



# CHEMICAL-PORCELAIN LABWARE

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## History of Labware

At the beginning of the 20th century, the best chemical-porcelain labware obtainable was being produced by several German porcelain factories.

World War I quickly curtailed the import of these wares, forcing laboratories throughout the country to use poor and variable-quality porcelain. The end result was frustration and inefficiency due to lost samples and the diversion of energy from constructive work.

The mounting domestic need prompted several American potteries to undertake the manufacture of high-quality chemical-porcelain ware. CoorsTek (formerly Coors Ceramics Company) was the only firm to consistently provide quality labware.

CoorsTek started producing chemical-porcelain labware in 1914. By 1960, the company's factory output fulfilled the needs of the entire United States. The main factor contributing to this success was the company's willingness to invest in technological advancements.



Thomas Edison and his son, Charles, in their home lab in the early 1900s using Coors labware — still present today in what is now the Thomas Edison National Historic Park, West Orange, New Jersey.

*Photo courtesy NPS*

From the beginning, CoorsTek has received constant support from chemists and laboratory equipment distributors. To them especially, CoorsTek reaffirms its pledge to continue seeking ways to improve both the quality and usefulness of its chemical-porcelain labware.

## Terms of Sale

- In stock items will typically ship in 3 to 5 working days
- Expedited shipment available for a nominal fee
- Terms: Net 30 days (with approved credit)  
Master Card, Visa, and American Express accepted
- Minimum line item charge is applicable
- CoorsTek standard terms and conditions apply
- Verbal orders are placed at the risk of the purchaser
- CoorsTek reserves the right to add or discontinue items at any time without notice

## Ordering Information

CoorsTek Porcelain Ware is manufactured only in Golden, Colorado, by CoorsTek. Only first-quality products are sold by CoorsTek.

Certain laboratory supply firms in principal cities are authorized to act as dealers in CoorsTek Porcelain Ware. These dealers carry sufficient stocks of all items listed in this catalog to render good service and ordering of catalog items may be done through them or ordered directly from CoorsTek. Special items not listed herein may be ordered either through dealers or directly from CoorsTek, Inc.

AD-998 (High-Purity Aluminum Oxide) and ZDY (Fully Stabilized Zirconia) Labware can be ordered directly from CoorsTek. Please contact us for more information.

On-line direct ordering is available on the CoorsTek website at [usalabware.com](http://usalabware.com).

## Warranty

CoorsTek, Inc. expressly warrants its products to conform to the material specifications outlined in this catalog. This is our sole warranty with respect to these goods.

The characteristics of the raw materials and nature of the processes used to produce catalog items make it impossible to guarantee exact measurements and capacities.

Dimensional descriptions indicate relative sizes and are provided as a convenient reference for our customers. If your dimensional needs are specific, please contact a CoorsTek customer service representative.

CoorsTek, Inc. makes no other warranty, expressed or implied, of any kind whatever. CoorsTek expressly disclaims any implied warranty of merchantability and any implied warranty of fitness for a particular purpose intended by the purchaser.

## Important Properties of CoorsTek Chemical-Porcelain Ware

### Thermal-Shock Resistance

Average coefficient of expansion from 20° C to 200° C is  $3.56 \times 10^{-6}$ , gradually increasing to  $4.69 \times 10^{-6}$  at 1000° C. Experience has indicated suitability of particular shapes for specific uses. It remains the responsibility of the user to determine the suitability for his or her use. To prevent thermal stress cracks on porcelain ware, CoorsTek strongly recommends a heating/cooling rate not to exceed 200° C/hour. High-alumina labware temperature change rate should not exceed 150° C/hour.

### Prolonging Labware Life

- Follow gradual heating and cooling rates.
- Use an oven or hot plate as an intermediate step when quicker heating/cooling rates are required.
- Gradually increase flame intensity when using a gas burner.
- Avoid contact of heated ware with a cold surface.
- Carefully inspect your labware prior to each use.
- Do not use any product that appears defective.

