.0394in)	1pc 5pcs
42296	Quartz microscope slide, fused, 50.8x25.4x1.0mm (2.0x1.0x0.0394in)	1pc 5pcs
42297	Quartz microscope slide, fused, 76.2x25.4x1.0mm (3.0x1.0x0.0394in)	1pc 5pcs
43210	Quartz, cover slip for microscope slide, fused, 25.4x25.4x0.15-0.25mm (1.0x1.0x0.006-0.01in)	1pc 5pcs
43211	Quartz, cover slip for microscope slide, fused, 25.4mm (1.0in) dia x 0.15-0.25mm (0.006-0.01in) thick	1pc 5pcs

Quartz Crucibles

Stock #	Description	Standard Selling Sizes
43498	Quartz crucible, fused; Ht(mm), 57; Top OD(mm), 43; Base OD(mm), 22; Volume(ml), 30	1pc

Quartz Discs

Stock #	Description	Standard Selling Sizes
42298	Quartz disc, fused, 50.8mm (2.0in) dia x 1.59mm (0.06in) thick Ground and polished	each
42299	Quartz disc, fused, 50.8mm (2.0in) dia x 3.18mm (0.13in) thick Ground and polished	each
42300	Quartz disc, fused, 76.2mm (3.0in) dia x 1.59mm (0.06in) thick Ground and polished	each
42301	Quartz disc, fused, 76.2 (3.0 in) dia x 3.18mm (0.13in) thick Ground and polished	each

Quartz Rods

Stock #	Description	Standard Selling Sizes
42292	Quartz rod, fused, 2.0mm (0.079in) dia	12in 48in
42293	Quartz rod, fused, 5.0mm (0.197in) dia	12in 48in
42294	Quartz rod, fused, 10.0mm (0.394in) dia	12in 48in

Quartz Tubing

Stock #	Description	Standard Selling Sizes
42272	Quartz tubing, fused, 12mm (0.472in) OD, 8mm (0.315in) ID	12in 48in
42273	Quartz tubing, fused, 18mm (0.709in) OD, 15mm (0.59in) ID	12in 48in
43645	Quartz tubing, fused, 19mm (0.748in) OD, 16mm (0.630in) ID	12in 48in

Quartz Products

Stock #	Description	Standard Selling Sizes
42274	Quartz tubing, fused, 25mm (0.984in) OD, 22mm (0.866in) ID	12in 48in
42275	Quartz tubing, fused, 6.35mm (0.25in) OD for compression type fittings	12in 48in
42276	Quartz tubing, fused, 12.7mm (0.5in) OD for compression type fittings	12in 48in

Carbon Graphite

Poco Electron Beam Crucibles and Hearth Shields Carbon Graphite Crucibles



Typical Purity Analysis (Total ash range of 5ppm or less)

Elements Detected	PPM Range
Iron (Fe), Silicon (Si), Aluminum (Al), Magnesium (Mg)	Trace to 5
Vanadium (V), Nickel (Ni), Chromium (Cr), Titanium (Ti), Copper (Cu) Boron (B), Manganese (Mn), Lithium (Li), Cadmium (Cd), Molybdenum (Mo), Lead (Pb), Silver (Ag), Zinc (Zn), Calcium (Ca), Potassium (K), Sodium (Na), Molybdenum (Mo)	Below detectability level

Poco Electron Beam Crucibles

Stock #	Vol (mm)	Top OD (mm)	Ht (mm)	Wall Thickness (mm)	Angle
43950	0.32	14.22	9.75	2.36	15°
40819	1.8	21.97	14.30	2.36	15°
38677	2.8	19.84	11.10	1.58	14°
43198	3.7	28.58	13.20	2.36	15°
38680	4.4	29.64	14.30	2.36	15°
38675	8.2	37.59	17.02	3.18	15°
38684	16.9	50.80	26.97	6.35	15°
38683	17.0	51.56	25.91	6.35	15°
41866	28.6	56.18	35.56	2.36	15°
38681	30.2	50.80	26.97	2.36	15°
38682	30.4	51.56	25.91	2.36	15°
38678	47.6	56.18	35.56	2.36	15°
38676	94.7	82.55	38.86	6.35	15°

POCO Hearth Shields

Reduce downtime, extend hearth life and lower maintenance costs

Designed for use with POCO's Electronic Beam Crucibles, POCO Hearth Shields give users three important field-tested and proven advantages.

