

DATE: 9/18/2017

BID NO.: 50-00121034

INVITATION TO BID
THIS IS NOT AN ORDER

Page: 4

JEFFERSON PARISH

PURCHASING DEPARTMENT
P.O. BOX 9
GRETN, LA. 70054-0009
504-364-2678

VENDOR:

BUYER: SFOLSE

As per LSA-RS 47:301 et seq., all governmental bodies are excluded from payment of sales taxes to any Louisiana taxing body. Quotations shall be based on F.O.B. Agency warehouse or jobsite, anywhere within the Parish as designated by the Purchasing Department.

JEFFERSON PARISH reserves the right to cancel all or any part of an order if not shipped promptly. No charges will be allowed for parking or cartage unless specified in quotation. The order must not be filled at a higher price than quoted. JEFFERSON PARISH reserves the right to cancel at any time and for any reason by issuing a THIRTY (30) day written notice to the contractor.

JEFFERSON PARISH is expecting all products to be new and all work to be done in workman-like manner, according to standard practices. Any deviations or alteration from the specifications must be indicated on the bid form for each item and upon request, product data for same must be submitted by the time specified by the Purchasing Department.

DELIVERY: FOB JEFFERSON PARISH

INDICATE DELIVERY DATE ON EQUIPMENT AND SUPPLIES

5-6 wks

INDICATE STARTING TIME (IN DAYS) FOR CONSTRUCTION WORK

INDICATE COMPLETION TIME (IN DAYS) FOR CONSTRUCTION WORK

In the event that addenda are issued with this bid, bidders MUST acknowledge all addenda on the bid form. Bidder must acknowledge receipt of an addendum on the bid form as indicated. Failure to acknowledge any addendum on the bid form will result in bid rejection.

Acknowledge Receipt of Addenda: NUMBER: _____
NUMBER: _____
NUMBER: _____
NUMBER: _____

LOUISIANA CONTRACTOR'S LICENSE NO.: (if applicable) _____

*** ALL BIDDERS MUST COMPLETE SECTION BELOW ***	
FIRM NAME: <u>Cimsco</u>	
SIGNATURE: (Must be signed here)	TITLE: <u>SALES</u>
PRINT OR TYPE NAME: <u>JEFF DEVLIN</u>	
ADDRESS: <u>1840 LTA Rd.</u>	
CITY, STATE: <u>METairie, LA</u>	ZIP: <u>70001</u>
TELEPHONE: <u>(504) 835-7319</u>	FAX: <u>(504) 832-0820</u>
EMAIL ADDRESS: <u>Jeff@Cimscoinc.com</u>	

TOTAL PRICE OF ALL BID ITEMS: \$ 12000-

DATE: 9/18/2017

INVITATION TO BID FROM JEFFERSON PARISH - continued

Page: 5

BID NO.: 50-00121034

SEALED BID

ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
1	1.00	EA	<p>PURCHASE OF A RUBBER FLAPPER CHECK VALVE FOR THE JEFFERSON PARISH EB WATER PLANT</p> <p>0010 24 IN. FIGURE SB200-D OR EQUIVALENT RUBBER FLAPPER CHECK VALVE</p> <p>***SEE ATTACHED SPECIFICATION SHEETS****</p> <p>TO BE SHIPPED TO: JEFFERSON PARISH EB WATER PLANT 3600 JEFFERSON HWY., BLDG. D JEFFERSON, LA 70121</p> <p>ATTN: MERVIN GRAVES</p>	12000-	12000-

Rubber Flapper Check Valve

1.0 GENERAL

- A. Provide two (1) – Golden Anderson 24” Figure SB200-D or equivalent rubber flapper check valve. This shall be to replace an existing valve on the East Bank Water Treatment Plant transfer pump number 1. Face to face shall measure no more than 48 inches.
- B. Winning bidder shall have valve delivered to the East bank Water Treatment Plant within 6 weeks from the date that bid is awarded..

1.1 QUALITY ASSURANCE

- A. Supplier shall at the request of purchasing, provide detailed product data and descriptive literature including dimensions, weight, headloss, pressure rating, materials of construction and cross sectional drawings clearly illustrating the individual components.