### Hardness

57.5 on the Rockwell 45N scale

### Refractory Qualities

Fusion point: 1670° C

Softening point: 1400° C

Limit of use, unglazed: 1400° C

Limit of use, glazed: 1150° C

Limit of use, evacuated: 1300° C

## To Order:

CoorsTek

### Chemical Scientific Labware

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Golden, CO 80403

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Fax +1 303 277 4499

[usalabware.com](http://usalabware.com)

[coorstek.com](http://coorstek.com)

# CHEMICAL-PORCELAIN LABWARE

## Boat

Combustion, glazed inside and out except for outside bottom surface.



CATALOG NUMBER	CAPACITY (mL)	HEIGHT (mm)	LENGTH (mm)	WIDTH (mm)	NUMBER IN PACKAGE
60028	0.1	4	17	6	24
60032	2	8	60	10	24
60035	7	10	97	16	24
60036	12	13	100	20	18

## Capsule

Straight sides and flat bottom, glazed inside and out except for rim.



CATALOG NUMBER	OUTSIDE DIAMETER (mm)	HEIGHT (mm)	CAPACITY (mL)	NUMBER IN PACKAGE
60048	45	10	12	36
60050	69	12	25	24

## Capsule

Combustion, rounded bottom, glazed inside and out except for rim.



CATALOG NUMBER	TOP OUTSIDE DIAMETER (mm)	HEIGHT (mm)	CAPACITY (mL)	NUMBER IN PACKAGE
60051	41	21	17	36
60052	45	25	25	36
60053	42.5	22.5	20	36
60054	50	34	35	24

## Casserole

With lip and flat porcelain handle, glazed inside and out except for rim and top of handle.



CATALOG NUMBER	TOP OUTSIDE DIAMETER (mm)	HEIGHT (mm)	CAPACITY (mL)	NUMBER IN PACKAGE
60056	43	23	20	12
60058	70	35	60	12
60059	89	45	140	12
60060	100	50	210	12
60062	133	77	500	6
60063	144	90	750	4
60064	174	100	1,200	4

## Cover

For crucibles listed on following pages - glazed all over except for rim.



CATALOG NUMBER	DIAMETER INSIDE (mm)	FOR CRUCIBLE, CAPSULE, CUP	NUMBER IN PACKAGE
60121	26	60103	72
60122	34	60104, 60133, 60146	72
60123	38	60105, 60148, 60155, 60525, 60528, 60531	72
60124	45	60051, 60053, 60107, 60170, 60135, 60151	72
60125	54	60054, 60108, 60109, 60136, 60153	72
60126	66	60110, 60137	60
60127	77	60138, 60050	48
60128	90	60112, 60139	36
60129	105	60140	36

# CHEMICAL-PORCELAIN LABWARE

## Numbered Crucibles

Crucibles can be supplied with a permanent numeral marked on the outside surface for an additional charge. Quotations for numbering are available upon request.

### Crucible

High form, glazed inside and out except for outside bottom surface and rim. (see page 4 for covers)



CATALOG NUMBER	TOP OUTSIDE DIAMETER (mm)	HEIGHT (mm)	CAPACITY (mL)	NUMBER IN PACKAGE
60101	15	15	1.3	24
60103	24	20	5	72
60104	31	26	10	72
60105	35	29	15	72
60107	43	37	30	36
60108	50	40	40	36
60109	53	43	50	24
60110	65	54	100	24
60112	88	72	250	12

### Crucible

Wide form, glazed inside and out except for outside bottom surface and rim. (see page 4 for covers)



CATALOG NUMBER	TOP OUTSIDE DIAMETER (mm)	HEIGHT (mm)	CAPACITY (mL)	NUMBER IN PACKAGE
60132	18	12	2	72
60133	32	20	8	72
60135	41	26	17	48
60136	50	31	30	36
60137	61	37	50	24
60138	76	46	100	24
60139	84	52	150	18
60140	102	60	250	12

### Crucible

Gooch, with perforated bottom, glazed inside and out except for outside bottom surface and rim. Used for total suspended solids determination.



CATALOG NUMBER	TOP OUTSIDE DIAMETER (mm)	FOR FILTER PAPER DIAMETER (mm)	DIAMETER OF PERFORATIONS (mm)	CAPACITY (mL)	NUMBER IN PACKAGE
60146	29	15-16	0.7	13	24
60148	36	20-21	0.7	25	24
60151	40	23-24	0.6	40	18
60153	55	30	1	130	6

### Crucible

Gooch, with perforated bottom and two wall holes for suspending in extraction apparatus. Glazed inside and out except for outside bottom surface and rim. Used for total suspended solids determination.



