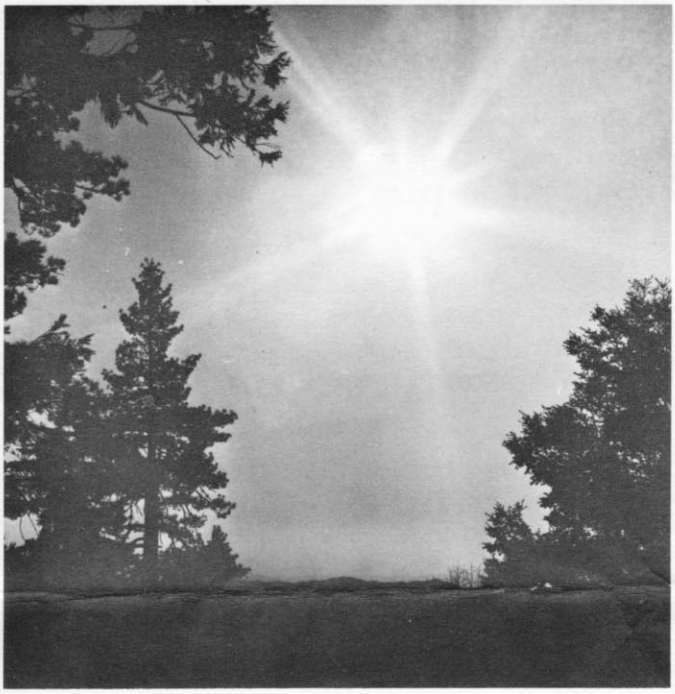
COULTER OPTICAL COMPANY



The whole purpose of Coulter Optical Company is to bring to the amateur astronomer "optimum optics at minimum costs." Although our prices are considerably lower than you are used to, we do not cut corners in quality to accomplish this. Whether for custom or production astronomical mirrors, raw materials are the finest, workmanship of the highest precision. If you are not completely satisfied, your money will be promptly returned.

PRODUCTION ASTRONOMICAL MIRRORS

Special equipment and techniques make Coulter production mirrors by far the least expensive of any other comparably-coated mirror. Resolving power and reflective ability are the highest.

BLANKS: Made from a premium quality fine-annealed blank of low expansion type Pyrex #7740 with a 1:6 ratio of thickness to diameter. Average Linear Coefficient of Expansion 32 x 10-7 per 1°C between 0° and 300°C.

OPTICAL SURFACE: Extremely smooth—no dog-bisquiting. Exceptionally clean. Focal lengths ± 3%.

OPTICAL FIGURE: Extremely smooth parabolic figure without any zones or breaks. Each disk exhibits a good diffraction ring — no turned edges or edge zones. Each mirror exhibits straight Ronchi bands edge to edge under the sensitive double pass auto-collimation test. Corrected to better than ± 1/25th wave. Free of astigmatism.

COATING: Aluminized with silicon monoxide.

PRICE LIST

6″ F/10	$27.50 pp.	10″ F/5.6	$98.50 pp.
6″ F/8	37.50 pp.	12½″ F/8	175.00 pp.
8″ F/7	65.00 pp.	14¼″ F/7	315.00 f.o.b.

CUSTOM ASTRONOMICAL MIRRORS

Coulter custom mirrors exhibit the same high quality as production mirrors. Accuracy is same ± 1/25th wave. They are aluminized and overcoated. Focal lengths ± 3%. Prices apply to ratios from F/5 to F/10.

PRICE LIST

6″	$45.00 pp.	12½″	$219.00 pp.
8″	79.50 pp.	14¼″	360.00 f.o.b.
10″	$125.00 pp.		



RICHEST-FIELD TELESCOPE MIRRORS

These parabolic mirrors provide low powers with wide angle views and high field brightness. Ideal for viewing or photographing star fields and extended areas. ¼ wave. Coated. Focal lengths ± 3%.

PRICE LIST

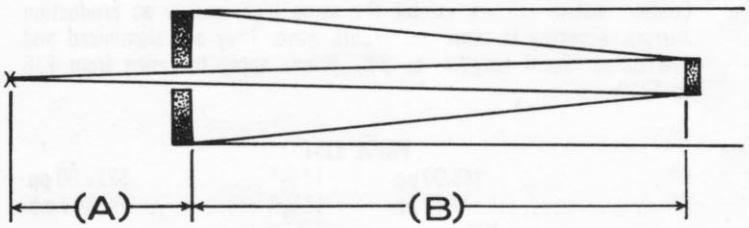
6″ F/4	$47.50 pp.	10″ F/4	$130.00 pp.
8″ F/4	82.50 pp.	12½″ F/4	225.00 pp.