2.0 PRODUCT

Rubber Flapper Check Valve

- A. The valve shall be rated for 250 PSI, have integral ANSI Class 125/150 flanged connections and employ only one (1) moving parts – the flexible disc. The body shall have a “full waterway” with a flow area not less than the nominal pipe area through the valve. To minimize closure time, the valve shall seat on a 45 degree angle.
- B. The cover shall be removable and allow removal of the flexible disc without removing the valve from the line. The cover shall be of a “domed” shape to facilitate self-cleaning. There shall be a threaded port with pipe plug to permit installation of a visual or electrical position indicator. A mechanical position indicator shall also be provided for a visual indication of the disc position.
- C. The flexible disc shall be one piece and precision molded with alloy steel and nylon reinforcement and an integral O-ring style seat for drop tight seating at low pressure.
- D. The spring assist shall be one-piece construction formed with a large radius to allow smooth movement and provide rapid valve closure. The spring assist shall be secured to the cover using Type 316 screws and field replaceable without removing the valve from the line and or the need for special tools.

2.1 MATERIALS

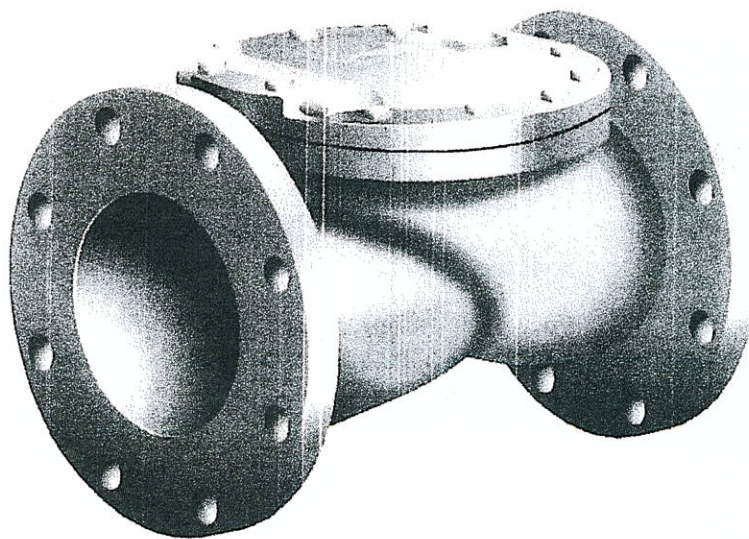
- A. Valve body and cover shall be made from ductile iron per ASTM A536 Grade 65-45-12.
- B. The flexible disc shall be made from Buna-N (NBR) rubber.
- C. The spring assist shall be made from type 316 stainless steel.
- D. The valve body and cover shall be factory coated internally and externally with 12-16 mill of fusion bonded epoxy. And be NSF-61 certified for contact with drinking water.

Bulletin
03-200RF-01

Golden Anderson®

Rubber Flapper Swing Check Valve

Quiet Closing



Water or Sewage Service

GA Industries, LLC

GA Industries, LLC
A Zurn Company

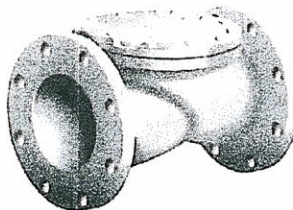


MANUFACTURERS OF
GOLDEN ANDERSON VALVES

AWWA C508

RUBBER FLAPPER SWING CHECK VALVES

QUIET CLOSING



WATER OR SEWAGE SERVICE

More than a century
of valve design and
manufacturing.

Consult factory for
availability of options.