CATALOG NUMBER	TOP OUTSIDE DIAMETER (mm)	FOR FILTER PAPER DIAMETER (mm)	HEIGHT (mm)	CAPACITY (mL)	NUMBER IN PACKAGE
60155	35	20-21	40	25	18

# CHEMICAL-PORCELAIN LABWARE

## Crucible

Bitumen, with perforated bottom, glazed inside and out except for outside bottom surface and rim. Used for similar applications as Gooch crucibles.



CATALOG NUMBER	TOP OUTSIDE DIAMETER (mm)	FOR FILTER PAPER DIAMETER (mm)	HEIGHT (mm)	CAPACITY (mL)	NUMBER IN PACKAGE
60170	44	30-33	24	28	12

## Crucible

Rose, unglazed.



CATALOG NUMBER	TOP OUTSIDE DIAMETER (mm)	HEIGHT (mm)	CAPACITY (mL)	NUMBER IN PACKAGE
60166	50	60	75	24

## Crucible

Porous crucible, with glazed walls. Stable porosity and rate of flow. Available with very fine (1.2 micron), fine (5 micron) and medium (15 micron) pore diameter discs.



CATALOG NUMBER	APPROX. PORE DIAMETER (mm)	TOP OUTSIDE DIAMETER (mm)	HEIGHT (mm)	CAPACITY (mL)	NUMBER IN PACKAGE
60525	1.2 microns	36	42	25	8
60528	5 microns	36	42	25	8
60531	15 microns	36	42	25	8

## Cup

Annealing, conical form, glazed inside and out except for outside bottom surface and rim.



CATALOG NUMBER	TOP OUTSIDE DIAMETER (mm)	HEIGHT (mm)	CAPACITY (mL)	NUMBER IN PACKAGE
60175	38	25	15	36

## Dish

Evaporating, with lip. Sizes 60196 through 60202 and 60210 glazed inside and out except for rim. Sizes 60204 through 60209 glazed inside and partly outside.



CATALOG NUMBER	TOP OUTSIDE DIAMETER (mm)	HEIGHT (mm)	CAPACITY (mL)	NUMBER IN PACKAGE
60196	60	24	35	48
60197	75	30	70	48
60198	80	30	80	24
60200	94	42	120	24
60201	100	42	150	18
60202	115	45	250	18
60204	145	48	385	12
60205	162	51	525	12
60206	185	54	765	8
60207	215	75	1,285	6
60209	265	80	2,100	4
60210	305	95	3,250	3

## CHEMICAL-PORCELAIN LABWARE

### Dish

Evaporating, with lip, shallow form, rounded bottom edge, vertical sides, glazed inside and out except for outside bottom and rim.



CATALOG NUMBER	TOP OUTSIDE DIAMETER (mm)	HEIGHT (mm)	CAPACITY (mL)	NUMBER IN PACKAGE
60221	77	32	90	16

### Dish

Evaporating with lip, shallow form, glazed inside except for rim and partially outside.



CATALOG NUMBER	TOP OUTSIDE DIAMETER (mm)	HEIGHT (mm)	CAPACITY (mL)	NUMBER IN PACKAGE
60230	70	16	30	24
60231	80	20	50	24
60232	90	22	75	18
60233	105	23	100	18
60234	120	34	195	12
60236	160	31	290	8

### Funnel

Buchner, with fixed perforated plate, glazed inside and out except for rim.



CATALOG NUMBER	FOR FILTER PAPER DIAMETER (mm)	HEIGHT (mm)	APPROX. CAPACITY (mL)	NUMBER IN PACKAGE
60238	13	64	2	12
60239	35-40	89	30	12
60240	50-55	101	87	8
60242	70	143	186	6
60243	90	160	320	4
60244	110	195	550	4
60245	110-124	202	700	2
60246	142-150	221	1,060	2
60247	185	270	1,860	2
60248	240	350	4,500	1

### Funnel

Buchner, with double wall for circulation of water, steam, etc., and inlet and outlet tubulatures. Glazed inside and out except for rim.