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

COULTER OPTICAL COMPANY
8217 Lankershim Blvd. / North Hollywood, California 91605 / (213) 767-8538

CASSEGRAIN OPTICS
DALL-KIRKHAM TYPE

These precision Cassegrain astronomical optics are of the Dall-Kirkham type, utilizing a perforated ellipsoidal primary and a spherical secondary. They produce a highly compact system with relatively long focal lengths and comfortable viewing. For example: the 12½" F/15 set of optics can be mounted in a tube only 4 feet long and will give an effective focal length of 187.5". The optics are made from the highest grade of fine annealed Pyrex #7740. Each system is hand figured under auto-collimation to better than 1/8th wave. Spacing instructions and information on collimation is given for each set. A Ronchi strip is included for fine collimation. Satisfaction guaranteed or your money will be promptly refunded.



SPECIFICATIONS

SYSTEM	8" F/20	10" F/16	12½" F/15
Back focus (A)	11"	12"	15"
Separation (B)	29.8"	28.8"	33.39"
Secondary diameter	2.77"	3.00"	4.02"
Perforation diameter	1¾"	2"	2½"
Effective focal length	160"	160"	187.5"
Price (post paid USA)	$139.50	$249.50	$350.00

Because of the slight difference in each set, every system will be accompanied with the exact separation measurement. This may vary as much as 1½". All other specifications remain the same.



ELLIPTICAL DIAGONAL FLATS
MADE OF FINE ANNEALED PYREX. ± 1/16 WAVE, COATED, AND POSTPAID IN USA. GUARANTEED.

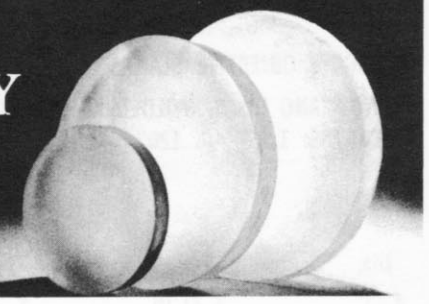
MINOR AXIS		MINOR AXIS	
1.30"	$ 7.50	2.14"	$15.00
1.52"	$10.50	2.60"	$17.50
1.83"	$12.50	3.10"	$27.50

SUGGESTED SIZE OF DIAGONAL

6"F/4 - 2.14"	8"F/5 - 2.14"	12½"F/4 - 3.10"
6"F/8 - 1.52"	8"F/7 - 1.83"	12½"F/8 - 1.83"
6"F/10 - 1.30"	10"F/4 - 3.10"	14¼"F/5 - 3.10"
8"F/4 - 2.60"	10"F/5.6 - 2.14"	14¼"F/7 - 2.60"

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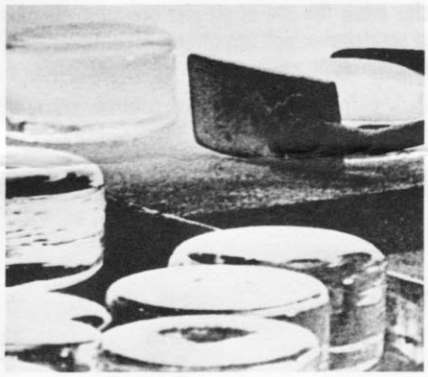
COULTER OPTICAL COMPANY



STANDARD MIRROR BLANKS

A better product is now available to the amateur: the professional line of select mirror blanks by International Glass, division of Bausch & Lomb. These blanks are made of low expansion Pyrex glass #7740 — and are the same ones used by the optical industry for masters for duplication of optics.

They are molded and fine-annealed, each supplied with a certificate of annealing. Perpendicular walls give better support, safer handling, and greater ease of mounting. Two full-diameter faces permit selecting the better side. Higher uniformity with fewer bubbles and foreign inclusions, and less discoloration. Made for the optician who demands the finest professional product.



Pyrex blanks being paddled prior to molding.