Working Pressure
3" through 24" . . . 250 psi

Hydrostatic Test Pressure
3" through 24" . . . 400 psi

FEATURES

1. Meets or exceeds AWWA C508 design, materials of construction and testing requirements
2. Heavy-duty NSF-61 epoxy lined and coated ASTM A536 ductile iron body and cover
3. ANSI Class 125/150 flanges
4. 100% flow area, full waterway for low headloss
5. Rubber seated, zero leakage
6. Horizontal or vertical installation
7. No shaft packing or bearings to leak or wear out
8. Easily rubber lined for abrasion resistance
9. Optional visual and/or electrical position indication (4" and larger)
9. Available with internal spring assist for improved slam resistance (See Slaminator™ page 6)

Figure No. 200

1,000,000 CYCLE "PROOF OF DESIGN TEST"

CROSS SECTION

1615 Poplar Avenue
Piquette, MI 49120
Phone: (517) 241-1000
Fax: (517) 241-1001



July 12, 2004

GA Industries, Inc.
10123 Mitchell Road
Cranberry Township, PA 15066-1000

Attention: Mr. R. E. Schmeider
Project Manager

Subject: 8" Diameter Rubber Flapper Swing Check Valve Model PJC 200
Valve Open Cycle Testing
Test Completed Successfully
1,000,000 Cycle Witness Test
PJM&D Project No. 01110000

Dear Mr. Schmeider:

We are submitting the attached report to verify your requirements for witness the completion of 1,000,000 cycle opening and closing for valve that is to be tested.

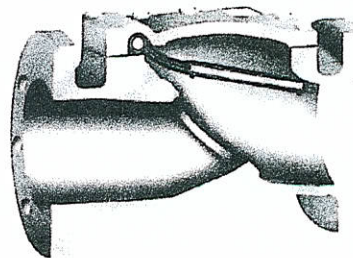
I have personally witnessed the tests and verified the valve tested is of size and requirements of the Fig. 200 8" Rubber Flapper Swing Check Valve.

We appreciate your selecting PJM&D Engineering Corporation for your Test Oversight. If you have any further questions or information needed for this test completion, please do not hesitate to let me know.

PJM&D ENGINEERING CORPORATION

Robert E. Schmeider
Robert E. Schmeider, P.E.
Vice President of Engineering

RM/Project
Enclosure



Applications

Water Systems
Raw Sewage
Salt Water
Chemicals
Industrial Waste
Light Slurries

Acid Lines
Tailing Systems
Scrubbers
Brine
Sea Water
Corrosive Service

Figure 200BF Rubber Flapper Check Valve with Backflow Device

GENERAL DIMENSIONS and LIST OF MATERIALS

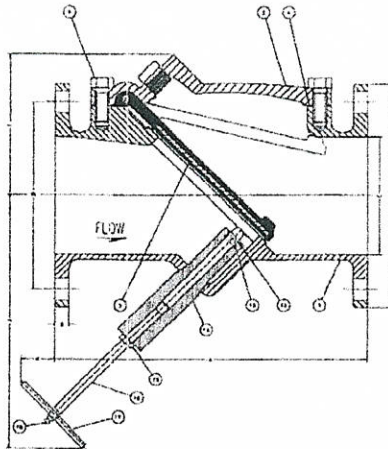


Figure 200BF available with visual and/or electrical position indicator, consult factory for information.

Figure No. 200BF

Figure No. 200BF

1. To Backflush a Clogged Pump
2. To Prime a Pump
3. To Drain System

GENERAL DIMENSIONS (Flanges Per ANSI Class 125/150)													
Valve Size	2"	2-1/2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
A	8	8-1/2	9-1/2	11-1/2	15	19-1/2	24-1/2	27-1/2	31	32	36	40	48
B	4-3/4	5-1/2	6	7-1/2	9-1/2	11-3/4	14-1/4	17	18-3/4	21-1/4	22-3/4	25	28-1/2
C	6	7	7-1/2	9	11	13-1/2	16	19	21	23-1/2	25	27-1/2	32
D	5/8	11/16	3/4	15/16	1	1-1/8	1-3/16	1-1/4	1-3/8	1-7/16	1-9/16	1-11/16	1-7/8
E	2	2-1/2	3	4	6	8	10	12	14	16	18	20	24
F	3-3/8	3-3/8	5-1/8	5-3/4	6-7/8	8-3/8	10-3/4	12-1/2	13	14-1/4	15-1/4	16-7/8	19-1/4
J	7	7	8	8	13	17	20	23	27	31	34	38	35
K	0	0	0	2	2	3	4	4	4	5	6	6	7
Weight	28	33	38	69	125	230	377	615	735	1040	1550	1850	2500

Dimensions in inches, weight in pounds.