CATALOG NUMBER	FOR FILTER PAPER DIAMETER (mm)	HEIGHT (mm)	APPROX. CAPACITY (mL)	NUMBER IN PACKAGE
60267	55	111	90	2
60270	110	217	500	1
60271	110-124	229	750	1
60273	185	270	2,000	1

### Funnel

Buchner, table type, one piece, with side outlet for vacuum filtration. Glazed inside and out except for rim.



CATALOG NUMBER	FOR FILTER PAPER DIAMETER (mm)	HEIGHT (mm)	APPROX. CAPACITY (mL)	NUMBER IN PACKAGE
60281	110-124	109	750	2
60282	185	122	1,900	1
60283	240	145	4,000	1



# CHEMICAL-PORCELAIN LABWARE

## Funnel & Plate

Buchner, loose-plate table type, allows thorough cleaning of filtering compartments. Plates and seats accurately ground. Funnel glazed inside and out except for rim and seat portion. Plate glazed on one side. Funnel and plate sold separately.



CATALOG NUMBER	ARTICLE	DIAMETER AT PLATE (mm)	DIAMETER OF PLATE (mm)	HEIGHT (mm)	APPROX. CAPACITY (mL)	NUMBER IN PACKAGE
60294	Funnel	250	-	129	4,630	1
60264	Plate	-	230	-	-	1

## Funnel

Hirsch, with fixed perforated plate. Glazed except for rim.



CATALOG NUMBER	OUTSIDE DIAMETER ACROSS TOP (mm)	FILTER PAPER DIAMETER (mm)	APPROX. CAPACITY (mL)	NUMBER IN PACKAGE
60297	42	10	10	18
60298	55	13-15	20	12
60299	50	25-30	10	12
60301	78	40-47	50	12
60302	94	55	130	8

## Plate

Desiccator, on three feet, 16mm high, glazed on top surface.



CATALOG NUMBER	DIAMETER (mm)	NUMBER OF HOLES	DIAMETER OF HOLES (mm)	NUMBER IN PACKAGE
60444	95	3	30	8
60445	115	4	30	8
60446	142	5	30	6
60447	146	7	30	6
60448	190	7	30	3
60449	230	8	30	3

## Plate

Desiccator, glazed on top surface.



CATALOG NUMBER	DIAMETER (mm)	NUMBER OF HOLES	DIAMETER OF HOLES (mm)	NUMBER IN PACKAGE
60451	230	8	30	3

## Plate

Desiccator, with numerous small perforations, large hole in center, glazed on top surface.



CATALOG NUMBER	DIAMETER (mm)	DIAMETER OF CENTER HOLE (mm)	DIAMETER OF HOLES (mm)	NUMBER IN PACKAGE
60452	190	23	1	4
60453	230	23	2	3

## Plate

Desiccator, with numerous 5mm perforations, large hole in center, glazed on top surface.



CATALOG NUMBER	DIAMETER (mm)	DIAMETER OF CENTER HOLE (mm)	DIAMETER OF HOLES (mm)	NUMBER IN PACKAGE
60454	140	23	5	6
60455	190	23	5	3
60456	230	23	5	3



## CHEMICAL-PORCELAIN LABWARE

### Plate

Color-reaction or spot plates, glazed except for bottom surface.



CATALOG NUMBER	LENGTH (mm)	WIDTH (mm)	NUMBER DE-PRESSIONS	NUMBER IN PACKAGE
60425	92	31	3	24
60427	112	92	12	12
60429	118	91	12	12
60430	155	118	12	8
60432	180	140	30	6

### Plate

Same as above except glazed dark blue for easier observation of white precipitates.



CATALOG NUMBER	LENGTH (mm)	WIDTH (mm)	NUMBER DE-PRESSIONS	NUMBER IN PACKAGE
60437	118	91	12	12

### Plate

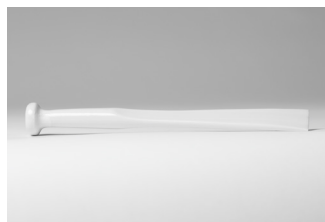
Streak, unglazed, as used for arsenic test and by mineralogists.



CATALOG NUMBER	LENGTH (mm)	WIDTH (mm)	THICKNESS (mm)	NUMBER IN PACKAGE
60457	65	50	3	36
60460	100	60	4	18

### Spatula

Glazed, long spatula on one end, knob on other.