PRICE LIST

Diameter Inches	Thickness Inches	Ship. Wt. Pounds	Price
1.00	0.75	1	$1.15
1.52	1.00	1	1.50
2.05	1.00	1	1.90
2.27	1.00	1	2.25
2.51	1.00	1	2.55
2.77	1.00	2	2.75
3.00	1.00	2	3.15
3.21	1.00	2	3.30
4.02	1.00	2	4.60
4.22	1.00	2	4.80
5.00	1.00	3	6.00
5.25	1.00	3	6.40
6.00	1.00	3	6.75
6.20	1.10	4	8.00
7.38	1.25	5	10.20
8.00	1.38	6	10.50
8.25	1.38	7	14.80
9.25	1.62	10	21.60
10.00	1.75	14	22.90
12.50	2.12	27*	42.50
14.25	2.38	46*	139.50

Above prices are plus parcel post. Add for insurance if desired. Those marked (*) are sent f.o.b. North Hollywood.

LARGE MIRROR BLANKS — Molded and Fine-Annealed

These select Pyrex mirror blanks are specially designed to meet the requirements of lightweight primary mirrors. Their extremely low strain and uniform characteristics make these blanks highly suitable when used with flotation support systems. Sent f.o.b. North Hollywood.

Diameter Inches	Thickness Inches	Weight Lbs.	Ship.	Price
16	2.12	34	44	$195.00
18	2.12	43	55	$265.00
20	2.12	53	70	$310.00

ELLIPTICAL DIAGONAL BLANKS FINE ANNEALED PYREX #7740

Minor Axis	Price	Shipping Weight
1.30″	$ .95	4 oz.
1.52″	1.15	6 oz.
1.83″	1.55	6 oz.
2.14″	2.05	8 oz.
2.60″	2.75	8 oz.
3.10″	4.60	12 oz.

These precision molded blanks present a minimum circular attitude when placed at 45°.

TOOLS

We recommend using our ceramic tile on a suitable backer such as glass or metal disc for a superior tool. Not only is this a more rapid and efficient way to work, it is also the lowest-cost do-it-yourself procedure. Many say it is twice as fast as a solid glass tool.

PRECISION OPTICAL GLASS

MAKSUTOV TELESCOPE CORRECTOR BLANKS

Concave-Convex, Molded Surfaces and Edges BSC 517-645

Diameter	4.45″	5.60″	6.80″	8.70″	10.85″	11.25″
Center Thk.:	.560″	.650″	.740″	.920″	1.10″	1.35″
R1, Concave:	— 4.3″	— 5.4″	— 6.5″	— 8.7″	— 10.9″	— 17.0″
R2, Convex:	+ 5.6″	+ 7.0″	+ 8.4″	+ 11.2″	+ 13.9″	+ 18.4″
Unit Price:	$11.20	$21.60	$36.80	$81.60	$168.00	$200.00
Shipping Wt.:	2 lbs.	2½ lbs.	4 lbs.	8 lbs.	12 lbs.	15 lbs.

For detailed information on constructing Maksutov systems obtain "Maksutov Articles from Gleanings for ATM's" from Sky Publishing Corp., 49 Bay State Rd., Cambridge, Mass. 02138.

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

COULTER OPTICAL COMPANY
8217 Lankershim Blvd., North Hollywood
California 91605 (213) 767-8538

TELESCOPE OBJECTIVE BLANKS

PLANO-PLANO DISCS, MOLDED SURFACES AND EDGES.
THICKNESS: 1.00″ + .120″ —0.

Dia.	Crown Price	Flint Price	Shipping Weight Crown or Flint
4.25″	$ 21.10	$ 27.20	2½ lbs.
5.25″	33.65	35.70	3 lbs.
6.25″	46.75	51.85	4½ lbs.
7.25″	57.80	64.60	5½ lbs.
8.25″	70.55	79.05	7 lbs.
9.25″	95.20	122.40	11½ lbs.
10.25″	115.60	147.90	13 lbs.
11.25″	139.40	183.60	16 lbs.
12.25″	173.40	231.20	20 lbs.

All material per Mil-G-174A: Gd. A; Fine Annealed.

SQUARE OPTICAL GLASS BLANKS SUITABLE FOR SCHMIDT CORRECTORS, WINDOWS, ETC.

Two types are available, BSC-2 and Opthalmic Crown. BSC-2 Crown 1.517-645 Grade A, is recommended for applications where off axis images and high amplification is used; for example Schmidt Cassegrain corrector plates. It is supplied only in grade A. Opthalmic Crown 1.523 is suitable for Schmidt camera corrector plates, etc. We can supply these two types of glass in square slabs only. Give us your requirements and we will quote on square slabs that will finish to your requirements. Opthalmic Crown can be supplied regular or fine annealed.