1. Acting as a physical barrier, the hearth shield eliminates bonding of the evaporant with those areas of the hearth it covers. This reduces downtime for cleaning.
2. With less cleaning necessary, the risk of damage to the hearth from both cleaning and handling is greatly reduced. This provides longer hearth life.
3. Less cleaning, less handling damage, less downtime all add up to lowered maintenance costs to the user. More productive time is gained for each hearth.

When used in conjunction with the matching POCO Crucible, the shield is designed to avoid contact with the crucible to minimize the possibility of their "welding" together. Best results are obtained when both shield and crucible are used together.

The following POCO hearth shields are available. We can also offer Electron Beam Crucibles in most metals, including Molybdenum, Tungsten and Nickel, as well as ceramic, at standard configurations.

Stock #	Description
38685	POCO Hearth Shield, 99.995%; For Use With Crucibles, 38678 & 38679
38686	POCO Hearth Shield, 99.995%; For Use With Crucibles, 38680
38687	POCO Hearth Shield, 99.995%; For Use With Crucibles, 38682 & 38683
38688	POCO Hearth Shield, 99.995%; For Use With Crucibles, 38682 & 38684

Spheres

Ruby Spheres

Specifications for Grade 25 Ruby Spheres

Diameter tolerance per half	±0.000025 in.
"V" block out of round in 120° angle	±0.000025 in.
Basic diameter tolerance	±0.0001 in.
Maximum surface roughness (arithmetic average)	1.5 micro-inch

Stock #	Dia(mm)	2 pcs	5 pcs	10 pcs	25 pcs	50 pcs	100 pcs
42072	0.25						✓
42073	0.50		✓		✓		✓
42074	0.75		✓		✓		✓
42075	1.00		✓		✓		✓
42041	1.19 (3/64 in)		✓		✓		✓
42076	1.25		✓		✓		✓
42077	1.50		✓		✓		✓
42042	1.59 (1/16in)		✓		✓		✓
42078	1.75		✓		✓		✓
42079	2.00		✓		✓		✓
42043	2.38 (3/38in)		✓		✓		✓
42080	2.50		✓		✓		✓
42081	3.00		✓		✓		✓
42044	3.18 (1/8in)		✓		✓		✓
42082	3.50		✓		✓		✓
42083	4.00	✓		✓		✓	
42045	4.76 (3/16in)	✓		✓		✓	
42084	5.00	✓		✓		✓	

Sapphire Spheres

Specifications for Grade 25 Sapphire Spheres

Diameter tolerance per half	±0.000025 in.
"V" block out of round in 120° angle	±0.000025 in.
Basic diameter tolerance	±0.0001 in.
Maximum surface roughness (arithmetic average)	1.5 micro-inch

Stock #	Dia(mm)	2 pcs	5 pcs	10 pcs	25 pcs	50 pcs	100 pcs
42070	0.25						✓
42069	0.50		✓		✓		
44439	0.794 (1/32in), grade 25		✓		✓		
42067	1.00		✓		✓		✓
42046	1.19 (3/64in)		✓		✓		✓
42066	1.25		✓		✓		✓
42065	1.50		✓		✓		✓
42047	1.59 (1/16in)		✓		✓		
42064	1.75		✓		✓		✓
42063	2.00		✓		✓		✓
42048	2.38 (3/32in)		✓		✓		✓
42062	2.50		✓		✓		
42061	3.00		✓		✓		✓
42049	3.18 (1/8in)		✓		✓		✓
42060	3.50		✓		✓		✓
42059	4.00	✓				✓	
42050	4.78 (3/16in)	✓			✓	✓	
42058	5.00	✓			✓	✓	

Glassy Carbon

Glassy carbon, a brittle form of carbon with a randomized structure, has certain specific properties making it appropriate for fields of application outside the scope of carbon types previously known.