CATALOG NUMBER	LENGTH (mm)	NUMBER IN PACKAGE
60470	203	12

### Spatula

Glazed, spoon on one end, spatula on other.



CATALOG NUMBER	LENGTH (mm)	CAPACITY (mL)	NUMBER IN PACKAGE
60477	99	0.1	24
60478	123	0.2	12
60480	165	0.5	12
60481	195	1	12
60483	254	6	8

### Marking Ink

For permanently marking laboratory porcelain and other ceramic ware. May be applied with pen or brush. Marked surface must be heat-treated to become permanent. Use instructions on bottle. Widemouth bottle with screw cap.



CATALOG NUMBER	LENGTH (mL)	NUMBER IN PACKAGE
60015	15	18

# MORTARS AND PESTLES

## Traditional Design Chemical-Porcelain Ware

Mortars and pestles suitable for basic laboratory purposes

### Mortar and Pestle

**Mortar:** with glazed lip and outside except bottom oversized for hand comfort, glazed to grinding surface.

**Pestle:** oversized for hand comfort in grinding.



CATALOG NUMBER	TOP OUTSIDE DIAMETER (mm)	LENGTH (mm)	HEIGHT (mm)	CAPACITY (mL)	ARTICLE	NUMBER IN PACKAGE
60310	70		47	50	Mortar	18
60311		114			Pestle	18
60313	80		53	65	Mortar	18
60314		130			Pestle	18
60316	90		70	145	Mortar	12
60317		157			Pestle	12
60319	115		70	275	Mortar	8
60320		180			Pestle	8
60322	130		80	400	Mortar	8
60323		194			Pestle	8
60325	163		110	750	Mortar	4
60326		222			Pestle	4
60328	210		130	1,900	Mortar	2
60329		262			Pestle	2
60331	283		150	4,000	Mortar	1
60332		280			Pestle	1

### Mortar and Pestle

**Mortar:** with glazed lip and outside except bottom oversized for hand comfort, glazed to grinding surface.

**Pestle:** has porcelain grinding head and wooden handle.

(Handle is not autoclavable.)



CATALOG NUMBER	TOP OUTSIDE DIAMETER (mm)	LENGTH (mm)	HEIGHT (mm)	CAPACITY (mL)	ARTICLE	NUMBER IN PACKAGE
60313	80		53	65	Mortar	18
60389		125			Pestle	12
60316	90		70	145	Mortar	12
60395		145			Pestle	12
60322	130		80	400	Mortar	8
60404		187			Pestle	8
60325	163		110	750	Mortar	4
60410		235			Pestle	3
60409	186		115	1,100	Mortar	3
60410		235			Pestle	3
60415	256		140	2,750	Mortar	2
60416		301			Pestle	2

## AD-99.5% Alumina Labware

AD-99.5% Alumina Mortars and Pestles are recommended for precise elemental analysis because they provide minimal sample contamination. AD-99.5% Alumina is an extremely hard (9 on Mohs scale), non-absorbent, wear-resistant material.

### Mortar and Pestle 99.5% Alumina

**Octagon-Style Mortar:** Glazed completely except inside grinding surface.

**Pestle:** Glazed completely except grinding surface.



CATALOG NUMBER	TOP OUTSIDE DIAMETER (mm)	LENGTH (mm)	HEIGHT (mm)	CAPACITY (mL)	ARTICLE	NUMBER IN PACKAGE
60335	35		18	1.5	Mortar	4
60356		38			Pestle	4
60358	50		26	7	Mortar	3
60359		57			Pestle	3
60361	65		31	15	Mortar	2
60362		65			Pestle	2
60364	75		37	30	Mortar	1
60365		74			Pestle	1
60370	100		47	80	Mortar	1
60371		100			Pestle	1
60373	120		57	120	Mortar	1
60374		117			Pestle	1

### Mortar and Pestle 99.5% Alumina

**Contoured Mortar:** Glazed except for inside grinding surface and outside bottom surface.

**Contoured Pestle:** Glazed completely except grinding surface.



CATALOG NUMBER	TOP OUTSIDE DIAMETER (mm)	LENGTH (mm)	HEIGHT (mm)	ARTICLE	NUMBER IN PACKAGE
60382	100		59	Mortar	1
60383		110		Pestle	1

## POROUS LABWARE

CoorsTek Porous Ware easily incorporates into many chemical processing, pharmaceutical, mechanical, and electronic applications. Its reliability results from years of experience, advancement, and refinement of manufacturing techniques.