LIST OF STANDARD MATERIALS		
Part Number	Part Name	Standard Material
1	Body	Ductile Iron, ASTM A536 Grade 65-45-12*
2	Cover	Ductile Iron, ASTM A536 Grade 65-45-12*
3	Flexible Disc	Buna-N Rubber, Nylon and Steel Reinforced
4	Cover Gasket	Buna-N Rubber
5	Cover Bolts	Steel, ASTM A307
12	Rod Wiper	Urethane
13	Rod Seal	Buna-N Rubber
14	Backflow Tube	Brass
15	Backflow Jam Nut	Brass
16	Backflow Rod	Stainless Steel, Type 18-8
17	Backflow Handle	Stainless Steel, Type 18-8
18	Setscrew	Stainless Steel, Type 18-8

* Lined and Coated with NSF-61 Certified Amerlok 400 Epoxy

Item No.: 10
Qty: 1

GA Rubber Flapper Swing Check Valve 24 in.

Unit Price USD Total Price USD

24.00-200-G-12-PI-SG

- In conformance with AWWA C508
- Heavy duty, NSF-61 certified epoxy covered body and cover
- 100% flow area, full waterway for low head loss
- ANSI Class 125 flanges
- Internal spring assist (Slaminator) included

Materials:

- Body and cover: Ductile iron, ASTM A536 Grade 65-45-12
- Flexible disc: Buna-N rubber, nylon and steel reinforced
- Cover gasket: Buna-N rubber
- Cover bolts: Stainless steel 304
- Spring, spring retainer, and retainer screws: Stainless steel type 316

Corrosion protection:

- Body and cover lined and coated with NSF-61 certified 2-part Amerlok 400 epoxy

Accessories-

- Position indicator: Visual position indicator

Total Price USD

Comments & Clarifications:

- Spare parts are not included in this scope of supply.
- Special tools are not required for installation, maintenance or repair of proposed equipment.
- We are not aware of any addenda that have been issued for this project.
- This quotation is based on no plans and on specification page for Rubber Flapper Valve.
- Field service, testing and commissioning is not included in this offer.
- We reserve the right to modify this quotation based on additional information.
- The proposed equipment has its own technical characteristics that may or may not comply with the specifications.
- Material finish & painting will be as per company standard.

After receipt of order, the drawing submittal(s) to be sent in 2 weeks

After release of order to production/manufacturing, shipment in 6 weeks

The product quoted herein do not comply with AIS, Buy American or any domestic sourcing or manufacturing requirements

*PER GA: FBG COATING WOULD TAKE 12 WEEKS
& WOULD NOT MEET 6 WEEK DEADLINE. SEE
AMERLOK 400 SPEC.*



Rubber Flapper Check Valve

Operation, Maintenance and Installation Manual

GENERAL

The Rubber Flapper Check Valve has been designed to give years of trouble-free operation. This manual will provide you with the information needed to properly install and maintain the valve and to ensure a long service life. The valve is opened by the fluid flow in one direction and closes automatically to prevent flow in the reverse direction. An optional backflow actuator may be mounted on the bottom of the valve to allow manual backflow through the valve in the reverse direction.

The valve is of the swing check type utilizing an angled seat and fully encapsulated, resilient disc. It is capable of handling a wide range of fluids including flows containing suspended solids. The Size, Flow Direction, Maximum Working Pressure, and Series Number are stamped on the nameplate for reference.

CAUTION:

Do not use valve for line testing at pressures higher than nameplate rating or damage to valve may occur.

The "Maximum Working Pressure" is the non-shock pressure rating of the valve at 150° F. The valve is not intended as an isolation valve for line testing above the valve rating.

RECEIVING AND STORAGE

Inspect valves upon receipt for damage in shipment. Unload all valves carefully to the ground without dropping. Do not allow lifting slings or chains to come in contact with backflow actuator or seat area; use eye bolts or rods through the flange holes on large valves.

Valves should remain crated, clean and dry until installed to prevent weather related damage. For long term storage greater than six months, the rubber surfaces of the disc should be coated with a thin film of FDA approved grease such as Lubriko #CW-606. Do not expose disc to sunlight or ozone for any extended period.