Glassy Carbon Specifications

Characteristic properties	Units	Type 1	Type 2
Bulk density	g/cm ³	1.54	1.42
Ash values acc. to DIN 51903	ppm	<100	<100
Maximum service temperature (under Argon)	°C	1100	3000
Open porosity	%	0	0
Permeability coefficient (He gas)	cm ² /s	10-11	10 ⁻⁹
Vickers hardness	HV1	340	230
Flexural strength¹	N/ mm ²	210	260
Compressive strength²	N/ mm ²	580	480
Young's modulus¹	kN/ mm ²	35	35
Coefficient of thermal expansion (20-200°C)	1/K	3.5 × 10 ⁻⁶	2.6 × 10 ⁻⁶
Thermal conductivity (30°C)	W/(Km)	4.6	6.3

¹ =4-point bending test; geometry of specimen: circular rod, diameter 3mm, length 60mm

² =geometry of specimen: circular rod, diameter 7mm, length 10 mm.



Glassy carbon offers high purity, corrosion resistance, thermal stability and a structure impermeable to both gases and liquids. Alfa Aesar's glassy carbon products are subjected to a high temperature heat treatment which imparts special material properties including significantly improved corrosion resistance and strength. Advantages over more traditional materials are:

- Resistance to all wet decomposition agents
- No memory effects (uncontrolled adsorption and release of foreign elements)
- No contamination of analytical samples
- Stability to acid and alkaline melts
- No wetting effect of metal melts
- Good resistance to thermal shock allows rapid heating and cooling times
- Resistant to abrasive wear
- Good electrical conductivity

















Applications

- Vessels for ultra-high purity materials technology, e.g. semiconductor connections and crystal-growing, e.g. doped halogenide crystals
- Crucibles for high-temperature differential thermal/thermal gravimetric analyses
- Specimen holders and cuvettes for atomic absorption and atomic emission spectroscopy and multi-element analyses with plasma excitation, e.g. by the ICP (inductively coupled plasma) method
- Protective tubes for thermo-elements and viewing tubes for pyrometers
- Shaping tools for the glass industry
- Electrochemistry: cyclic voltammetry, organic electrosynthesis

















Glassy Carbon Spherical Powders

Stock #	Description	Standard Selling Sizes
38004	Glassy carbon spherical powder, 0.4-12 micron, type 1 UN1325, †  R:11	10g 50g 250g bulk
38008	Glassy carbon spherical powder, 0.4-12 micron, type 2 UN1325, †  R:11	10g 50g 250g bulk



Glassy Carbon

Stock #	Description	Standard Selling Sizes
43489	Glassy carbon spherical powder, 10-20 micron, type 1 UN1325, †  R:11	50g 250g bulk
43490	Glassy carbon spherical powder, 10-20 micron, type 2 UN1325, †  R:11	50g 250g bulk
41260	Glassy carbon spherical powder, 20-50 micron, type 1 UN1325, †  R:11	10g 50g 250g bulk
41261	Glassy carbon spherical powder, 20-50 micron, type 2 UN1325, †  R:11	10g 50g 250g bulk
43925	Glassy carbon spherical powder, 40-80 micron, type 1 UN1325, †  R:11	10g 50g 250g bulk
44370	Glassy carbon spherical powder, 40-80 micron, type 2 UN1325, †  R:11	10g 50g 250g bulk
38005	Glassy carbon spherical powder, 80-200 micron, type 1 UN1325, †  R:11	10g 50g 250g bulk
38014	Glassy carbon spherical powder, 80-200 micron, type 2 UN1325, †  R:11	10g 50g 250g bulk
42130	Glassy carbon spherical powder, 200-400 micron, type 1 UN1325, †  R:11	10g 50g 250g bulk
42550	Glassy carbon spherical powder, 200-400 micron, type 2 UN1325, †  R:11	10g 50g 250g bulk
42129	Glassy carbon spherical powder, 400-630 micron, type 1 UN1325, †  R:11	50g 250g bulk
41481	Glassy carbon spherical powder, 400-630 micron, type 2 UN1325, †  R:11	50g 250g bulk
41497	Glassy carbon spherical powder, 630-1000 micron, type 1 UN1325, †  R:11	50g 250g bulk
41530	Glassy carbon spherical powder, 630-1000 micron, type 2 UN1325, †  R:11	50g 250g bulk
41498	Glassy carbon spherical powder, 1000-2000 micron, type 1 UN1325, †  R:11	50g 250g bulk
41531	Glassy carbon spherical powder, 1000-2000 micron, type 2 UN1325, †  R:11	50g 250g bulk