In chemical filtration, CoorsTek Porous Ware can separate solid particles from liquid or gaseous suspensions. Stream flow is not obstructed by the filtering action.

For gross particle filtration, clarification, polishing, and sterilization of serums, vaccines, antitoxins, and other biochemical solutions in the pharmaceutical environment, CoorsTek Porous Ware is ideal.

Mechanical and earth science uses include filtration, diffusion, pressure studies, and underground liquid containment studies. CoorsTek Porous Ware is considered an excellent divider for electrolytic cells.

Maximum operating temperatures range from 900° to 1400°C depending upon ceramic composition selected. Variation in temperature will not affect porosity characteristics within their working temperature range.

### CoorsTek Porous Ceramics\* Properties

MATERIAL DESIGNATION	AVERAGE PORE DIAMETER (MICRONS, $\mu\text{M}$ )	BUBBLING PRESSURE (PSI)	APPARENT POROSITY	ABSORPTION
P-1/2-AC	<0.5	>80	38.1%	22.5%
P-1/2-BC	<0.5	>80	38.5%	21.0%
P-1-C	0.6	70	33.0%	18.3%
P-3-C	1.7	25	45.4%	25.2%
P-6-C	4	10	36.5%	18.2%
P-16-C	16.6	2.5	50.0%	30.7%
P-40-C	40	1	37.6%	20.1%
P-55-C	51	0.8	41.7%	22.7%
P-100-C	100	0.4	40.2%	23.0%
P-998-C	<0.5	>80	23.0%	7.5%

\*All listed values considered typical, not exact. Additional information regarding porous ceramics available upon request.

Listed catalog items are available through laboratory supply dealers or directly from CoorsTek. Other shapes are available on special order.

### Definitions and test Methods (astm e 128)

**Bubbling Pressure (or Air Entry Value):** These terms are used interchangeably. This figure (expressed in pounds per square inch) represents the air (or other gas) pressure required to displace liquid (usually water, but alcohol or other liquids can be used) from the pores of a saturated porous membrane. A saturated disc of measured diameter and thickness is placed in a fixture that allows the entire face of the disc to be exposed under measured pressure. The opposing side of the disc is held slightly submerged and observed closely as the gas pressure is raised slowly. At some pressure one or two bubbles will appear. The pressure is noted and the pressure increased until bubbles appear substantially over the face of the disc. The first pressure represents the largest pore and the second somewhat near the average pore size. The pressure can be converted to pore diameter in microns by the relation:

$$D = \frac{30\gamma}{\rho}$$

D = Pore diameter in microns ( $1 \mu\text{m} = 1 \times 10^{-4} \text{ cm}$ )

r = Pressure in millimeters of mercury (51.71 mm mercury = 1 psi = 27.70 inches of water)

$\gamma$  = Surface tension of immersion liquid in dynes per centimeter at 20° C (Water at 20° C has approximately 72 dynes/cm surface tension, alcohol approximately 22 dynes/cm)

**Apparent Porosity:** The volume relation of pore volume to total volume:

$$\% \text{ Apparent Porosity} = \frac{\text{Pore Volume}}{\text{Total Volume}} \times 100$$

**Absorption:** The weight relation between the saturated pore weight to the dry weight of the piece:

$$\% \text{ Absorption} = \frac{\text{Saturated Wt.} - \text{Dry Wt.}}{\text{Dry Wt.}} \times 100$$

Porous ceramics are ideal for laboratory filtration, along with many new applications in the chemical processing, pharmaceutical, mechanical and electronic industries.

Contact your CoorsTek sales representative for more information.

## Porous Disc



CATALOG NUMBER	APPROX. DIAMETER (mm)	APPROX. THICKNESS (mm)	MATERIAL DESIGNATION	NUMBER IN PACKAGE
60002	50	6	P-1/2-AC	1
60003	50	6	P-1/2-BC	1
60004	50	6	P-1-C	1
60005	50	6	P-3-C	1
60006	50	6	P-6-C	1
60009	50	6	P-16-C	1
60011	50	6	P-40-C	1
60012	50	6	P-55-C	1
60013	50	6	P-100-C	1
60014	50	6	AP-998-C	1

## Crucible

Porous bottom, with porous disc permanently formed into walls, stable porosity and rate of flow. Available with very fine (1.2 micron), fine (5 micron) and medium (15 micron) pore diameter discs.



