

Non-Precious Metal Labware



Alfa Aesar is pleased to offer a range of refractory metal crucibles which will 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, 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.

Алматы (7273)495-231
Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Владикавказ (8672)28-90-48
Владимир (4922)49-43-18
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89

Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Коломна (4966)23-41-49
Кострома (4942)77-07-48
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81

Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Ноябрьск (3496)41-32-12
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
Псков (8112)59-10-37
Пермь (342)205-81-47

Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Саранск (8342)22-96-24
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Сыктывкар (8212)25-95-17
Тамбов (4752)50-40-97
Тверь (4822)63-31-35

Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Улан-Удэ (3012)59-97-51
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Чебоксары (8352)28-53-07
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Чита (3022)38-34-83
Якутск (4112)23-90-97
Ярославль (4852)69-52-93

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Aluminum Dishes has Flat Bottom & Straight Sides



Aluminum 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. Aluminum's reactivity increases with temperature, therefore, the use of aluminum labware at high temperatures is not recommended.

	39074	Aluminum Dish, Flat Bottom & Straight Sides;Dia (mm), 126;Wall Ht (mm), 25
	39076	Aluminum Dish, Flat Bottom & Straight Sides;Dia (mm), 204;Wall Ht (mm), 51
	39069	Aluminum Dish, Flat Bottom & Straight Sides;Dia (mm), 51;Wall Ht (mm), 12.5
	39072	Aluminum Dish, Flat Bottom & Straight Sides;Dia (mm), 76;Wall Ht (mm), 25
	39073	Aluminum Dish, Flat Bottom & Straight Sides;Dia (mm), 90;Wall Ht (mm), 51

Nickel High Form Crucible Covers



In the analytical laboratory, nickel crucibles offer high resistance to dilute alkalis 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.

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.

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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



35923 Nickel Cover for Crucible 36019, 250ml



35901 Nickel Cover for Crucible 36040, 500ml

Nickel High Form Crucibles



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	35967	High Form Nickel Crucible;Cap (ml), 100;Top Dia (mm), 61;Bottom Dia (mm), 37;Depth (mm), 62
	35998	High Form Nickel Crucible;Cap (ml), 150;Top Dia (mm), 71;Bottom Dia (mm), 37;Depth (mm), 68
	35883	High Form Nickel Crucible;Cap (ml), 20;Top Dia (mm), 38;Bottom Dia (mm), 22;Depth (mm), 35
	36019	High Form Nickel Crucible;Cap (ml), 250;Top Dia (mm), 84;Bottom Dia (mm), 50;Depth (mm), 78
	35904	High Form Nickel Crucible;Cap (ml), 30;Top Dia (mm), 41;Bottom Dia (mm), 25;Depth (mm), 43
	36040	High Form Nickel Crucible;Cap (ml), 500;Top Dia (mm), 101;Bottom Dia (mm), 62;Depth (mm), 91
	35925	High Form Nickel Crucible;Cap (ml), 50;Top Dia (mm), 44;Bottom Dia (mm), 32;Depth (mm), 51
	35946	High Form Nickel Crucible;Cap (ml), 75;Top Dia (mm), 54;Bottom Dia (mm), 37;Depth (mm), 57

Tungsten Wire Baskets



Alfa Aesar is proud to offer Tungsten Wire Baskets for your laboratory needs for holding high temperature samples.