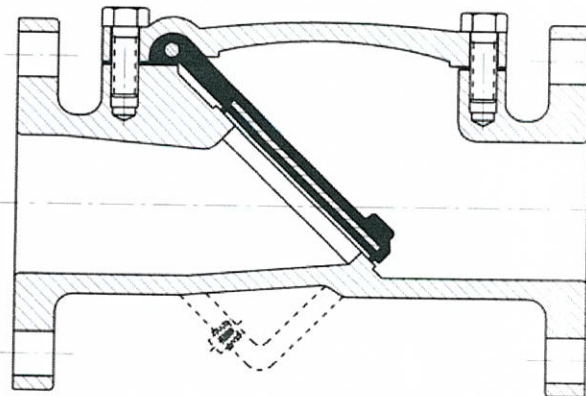


FIGURE #1 Rubber Flapper Check Valve

OPERATION

The valve is designed to prevent reverse flow automatically. During system flow conditions, the movement of the fluid forces the disc to the open position allowing 100% un-restricted flow area through the valve. Under reverse flow conditions, the disc automatically returns to the closed position to prevent reverse flow.

An optional backflow actuator assembly is available which can be easily installed in the field. (See Backflow Actuator Installation instructions on page 4.) The actuator is not designed to operate at the valves Maximum Working Pressure rating. Therefore, prior to using the actuator, close the pump isolation valve and bleed off line pressure. To operate, turn the handle clockwise. This will open the valve disc allowing backflow through the valve. The handle should turn easily. When resistance is felt, the disc has reached its body stop and is in the full open position.

WARNING:

Relieve line pressure before using back flow actuator or damage may occur.

Upon completion of the backflushing operation, turn the handle counter-clockwise and the valve will automatically return to the closed position. Lock the actuator in the closed position with the jam nut provided. The system is again ready for normal operation.



INSTALLATION

Correct installation of the Rubber Flapper Check Valve is important for proper operation. It may be installed in either horizontal or vertical (flow-up) applications. However, when horizontal, the valve must be installed with the nameplate facing up. In all installations, the flow arrow cast in the valve cover must be pointed in the direction of flow during normal system operation.

Flanged Ends: Flanged valves should only be mated with flat-faced pipe flanges equipped with full-face resilient gaskets. The valve and adjacent piping must be supported and aligned to prevent cantilevered stress on the valve. Once the flange bolts or studs are lubricated and inserted around the flange, tighten them uniformly hand tight. The torquing of the bolts should then be done in graduated steps using the cross-over tightening method. Recommended lubricated torques for use with resilient gaskets (75 durometer) are given in Table 1. If leakage occurs, allow gaskets to absorb fluid and check torque and leakage after 24 hours. Do not exceed bolt rating or extrude gasket.

VALVE SIZE (IN)	BOLT DIA (IN)	RECOM. TORQUE (FT-LBS)	MAX. TORQUE (FT-LBS)
3"	5/8"	30	80
4"	5/8"	30	80
6"	3/4"	35	140
8"	3/4"	45	140
10"	7/8"	50	200
12"	7/8"	70	200
14"	1"	90	300
16"	1"	90	300
18"	1-1/8"	110	400
20"	1-1/8"	110	400
24"	1-1/4"	160	600

TABLE #1 Flange Bolt Torques

CAUTION:

The use of ring gaskets or excessive bolt torque may damage valve flanges.

VALVE DESIGN

The standard Rubber Flapper Check Valve is constructed of rugged cast ductile iron with a rubber encapsulated disc. See the specific Materials List submitted for the order if other than standard cast ductile iron construction. The disc is the only moving part assuring long life with minimal maintenance. The general details of construction are illustrated in Figure 2. The body (1) is flanged for connection to the pipeline with an open top sealed with a cast cover (2). The disc (3) is retained by the cover.