CATALOG NUMBER	APPROX. PORE DIAMETER (μ)	TOP OUTSIDE DIAMETER (mm)	HEIGHT (mm)	CAPACITY (mL)	NUMBER IN PACKAGE
60525	1.2	36	42	25	8
60528	5	36	42	25	8
60531	15	36	42	25	8

## Porous Plate

Square, available in P-1/2-BC material. Other porosities and sizes available on special order. Refer to properties chart on page 12 for additional porous ceramics.



CATALOG NUMBER	LENGTH (mm)	WIDTH (mm)	THICKNESS (mm)	NUMBER IN PACKAGE
60507	150	150	6	6

## Porous Cup

Cylindrical, available in P-1/2-BC material. Other porosities and sizes available on special order. Refer to properties chart on page 11 for additional porous ceramics.



CATALOG NUMBER	DIAMETER (mm)	HEIGHT (mm)	NUMBER IN PACKAGE
60491	25	76	24
60493	38	75	18
60494	40	90	12
60495	52	100	8

## AD-998 HIGH-ALUMINA LABWARE

CoorsTek AD-998 labware is made of 99.8%-pure aluminum oxide. Highly resistant to chemical attack, this alumina-ceramic labware is especially useful to chemists, metallurgists, and others involved in high-temperature work demanding contamination-free results. AD-998 labware is highly refractory, meant for use in reducing and oxidizing atmospheres. It is inert in hydrogen and carbonaceous atmospheres and offers high resistance to alkalies and other fluxes. Suitable for glass melting, including borosilicate glass. Recommended for use with refractory metals such as molybdenum, platinum, rhodium, tungsten, tantalum, and iridium. High-alumina labware temperature change rate should not exceed 150° C/hour.

### CoorsTek AD-998 High-Alumina Properties

Maximum Use Temperature (No Load)	1750° C
Thermal-Expansion Coefficient (25° to 1000° C)	8.0 x 10 <sup>-6</sup> /° C
Compressive Strength	>300,000 psi
Specific Gravity	3.9 (Typical)
Hardness	79 on Rockwell 45N scale 9 on Mohs scale
Permeability	Gas-tight
Water Absorption	None
Chemical Tests	Hot concentrated sulfuric acid, 100° C (65503 Crucible <sup>2</sup> 32g weight) (4 hours.: weight loss -6x10 <sup>-4</sup> %) Hot 10% sodium hydroxide, 100° C (4 hours.: weight loss -9x10 <sup>-4</sup> %) Hot 50% phosphoric acid, 90° C (4 hours.: weight loss -0.16%)

These AD-998 items are available from laboratory supply dealers or directly from CoorsTek, Inc. Other shapes are available on special order. Additional information regarding AD-998 properties is available upon request.

### Fully Stabilized Zirconia (ZDY) Labware

Several AD-998 high-alumina labware items can be provided in a Fully Stabilized Zirconia (ZDY) composition. Some advantages of Zirconia are:

- Higher maximum use temperature (2400° C – no load).
- Better chemical resistance in certain corrosive environments.
- Slightly better thermal shock resistance.

### General Maintenance Recommendations

CoorsTek procedure exceptionally high-quality labware. For best product performance, please review the following suggestions for care and maintenance:

1. Prolonging the life of your labware can be done by:
  - a. Following a gradual heating/cooling rate to avoid sudden changes in temperature we recommend a rate not to exceed 200°C per hour for chemical porcelain or 150°C per hour for high alumina labware (heat up or cool down)
  - b. Using an oven or hot plate as an intermediate step during the heating/cooling cycle when a quicker rate is required.
  - c. Avoiding contact of the heated product with a cold surface.
  - d. Gradually increasing flame intensity when using a Bunsen burner until desired temperature is reached.
2. Carefully inspect your labware prior to each use. Do not use any product which appears defective.

Contact your supplier for replacements.

If you have any further concerns or problems, please contact CoorsTek.