41178	Tungsten wire basket; # turns, 8; ID(mm), 7; Ht(mm), 9; Wire leads(cm), 5.0; Wire dia(mm), 0.51
41176	Tungsten wire basket; # turns, 8; ID(mm), 9; Ht(mm), 14; Wire leads(cm), 4.0; Wire dia(mm), 0.76
41177	Tungsten wire basket; # turns, 9; ID(mm), 4; Ht(mm), 7; Wire leads(cm), 3.5; Wire dia(mm) 0.51

Aluminum Dishes, with Covers, has Flat Bottom & Straight Sides



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	39083	Aluminum Dish & Cover, Flat Bottom & Straight Sides;Dia (mm), 204;Wall Ht (mm), 25
	39084	Aluminum Dish & Cover, Flat Bottom & Straight Sides;Dia (mm), 204;Wall Ht (mm), 51
	39077	Aluminum Dish & Cover, Flat Bottom & Straight Sides;Dia (mm), 51;Wall Ht (mm), 12.5
	39079	Aluminum Dish & Cover, Flat Bottom & Straight Sides;Dia (mm), 63;Wall Ht (mm), 44
	39080	Aluminum Dish & Cover, Flat Bottom & Straight Sides;Dia (mm), 76;Wall Ht (mm), 25

Inconel® Alloy 601 Low Form Crucible Covers



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.

*Inconel is a trademark for products of Huntington Alloys, Inc.

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36003

Inconel Cover for Crucible 35886, 15ml

36081

Inconel Cover for Crucible 35928, 25ml

36024

Inconel Cover for Crucible 35970, 45ml

35962

Inconel Cover for Crucible 36016, 75ml

35941

Inconel Cover for Crucible 36056, 100ml

Tantalum Low Form Crucible Covers



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.

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35897

Tantalum Cover for Crucible 36036, 500ml

Inconel® Alloy 601 Low Form Crucibles



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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.

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	36056	Low Form Inconel Crucible;Cap (ml), 100;Top Dia (mm), 59;Bottom Dia (mm), 50;Depth (mm), 46
	35886	Low Form Inconel Crucible;Cap (ml), 15;Top Dia (mm), 33;Bottom Dia (mm), 25;Depth (mm), 23
	35907	Low Form Inconel Crucible;Cap (ml), 20;Top Dia (mm), 33;Bottom Dia (mm), 25;Depth (mm), 30
	36085	Low Form Inconel Crucible;Cap (ml), 250;Top Dia (mm), 82;Bottom Dia (mm), 66;Depth (mm), 60
	35928	Low Form Inconel Crucible;Cap (ml), 25;Top Dia (mm), 45;Bottom Dia (mm), 38;Depth (mm), 23
	35970	Low Form Inconel Crucible;Cap (ml), 45;Top Dia (mm), 46;Bottom Dia (mm), 38;Depth (mm), 35
	36037	Low Form Inconel Crucible;Cap (ml), 500;Top Dia (mm), 102;Bottom Dia (mm), 89;Depth (mm), 66
	35994	Low Form Inconel Crucible;Cap (ml), 55;Top Dia (mm), 47;Bottom Dia (mm), 38;Depth (mm), 43

Tantalum Low Form Crucibles



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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 alkalies, 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).

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36036

Low Form Tantalum Crucible;Cap (ml), 500;Top Dia (mm), 102;Bottom Dia (mm), 89;Depth (mm), 66

Nickel Low Form Crucible Covers



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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.

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Nickel should not be used for:

1. Hypochlorite solutions when available chlorine is over 3 gram/liter
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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.

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	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
	35963	Nickel Cover for Crucible 36017, 75ml
	35942	Nickel Cover for Crucible 36057, 100ml
	35921	Nickel Cover for Crucible 36084, 250ml

Zirconium Low Form Crucible Covers



Each zirconium crucible is handmade to an exacting tolerance for uniform wall thickness ð only high-purity zirconium material is used. These crucibles are 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.