Glassy Carbon Splinter Powders

Stock #	Description	Standard Selling Sizes
38001	Glassy carbon splinter powder, 0.4-12 micron, type 1 UN1325, †  R:11	10g 50g 250g bulk
38007	Glassy carbon splinter powder, 0.4-12 micron, type 2 UN1325, †  R:11	10g 50g 250g bulk
41258	Glassy carbon splinter powder, 20-50 micron, type 1 UN1325, †  R:11	10g 50g 250g bulk
41259	Glassy carbon splinter powder, 20-50 micron, type 2 UN1325, †  R:11	10g 50g 250g bulk
38002	Glassy carbon splinter powder, 80-200 micron, type 1 UN1325, †  R:11	10g 50g 250g bulk
38013	Glassy carbon splinter powder, 80-200 micron, type 2 UN1325, †  R:11	10g 50g 250g bulk
42811	Glassy carbon splinter powder, 200-400 micron, type 1 UN1325, †  R:11	50g 250g bulk
42813	Glassy carbon splinter powder, 200-400 micron, type 2 UN1325, †  R:11	50g 250g bulk
42812	Glassy carbon splinter powder, 400-630 micron, type 1 UN1325, †  R:11	50g 250g bulk
42814	Glassy carbon splinter powder, 400-630 micron, type 2 UN1325, †  R:11	50g 250g bulk
42520	Glassy carbon splinter powder, 630-1000 micron, type 1 UN1325, †  R:11	50g 250g bulk
42521	Glassy carbon splinter powder, 630-1000 micron, type 2 UN1325, †  R:11	50g 250g bulk
42518	Glassy carbon splinter powder, 1000-2000 micron, type 1 UN1325, †  R:11	50g 250g bulk
42519	Glassy carbon splinter powder, 1000-2000 micron, type 2 UN1325, †  R:11	50g 250g bulk
42514	Glassy carbon splinter powder, 2000-3150 micron, type 1 UN1325, †  R:11	50g 250g bulk
42515	Glassy carbon splinter powder, 2000-3150 micron, type 2 UN1325, †  R:11	50g 250g bulk

Glassy Carbon

Stock #	Description	Standard Selling Sizes
42516	Glassy carbon splinter powder, 3150-4000 micron, type 1 UN1325, †  R:11	50g 250g bulk
42517	Glassy carbon splinter powder, 3150-4000 micron, type 2 UN1325, †  R:11	50g 250g bulk

Glassy Carbon Plates

Stock #	Description	Standard Selling Sizes
38024	Glassy carbon plate, 1mm (0.04in) thick, type 1 ≈3.85g/50x50mm, †	50x50mm 100x100mm bulk
38021	Glassy carbon plate, 1mm (0.04in) thick, type 2 ≈3.55g/50x50mm, †	50x50mm 100x100mm bulk
38025	Glassy carbon plate, 2mm (0.08in) thick, type 1 ≈7.7g/50x50mm, †	50x50mm 100x100mm bulk
38022	Glassy carbon plate, 2mm (0.08in) thick, type 2 ≈7.1g/50x50mm, †	50x50mm 100x100mm bulk
42821	Glassy carbon plate, 3mm (0.1in) thick, type 1 ≈2.9g/25x25mm, †	25x25mm 50x50mm 100x100mm bulk
42820	Glassy carbon plate, 3mm (0.1in) thick, type 2 ≈2.6g/25x25mm, †	25x25mm 50x50mm 100x100mm bulk
38026	Glassy carbon plate, 4mm (0.16in) thick, type 1 ≈3.8g/25x25mm, †	25x25mm 50x50mm 100x100mm bulk
38023	Glassy carbon plate, 4mm (0.16in) thick, type 2 ≈3.6g/25x25mm, †	25x25mm 50x50mm 100x100mm bulk

Glassy Carbon Rods

Stock #	Description	Standard Selling Sizes
38009	Glassy carbon rod, 1mm (0.04in) dia, type 1 ≈0.01g/cm, †	50mm 100mm 200mm bulk
37996	Glassy carbon rod, 1mm (0.04in) dia, type 2 ≈0.01g/cm, †	50mm 100mm 200mm bulk
38010	Glassy carbon rod, 2mm (0.08in) dia, type 1 ≈0.05g/cm, †	50mm 100mm 200mm bulk
37997	Glassy carbon rod, 2mm (0.08in) dia, type 2 ≈0.04g/cm, †	50mm 100mm 200mm bulk
42822	Glassy carbon rod, 3mm (0.1in) dia, type 1 ≈0.11g/cm, †	50mm 100mm 200mm 250mm bulk