## AD-998 HIGH-ALUMINA LABWARE

### Crucible High Form

AD-998



CATALOG NUMBER	DIAMETER (mm)	HEIGHT (mm)	CAPACITY (mL)
65501	29	31	10
65503	38	35	20
65504	48	47	50
65505	58	61	100
65506	76	93	250
65507	90	118	500

### Crucible Conical

AD-998



CATALOG NUMBER	DIAMETER (mm)	HEIGHT (mm)	CAPACITY (mL)
65517	33	44	20
65518	43	53	50
65519	55	68	100
65520	73	95	250
65521	90	128	500
65522	104	150	750

### Crucible Cylindrical

AD-998



CATALOG NUMBER	DIAMETER (mm)	HEIGHT (mm)	CAPACITY (mL)
65530	13	25	2
65531	18	26	5
65532	24	19	6
65533	22	33	10
65535	28	40	20
65536	25	100	40
65537	35	64	50
65538	25	152	60
65539	39	91	100
65540	40	165	170
65541	54	91	180
65542	59	104	250
65543	69	148	500
65544	83	160	750
65545	93	167	1,000
65546	105	194	1,500
65547	127	228	2,400
65548	178	228	4,750



## AD-998 HIGH-ALUMINA LABWARE

### Combustion Boat

AD-998



CATALOG NUMBER	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	CAPACITY (mL)
65560	30	8	7	1
65562	50	12	9	3
65563	70	14	10	5
65564	90	17	11.5	10
65565	100	20	13	15
65566	105	22	14.5	20
65568	137	27	21	50

### Rectangular Tray

AD-998



CATALOG NUMBER	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	CAPACITY (mL)
65576	40	30	6	5
65577	60	40	8	13
65578	75	50	12	32
65579	100	45	19	64
65580	150	65	19	130
65581	200	90	25	340
65582	188	140	42	750

### Circular Dish

AD-998



CATALOG NUMBER	DIAMETER (mm)	HEIGHT (mm)	CAPACITY (mL)
65591	40	10	10
65592	50	12	20
65593	60	20	50
65594	75	26	100

### Crucible Cover

AD-998

Note: Due to unavoidable variations in manufacturing processes, cover may not fit precisely on crucibles.



CATALOG NUMBER	FOR CRUCIBLE NUMBER
65602	65533
65603	65532, 65536, 65538
65604	65535
65605	65501
65606	65517
65607	65537
65608	65503, 65539, 65540, 65591
65611	65504
65612	65519, 65541
65613	65505, 65542, 65593
65615	65543
65616	65506, 65520, 65594
65620	65522

## AD-998 HIGH-ALUMINA LABWARE

### Disc

AD-998



CATALOG NUMBER	DIAMETER (mm)	DIAMETER (inch)	THICKNESS (mm)	THICKNESS (inch)
65631	25	1	2	$\frac{1}{16}$
65640	32	$1\frac{1}{4}$	2	$\frac{3}{32}$
65632	38	$1\frac{1}{2}$	2	$\frac{3}{32}$
65633	51	2	2	$\frac{3}{32}$
65634	64	$2\frac{1}{2}$	3	$\frac{1}{8}$
65635	76	3	3	$\frac{1}{8}$
65636	89	$3\frac{1}{2}$	4	$\frac{5}{32}$
65637	102	4	4	$\frac{3}{16}$
65638	127	5	5	$\frac{3}{16}$
65639	152	6	5	$\frac{3}{16}$

### Rectangular Plate

AD-998



CATALOG NUMBER	LENGTH (mm)	WIDTH (inch)	THICKNESS (mm)
65479	108	53	4
65480	161	76	4.5
65481	216	102	5
65482	197	147	5

**NOTES**

**NOTES**

# We Make The World Measurably Better

## Global Presence

Whether your company is global or domestic, CoorsTek works to serve you locally — supporting your business with over 500,000 square meters of manufacturing space in over 50 locations worldwide. Our customer focus is the reason we have become the world's leading manufacturer of engineered ceramics and advanced materials, the partner of choice to more than 10,000 technology and manufacturing customers in 70 countries. With more than 6,000 dedicated employees, we're ready to help you with your next project.



Contact us today to discuss your latest labware needs at +1 303 277 4038.

**COORSTEK**

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