The basic difference in quality between BSC-2 & Opthalmic Crown is that the BSC-2 is free from straie when viewed thru the edge. The Opthalmic Crown is not. Both BSC-2 & Opthalmic Crown are free from straie when viewed thru their faces. Straie in optical glass is caused by the glass not having a uniform density. It is visible as veins of light either by the unaided eye or assisted by polarizing the light to make them more visible. Opthalmic Crown is less costly than BSC-2.

CERAMIC OPTICAL TILE — 1″ Hexagon Rounded Edges

This special vitrified optical tile enhances the grinding action by providing elutation of the abrasive particles. The tile reacts to the grinding action in a much more rapid manner than grinding on glass or unchanneled ceramic. The result is that the grinding process is two to three times faster. The round edges permit faster contact and lessen the chances of chipping. They are applied by any epoxy waterproof cement (not supplied). Special instructions are included with the tile. They also may be epoxied to build up their thickness.

Price: 2 lb. package 1″ hexagon x .20″ thick — $2.75.
Shipping weight 2¼ lbs. Will cover 144 sq. in.

ABRASIVES

We recommend the following from roughing to polishing.
70-90 silicon carbide
120 silicon carbide
220 silicon carbide
30 micron Microgrit WCA or 320 silicon carbide
15 micron Microgrit WCA
9 micron Microgrit WCA
5 micron Microgrit WCA
Barnesite #924

SILICON CARBIDE

	1 lb.	5 lbs.
70-90	$ .95	$3.45
120	1.40	4.60
220	1.40	4.60
320	1.90	6.25

MICROGRIT WCA

Aluminum Oxide Precision Lapping Powers

	¼ lb.	1 lb.	5 lbs.
30 micron	$1.00	$2.90	$10.65
15 micron	1.15	3.25	12.40
9 micron	1.25	3.75	14.50
5 micron	1.35	3.90	15.50
3 micron	1.40	4.00	15.75

Microgrit WCA precision lapping powders are made for the production of the most modern advanced precision optics. Unlike the other aluminum oxide powders available, they consist of discrete individual crystals (not broken down from large particles) in which each crystal has a distinctive disc-like shape, the thickness averaging about 1/5th in diameter. The grinding action is more like that of planning than the fracturing grinding of crushed aluminum oxide.

These dis-shaped particles allow the use of greater pressure without the danger of wild and deep scratches which are often encountered with the finer grades of ordinary abrasives.

The use of these powders permits better surface control and reduced polishing time. Must be tried to be appreciated.

OPTICAL POLISHING COMPOUNDS

POLISHING POWDERS	¼ lb.	1 lb.	5 lbs.
Barnesite No. 924	$1.80	$5.35	$24.25
Cerium Oxide	1.60	4.70	21.25
Red Rouge (unwashed)	.75	2.20	18.75

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

OPTICAL PITCH

	1lb.	Shipping Weight
Wood Rosin Pitch (hard)	$1.25	1 lb. 4 oz.
Coal tar Pitch	1.00	1 lb. 4 oz.
Zobel Pitch (hard)	1.95	1 lb. 4 oz.
Zobel Pitch (soft)	1.95	1 lb. 4 oz.
Green Blocking Pitch 6 oz. Bar	1.95	1 lb.
Black Holding Pitch 4 oz. Bar	1.95	1 lb.

COULTER OPTICAL COMPANY
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California 91605 (213) 767-8538

NEW.....
VOSS 8" F/15 CASSEGRAIN

THE RUGGED LUNAR-PLANETARY TELESCOPE BUILT TO LAST



Your investment in a telescope is an important one. Not only do you expect high performance, but you expect your telescope to take the wear and tear of the years in stride. We have designed the Voss 8" F/15 Cassegrain to be the most rugged telescope available today. The tube is made of the strongest fibreglass and you will find that an average adult can stand on it without damaging the tube or the optics. A rugged six ribbed die-cast aluminum back plate supports the center mount assembly for the 8" mirror. The aluminum support ring for the mirror is a full 3/4" thick! The mirror is precision mounted like a fine camera lens. Not only is the primary mirror center mounted, but the secondary mirror is also center mounted. This provides minimum glass to metal contact and eliminates clips or rings that protrude into the optical aperature. Best of all it gives the highest degree of shock resistance. The optics are adjusted by positive push-pull. No springs are used. This tube assembly is so rugged that we feel it can take the shock of dropping accidentally from a reasonable distance without damage.