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	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
	35900	Zirconium Cover for Crucible 36039, 500ml
	35922	Zirconium Cover for Crucible 36058, 250ml
	35943	Zirconium Cover for Crucible 36083, 100ml

Nickel Low Form Crucibles



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	36057	Low Form Nickel Crucible;Cap (ml), 100;Top Dia (mm), 59;Bottom Dia (mm), 50;Depth (mm), 46
	35906	Low Form Nickel Crucible;Cap (ml), 20;Top Dia (mm), 33;Bottom Dia (mm), 25;Depth (mm), 30
	36084	Low Form Nickel Crucible;Cap (ml), 250;Top Dia (mm), 82;Bottom Dia (mm), 66;Depth (mm), 60
	35927	Low Form Nickel Crucible;Cap (ml), 25;Top Dia (mm), 45;Bottom Dia (mm), 38;Depth (mm), 23
	35948	Low Form Nickel Crucible;Cap (ml), 35;Top Dia (mm), 46;Bottom Dia (mm), 38;Depth (mm), 30
	35969	Low Form Nickel Crucible;Cap (ml), 45;Top Dia (mm), 46;Bottom Dia (mm), 38;Depth (mm), 35
	35996	Low Form Nickel Crucible;Cap (ml), 55;Top Dia (mm), 47;Bottom Dia (mm), 38;Depth (mm), 43

Zirconium Low Form Crucibles



Each zirconium crucible is handmade to an exacting tolerance for uniform wall thickness ð only high-purity zirconium material is used. These crucibles are 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.

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	36083	Low Form Zirconium Crucible;Cap (ml), 100;Top Dia (mm), 59;Bottom Dia (mm), 50;Depth (mm), 46
	35905	Low Form Zirconium Crucible;Cap (ml), 20;Top Dia (mm), 33;Bottom Dia (mm), 25;Depth (mm), 30
	36058	Low Form Zirconium Crucible;Cap (ml), 250;Top Dia (mm), 82;Bottom Dia (mm), 66;Depth (mm), 60
	35926	Low Form Zirconium Crucible;Cap (ml), 25;Top Dia (mm), 45;Bottom Dia (mm), 38;Depth (mm), 23
	35947	Low Form Zirconium Crucible;Cap (ml), 35;Top Dia (mm), 46;Bottom Dia (mm), 38;Depth (mm), 30
	35968	Low Form Zirconium Crucible;Cap (ml), 45;Top Dia (mm), 46;Bottom Dia (mm), 38;Depth (mm), 35
	36039	Low Form Zirconium Crucible;Cap (ml), 500;Top Dia (mm), 102;Bottom Dia (mm), 89;Depth (mm), 66
	35997	Low Form Zirconium Crucible;Cap (ml), 55;Top Dia (mm), 47;Bottom Dia (mm), 38;Depth (mm), 43
	36018	Low Form Zirconium Crucible;Cap (ml), 75;Top Dia (mm), 51;Bottom Dia (mm), 41;Depth (mm), 43

Vacuum Evaporation/Aperture Cleaning Metal Boats



Alfa Aesar is proud to offer Vacuum Evaporation/Aperture Cleaning Metal Boats for your laboratory needs.



41215 Molybdenum boat; Thickness (mm), 0.05; Length (mm), 75



41216 Platinum boat; Thickness (mm), 0.05; Length (mm), 75mm



41217 Tantalum boat; Thickness (mm), 0.05; Length (mm), 75








42981 Tungsten boat; Thickness (mm), 0.05; Length (mm), 32

Aluminum Beakers








Aluminum 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. Aluminum's reactivity increases with temperature, therefore, the use of aluminum labware at high temperatures is not recommended.

	39049	Aluminum Beaker with Pourout Lip;Cap (ml), 1000;Top Dia (mm), 108;Bottom Dia (mm), 95;Ht (mm), 137
	39046	Aluminum Beaker with Pourout Lip;Cap (ml), 125;Top Dia (mm), 56;Bottom Dia (mm), 48;Ht (mm), 57
	39050	Aluminum Beaker with Pourout Lip;Cap (ml), 2000;Top Dia (mm), 137;Bottom Dia (mm), 117;Ht (mm), 171
	39047	Aluminum Beaker with Pourout Lip;Cap (ml), 250;Top Dia (mm), 63;Bottom Dia (mm), 57;Ht (mm), 92
	39048	Aluminum Beaker with Pourout Lip;Cap (ml), 500;Top Dia (mm), 87;Bottom Dia (mm), 76;Ht (mm), 114

Copper Beakers



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.