Glassy Carbon

Stock #	Description	Standard Selling Sizes
42824	Glassy carbon rod, 3mm (0.1in) dia, type 2 ≈0.10g/cm, †	50mm 100mm 200mm bulk
42823	Glassy carbon rod, 4mm (0.16in) dia, type 1 ≈0.19g/cm, †	50mm 100mm 200mm bulk
42825	Glassy carbon rod, 4mm (0.16in) dia, type 2 ≈0.18g/cm, †	50mm 100mm 200mm bulk
38011	Glassy carbon rod, 5mm (0.2in) dia, type 1 ≈0.30g/cm, †	50mm 100mm 200mm 250mm bulk
37998	Glassy carbon rod, 5mm (0.2in) dia, type 2 ≈0.28g/cm, †	50mm 100mm 200mm bulk
45004 NEW!	Glassy carbon rod, 6mm (0.24in) dia, type 1 ≈0.44g/cm, †	50mm 100mm 200mm bulk
45005 NEW!	Glassy carbon rod, 6mm (0.24in) dia, type 2 ≈0.40g/cm, †	50mm 100mm 200mm bulk
38012	Glassy carbon rod, 7mm (0.28in) dia, type 1 ≈0.59g/cm, †	50mm 100mm 200mm bulk
37999	Glassy carbon rod, 7mm (0.28in) dia, type 2 ≈0.55g/cm, †	50mm 100mm 200mm bulk

Glassy Carbon Beakers

Stock #	Vol(ml)	Dia(mm)	Ht(mm)
39022	30	36	50
39023	100	54	70
39024	250	75	82
39025	400	90	86

Glassy Carbon Boats

Stock #	Vol(ml)	Length L1(mm)	Width(mm)	Ht(mm)
39026	2	29	16	10
39027	3	53	16	10
39028	10	103	16	10
40997	15	119	22	12
40999	40	76	33	25

Glassy Carbon Conical Crucibles

Stock #	Vol(ml)	Top Dia(mm)	Bottom Dia(mm)	Ht(mm)
39003	10	31	17	27
39004	20	35	18	38
39005	30	44	22	45
39006	60	52	25	56
38376	100	70	34	53
39007	150	64	33	74

Glassy Carbon

Glassy Carbon Cylindrical Crucibles

Stock #	Vol(ml)	Dia(mm)	Ht(mm)
39008	10	24	39
39009	20	30	47
39010	30	36	45
39011	50	40	56
39012	130	56	85
39013	140	47	104
39014	260	73	85

Glassy Carbon Crucibles for Crystal Growth

Stock #	Vol(ml)	Top Dia(mm)	Bot Dia(mm)	Ht(mm)	Angle
39015	7	14	14	100	90°
39016	25	19	19	140	60°
39017	30	24	19	160	30°
39018	125	40	38	150	90°
39019	400	57	57	195	90°

Glassy Carbon Tapered Crucibles for Crystal Growth

Stock #	Vol(ml)	Top Dia(mm)	Ht(mm)
40952	0.07	6	11
40953	17	31	43
40954	18	24	87
40955	37	51	30
40956	105	59	59
40957	190	45	168
40958	277	73	85
40959	370	69	133

Glassy Carbon Evaporating Dishes

Stock #	Vol(ml)	Top Dia(mm)	Bottom Dia(mm)	Ht(mm)
39029	20	47	26	22
38372	100	108	73	27
39030	300	141	66	40

Glassy Carbon Electron Beam Evaporating Crucible Liners

Stock #	Vol(ml)	Top Dia(mm)	Bot Dia(mm)	Ht(mm)	Angle
40960	4	29	22	15	15°
40961	7	34	26	17	15°
40962	8	34	24	18	15°
40963	10	38	28	20	15°
40964	16	47	37	18	15°
40965	30	50	35	26	15°

Glassy Carbon Lids

Stock #	Top Dia(mm)	Bottom Dia(mm)
39020	37	23
39021	typically 50	36
38377	92	72

Glassy Carbon Foam

Stock #	Length(in)	Width(in)	Thickness(in)
44794	6"	6"	1"

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