This telescope allows maximum magnification without the use of a Barlow. The 6mm eyepiece provided gives 500x. A circular secondary support eliminates troublesome flares from bright stars and gives refractor like round images — important on a good night of seeing when attempting to split Sirius. Guaranteed to perform to or exceed Dawes limit of resolution.

Included with our 8" F/15 is a Coulter Performance kit to test the systems integrity. Voss Telescopes are the only telescopes sold in the world today that include such a kit. If we were not building a better telescope we wouldn't make such an offer. Consider these important facts:

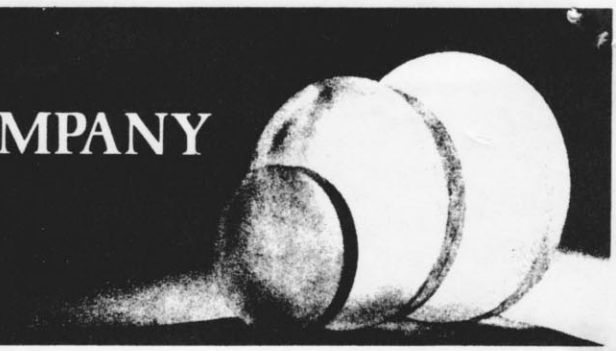
1. Priced lower than many Newtonians.
2. Provides maximum magnification without a Barlow.
3. Provides armchair comfort in observing.
4. Easily transported. The tube is only 27" long and the height of the instrument is 65". Four exciting colors are available: Turquoise Mist, Oasis Green, Turin Tan, Orange Flame, and White. Specify color when ordering.

The telescope comes complete with adjustable equatorial mount, electric drive, circles, finder, three eyepieces of the Kellner type (75x, 250x, and 500x), and a performance kit.

$579.50 f.o.b. North Hollywood

Satisfaction guaranteed. Add $20.00 for crating. Shipping weight approximately 130 pounds.

COULTER OPTICAL COMPANY



ORDER BLANK

Date: _____

QUANTITY	DESCRIPTION	UNIT COST	TOTAL

QUANTITY	DESCRIPTION	UNIT COST	TOTAL

Name _____

Address _____

City _____

State _____ Zip _____

(California Residents be sure to add current Sales Tax)

Merchandise Total _____

Shipping Costs _____

Total Amount Enclosed _____

☐ Money Order

☐ Check

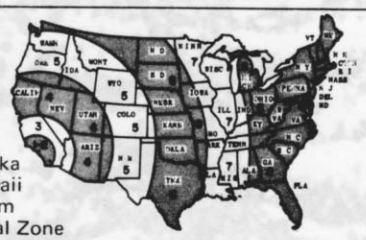
PARCEL POST RATES

Weight: 1 pound and not exceeding (pounds) —	Zones							
	Local	1&2	3	4	5	6	7	8
2	0.50	0.60	0.60	0.65	0.70	0.80	0.85	0.90
3	.50	.65	.70	.75	.85	.95	1.05	1.15
4	.55	.70	.75	.85	.95	1.10	1.20	1.35
5	.55	.75	.80	.90	1.05	1.25	1.40	1.60
6	.55	.80	.90	1.00	1.15	1.40	1.55	1.75
7	.60	.90	.95	1.10	1.30	1.50	1.75	1.95
8	.60	.95	1.00	1.15	1.40	1.65	1.90	2.15
9	.65	1.00	1.05	1.25	1.50	1.80	2.05	2.35
10	.65	1.05	1.15	1.35	1.65	1.90	2.25	2.55
11	.65	1.10	1.20	1.40	1.75	2.00	2.40	2.75
12	.70	1.15	1.25	1.50	1.85	2.15	2.55	2.90
13	.70	1.20	1.35	1.55	1.95	2.25	2.70	3.10
14	.75	1.25	1.40	1.65	2.05	2.40	2.85	3.25
15	.75	1.30	1.45	1.75	2.15	2.50	3.00	3.45
16	.75	1.35	1.55	1.80	2.25	2.60	3.15	3.60
17	.80	1.40	1.60	1.90	2.35	2.75	3.30	3.80
18	.80	1.45	1.65	1.95	2.45	2.85	3.45	4.00