	39052	Copper Beaker with Pourout Lip;Cap (ml), 125;Top Dia (mm), 56;Bottom Dia (mm), 48;Ht (mm), 67
	39056	Copper Beaker with Pourout Lip;Cap (ml), 2000;Top Dia (mm), 137;Bottom Dia (mm), 117;Ht (mm), 171
	39053	Copper Beaker with Pourout Lip;Cap (ml), 250;Top Dia (mm), 63;Bottom Dia (mm), 57;Ht (mm), 92
	39054	Copper Beaker with Pourout Lip;Cap (ml), 500;Top Dia (mm), 87;Bottom Dia (mm), 76;Ht (mm), 114
	39051	Copper Beaker with Pourout Lip;Cap (ml), 60;Top Dia (mm), 46;Bottom Dia (mm), 40;Ht (mm), 51

Nickel Beakers



In the analytical laboratory, nickel crucibles offer high resistance to dilute alkalis 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.

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.

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39058

Nickel Beaker with Pourout Lip;Cap (ml), 125;Top Dia (mm), 56;Bottom Dia (mm), 48;Ht (mm), 67



39062

Nickel Beaker with Pourout Lip;Cap (ml), 2000;Top Dia (mm), 137;Bottom Dia (mm), 117;Ht (mm), 171



39059

Nickel Beaker with Pourout Lip;Cap (ml), 250;Top Dia (mm), 63;Bottom Dia (mm), 57;Ht (mm), 92

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.

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37994

37994

Pour Plate;Material, Copper;OD (in), 6;Thickness (in), 1/8;Depression Dia (in), 4;Net Wt (lb), 1.1

37993

37993

Pour Plate;Material, Stainless Steel (304SS);OD (in), 6;Thickness (in), 1/8;Depression Dia (in), 4;Net Wt (lb), 0.9

Flanged Rim



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

Sodium Peroxide Fusion

Used with very refractory or high-silica materials such as chromite, magnetite, illmenite, 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.

Zirconium Crucibles for Automatic Fusion Equipment

The style here is with a Flanged Ring

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

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35945 Zirconium Crucible, with Flanged Rim; Top Dia (mm), 39; Bottom Dia (mm), 29; Height (mm), 33; Ring/Rim OD (mm), 44



35902 Zirconium Crucible, with Flanged Rim; Top Dia (mm), 47; Bottom Dia (mm), 36; Height (mm), 35; Ring/Rim OD (mm), 54

Slide-On Ring



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

Sodium Peroxide Fusion

Used with very refractory or high-silica materials such as chromite, magnetite, illmenite, 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.

Zirconium Crucibles for Automatic Fusion Equipment

The style here is with a Slide-On Ring

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

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35924 Zirconium Crucible, with Slide On Ring; Top Dia (mm), 42; Bottom Dia (mm), 29; Height (mm), 44; Ring/Rim OD (mm), 48

Snap-On Ring



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

Sodium Peroxide Fusion

Used with very refractory or high-silica materials such as chromite, magnetite, illmenite, 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.

Zirconium Crucibles for Automatic Fusion Equipment

The style here is with a Snap-On Ring

A removable ring that snap-fits into a machined groove located approximately 0.20 in. below the top of the crucible.

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35903 Zirconium Crucible, with Snap On Ring; Top Dia (mm), 39; Bottom Dia (mm), 29; Height (mm), 33; Ring/Rim OD (mm), 44

36020 Zirconium Crucible, with Snap On Ring; Top Dia (mm), 42; Bottom Dia (mm), 29; Height (mm), 44; Ring/Rim OD (mm), 48

Cleaning Kit for Laboratory Crucibles



This 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.

The kit includes a supply of liquid cleaner, a 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.