Weight: 1 pound and not exceeding (pounds) —	Zones							
	Local	1&2	3	4	5	6	7	8
19	.85	1.50	1.75	2.05	2.55	2.95	3.60	4.15
20	.85	1.55	1.80	2.10	2.65	3.10	3.75	4.35
21	.85	1.60	1.85	2.15	2.75	3.20	3.90	4.50
22	.90	1.65	1.90	2.25	2.80	3.30	4.05	4.70
23	.90	1.70	1.95	2.30	2.90	3.40	4.20	4.85
24	.95	1.75	2.00	2.35	3.00	3.55	4.35	5.00
25	.95	1.75	2.05	4.45	3.05	3.65	4.50	5.20
26	.95	1.80	2.05	2.50	3.15	3.75	4.65	5.35
27	1.00	1.85	2.10	2.55	3.25	3.90	4.80	5.55
28	1.00	1.90	2.15	2.60	3.35	4.00	4.90	5.70
29	1.05	1.90	2.20	2.70	3.40	4.10	5.05	5.90
30	1.05	1.95	2.25	2.75	3.50	4.20	5.20	6.05
31	1.05	2.00	2.30	2.80	3.60	4.35	5.35	6.25
32	1.10	2.05	2.35	2.90	3.65	4.45	5.50	6.40
33	1.10	2.10	2.40	2.95	3.75	4.55	5.65	6.55
34	1.15	2.10	2.45	3.00	3.85	4.65	5.75	6.75

PARCEL POST INSURANCE FEES

Value up to $15.00	20¢
Value $15.01 to $50.00	30¢
Value $50.01 to $100.00	40¢
Value $100.01 to $150.00	50¢
Value $150.01 to $200.00	60¢



8 { Alaska, Hawaii, Guam, Canal Zone, Puerto Rico

All sales are cash net (minimum order $5). All items are shipped from North Hollywood with postage or freight to be paid by the purchaser. Use the map and graph shown to figure postage. Add all shipping weights together and add Parcel Post insurance if desired. Larger items or groups of items exceeding Parcel Post limits will be shipped express with shipping charges collect. Excess charges for shipping will be refunded.

PLEASE ADD INSURANCE
FOR YOUR PROTECTION.

COULTER OPTICAL COMPANY
8217 Lankershim Boulevard / North Hollywood, California 91605 / (213) 767-8538

COULTER OPTICAL COMPANY

CARE OF COULTER MIRRORS

Made of Pyrex, a high silica glass, one may expect the optical surface to last indefinitely. The aluminized and overcoated coating is the most delicate part of the mirror; however, with reasonable care and usage it can be expected to last up to ten years. Somewhat shorter life expectancy may be experienced in atmospheres containing corrosive salts and contaminates.

CARE OF COATING:

1. Do not touch the mirror with hands or any object unless cleaning as described later.
2. If very dusty remove by gently brushing with a camelhair brush. (Be sure the hair ends are not cut, but are of a natural taper. Use of cut hair produces fine sleeks on coating.)
3. Keep telescope capped when not in use. Store tube in a horizontal position to prevent settling of particles on surface.

4. When mirror becomes excessively dirty, clean as follows: Caution: Do not use laundered towels or cloths for wiping the mirror. The contaminates will cause residual water spots and a film that is impossible to remove without re-coating. Do not clean anyother way than described below. Anyother method will produce inferior results. Do not use lens cleaners.

Materials Needed:

1 lb. surgical or engravers cotton. (Engravers cotton is less expensive).
1 qt. Isopropyl alcohol, Tide or Basic H detergent.

Procedure:

With the mirror resting face up on a towel in the sink, turn on the cold water and play a stream of water on it's face. This will loosen some of the particles and wash off unattached dust. Dip a wad of cotton in a mild solution of detergent. (½ teaspoon to 1 pint of water). Then gently swab the entire surface. Keep the water going while doing this so as it'll wash off the detergent solution as you clean.
Very important: Do not let the surface dry or bead as water marks will be formed. Keep the stream of water going.

After swabbing the surface with detergent solution, the mirror is now covered with a stream of water. Make ready three wads of cotton for the following: Next dip one half of the cotton swab into Isopropyl alcohol. At the time you place the swab on the surface of the mirror, turn off the water. Now swab the <u>entire</u> surface with this swab. Caution: do not turn swab over or dissolved skin oils will deposit on the mirror. Immediately take a dry swab and wipe gently. Keep changing cotton swabs until the surface is totally dry.

This method used for many years by us has shown itself to be the best.