Platinum Labware

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37995 Cleaning Kit for Laboratory Crucibles

Inconel® Alloy 601 Straight Wall Crucible Covers



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.

*Inconel is a trademark for products of Huntington Alloys, Inc.

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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



35958 Inconel Cover for Crucible 36052, 100ml



36028 Inconel Cover for Crucible 36072, 55ml



35916 Inconel Cover for Crucible 36090, 500ml



35937 Inconel Cover for Crucible 36102, 250ml

Nickel Straight Wall Crucible Covers



In the analytical laboratory, nickel crucibles offer high resistance to dilute alkalis 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.

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.

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36006 Nickel Cover for Crucible 35889, 5ml



36113 Nickel Cover for Crucible 35991, 35ml



36046 Nickel Cover for Crucible 36013, 45ml



35895 Nickel Cover for Crucible 36034, 1000ml



35959 Nickel Cover for Crucible 36053, 100ml



36027 Nickel Cover for Crucible 36071, 55ml



35938 Nickel Cover for Crucible 36098, 250ml

Zirconium Straight Wall Crucible Covers



Each zirconium crucible is handmade to an exacting tolerance for uniform wall thickness ð only high-purity zirconium material is used. These crucibles are 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.

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	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
	35896	Zirconium Cover for Crucible 36035, 1000ml
	35960	Zirconium Cover for Crucible 36054, 100ml
	36026	Zirconium Cover for Crucible 36070, 55ml
	35918	Zirconium Cover for Crucible 36087, 500ml
	35939	Zirconium Cover for Crucible 36097, 250ml

Inconel® Alloy 601 Straight Wall Crucibles



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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	36052	Straight Wall Inconel Crucible;Cap (ml), 100;Outside Dia (mm), 59;Depth (mm), 45
	35911	Straight Wall Inconel Crucible;Cap (ml), 10;Outside Dia (mm), 27;Depth (mm), 22
	35932	Straight Wall Inconel Crucible;Cap (ml), 15;Outside Dia (mm), 33;Depth (mm), 22
	35953	Straight Wall Inconel Crucible;Cap (ml), 20;Outside Dia (mm), 33;Depth (mm), 29
	36102	Straight Wall Inconel Crucible;Cap (ml), 250;Outside Dia (mm), 82;Depth (mm), 59
	35974	Straight Wall Inconel Crucible;Cap (ml), 25;Outside Dia (mm), 45;Depth (mm), 22
	36012	Straight Wall Inconel Crucible;Cap (ml), 45;Outside Dia (mm), 46;Depth (mm), 34
	36090	Straight Wall Inconel Crucible;Cap (ml), 500;Outside Dia (mm), 101;Depth (mm), 65
	36072	Straight Wall Inconel Crucible;Cap (ml), 55;Outside Dia (mm), 47;Depth (mm), 41

Nickel Straight Wall Crucibles



In the analytical laboratory, nickel crucibles offer high resistance to dilute alkalis 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.

Corrosion Resistance of Nickel

Solutions

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Nickel should not be used for:

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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.

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	36034	Straight Wall Nickel Crucible;Cap (ml), 1000;Outside Dia (mm), 127;Depth (mm), 89
	36053	Straight Wall Nickel Crucible;Cap (ml), 100;Outside Dia (mm), 59;Depth (mm), 45
	35910	Straight Wall Nickel Crucible;Cap (ml), 10;Outside Dia (mm), 27;Depth (mm), 22
	35952	Straight Wall Nickel Crucible;Cap (ml), 20;Outside Dia (mm), 33;Depth (mm), 29
	36098	Straight Wall Nickel Crucible;Cap (ml), 250;Outside Dia (mm), 82;Depth (mm), 59
	35973	Straight Wall Nickel Crucible;Cap (ml), 25;Outside Dia (mm), 45;Depth (mm), 22
	35991	Straight Wall Nickel Crucible;Cap (ml), 35;Outside Dia (mm), 46;Depth (mm), 29
	36013	Straight Wall Nickel Crucible;Cap (ml), 45;Outside Dia (mm), 46;Depth (mm), 34
	36088	Straight Wall Nickel Crucible;Cap (ml), 500;Outside Dia (mm), 101;Depth (mm), 65

Zirconium Straight Wall Crucibles



Each zirconium crucible is handmade to an exacting tolerance for uniform wall thickness ð only high-purity zirconium material is used. These crucibles are 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.

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	36035	Straight Wall Zirconium Crucible;Cap (ml), 1000;Outside Dia (mm), 127;Depth (mm), 89
	36054	Straight Wall Zirconium Crucible;Cap (ml), 100;Outside Dia (mm), 59;Depth (mm), 45
	35909	Straight Wall Zirconium Crucible;Cap (ml), 10;Outside Dia (mm), 27;Depth (mm), 22
	35930	Straight Wall Zirconium Crucible;Cap (ml), 15;Outside Dia (mm), 33;Depth (mm), 22
	35951	Straight Wall Zirconium Crucible;Cap (ml), 20;Outside Dia (mm), 33;Depth (mm), 29
	36097	Straight Wall Zirconium Crucible;Cap (ml), 250;Outside Dia (mm), 82;Depth (mm), 59
	35972	Straight Wall Zirconium Crucible;Cap (ml), 25;Outside Dia (mm), 45;Depth (mm), 22
	35992	Straight Wall Zirconium Crucible;Cap (ml), 35;Outside Dia (mm), 46;Depth (mm), 29
	36014	Straight Wall Zirconium Crucible;Cap (ml), 45;Outside Dia (mm), 46;Depth (mm), 34
	36087	Straight Wall Zirconium Crucible;Cap (ml), 500;Outside Dia (mm), 101;Depth (mm), 65
	36070	Straight Wall Zirconium Crucible;Cap (ml), 55;Outside Dia (mm), 47;Depth (mm), 41
	36106	Straight Wall Zirconium Crucible;Cap (ml), 75;Outside Dia (mm), 51;Depth (mm), 41

Molybdenum Straight Wall Crucible Covers



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 molybdic 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).

Platinum Labware



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ITEM #

36067 Molybdenum Cover for Crucible 35912, 10ml

ITEM #

36048 Molybdenum Cover for Crucible 35954, 20ml

Tantalum Straight Wall Crucible Covers



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.

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36075

Tantalum Cover for Crucible 35913, 10ml

36115

Tantalum Cover for Crucible 36031, 1000ml

Molybdenum Straight Wall Crucibles



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 molybdic 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).

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35912

Straight Wall Molybdenum Crucible;Cap (ml), 10;Outside Dia (mm), 27;Depth (mm), 22



35975

Straight Wall Molybdenum Crucible;Cap (ml), 25;Outside Dia (mm), 45;Depth (mm), 22



35989

Straight Wall Molybdenum Crucible;Cap (ml), 35;Outside Dia (mm), 46;Depth (mm), 29

Tantalum Straight Wall Crucibles



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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.

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36091	Straight Wall Tantalum Crucible;Cap (ml), 100;Outside Dia (mm), 59;Depth (mm), 45
35913	Straight Wall Tantalum Crucible;Cap (ml), 10;Outside Dia (mm), 27;Depth (mm), 22
35955	Straight Wall Tantalum Crucible;Cap (ml), 20;Outside Dia (mm), 33;Depth (mm), 29
35988	Straight Wall Tantalum Crucible;Cap (ml), 35;Outside Dia (mm), 46;Depth (mm), 29
36010	Straight Wall Tantalum Crucible;Cap (ml), 45;Outside Dia (mm), 46;Depth (mm), 34
35892	Straight Wall Tantalum Crucible;Cap (ml), 5;Outside Dia (mm), 21;Depth (mm), 18

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