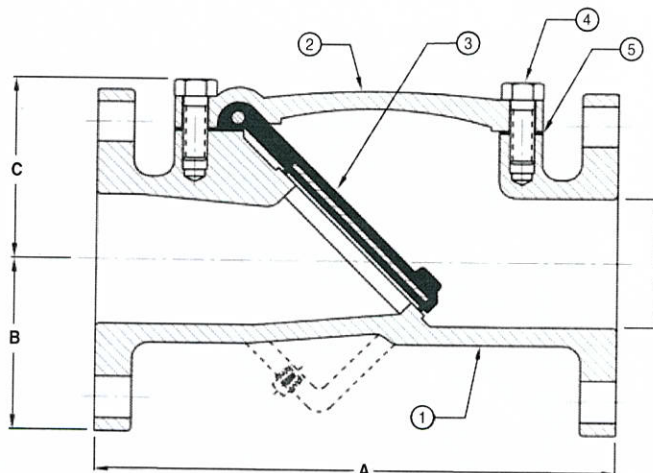


FIGURE #2 Check Valve Construction

Material Call Out

Part Number	Part Name	Material
1	Body	Cast Ductile Iron (65-45-12)
2	Cover	Cast Ductile Iron (65-45-12)
3	Disc	DI/Steel-Nitrite Covered
4	Cover Bolt	Steel - Grade #5
5	Cover Gasket	Commercial Grade Rubber

MAINTENANCE

The Rubber Flapper Check Valve requires no scheduled lubrication or maintenance. For service or inspection, the valve can be serviced without removal from the line.

Valve Inspection: If inspection of the valve is required, follow the disassembly instructions provided on page 3.

TROUBLESHOOTING

Several problems and solutions are presented below to assist you in troubleshooting the valve assembly in an efficient manner.

- **Leakage at Bottom Actuator**

Remove line pressure and exercise actuator. If leak persists, replace seals in actuator; see the Backflow Actuator Seal Replacement Procedure on page 4.

- **Leakage at Flanges**

Tighten bolts, replace gasket.

- **Valve Leaks when closed**

Inspect disc for damage and replace. Inspect metal seating surface; clean if necessary.

- **Valve does not open**

Check for obstruction in valve; see Disassembly procedure on page 4. Operating pressure may be less than cracking pressure if less than 0.5 psig; review application with factory.

DISASSEMBLY

The valve can be disassembled without removing it from the pipeline. Or for convenience, the valve can be removed from the line. All work on the valve should be performed by a skilled mechanic with proper tools and a power hoist for larger valves. Disassembly may be required to inspect the disc for wear or the valve for deposits.

WARNING:

The line must be drained before removing the cover or pressure may be released causing bodily harm.

1. Relieve pressure and drain the pipeline. Refer to figure 2 on page 2. Remove the cover bolts (4) on top cover.
2. Pry cover (2) loose and lift off valve body.
3. Remove disc (3) and inspect for cracks, tears or damage in rubber sealing surface.
4. Clean and inspect parts. Replace worn parts as necessary and lubricate parts with FDA grease such as Lubriko #CW-606.

RE-ASSEMBLY

All parts must be cleaned. Gasket surfaces should be cleaned with a stiff wire brush in the direction of the serrations or machine marks. Worn parts, gaskets and seals should be replaced during reassembly.

1. Lay disc (3) over seat with beaded seating surface directed down toward machined seat.
2. Lay cover gasket (5) and cover (2) over bolt holes and disc hinge.
3. Insert lubricated bolts (4) noting that the bolts in the hinge area are longer than the other cover bolts.
4. Cover bolts should be torqued to the following specifications during assembly.

Size	Torque (FT-LBS)
3/8"	25
1/2"	60
5/8"	120
3/4"	200
7/8"	200
1"	300

TABLE #2 Valve Cover Bolt Torques

PARTS AND SERVICE

Parts and service are available from your local representative or the factory. Make note of the Valve Size, Series No., and Serial No. located on the valve nameplate and contact:

GA Industries Inc.

9025 Marshall Road
Cranberry Twp. PA, 16066-3696
Phone: (724) 776-1020
Fax: (724) 776-1254

RUBBER FLAPPER CHECK VALVES

1.0 GENERAL

- 1.1 Manufacturer shall have a minimum of five (5) years' experience in the manufacture of rubber flapper check valves.
- 1.2 When requested, manufacturer shall provide detailed product data and descriptive literature including dimensions, weight, headloss, pressure rating, materials of construction and cross-sectional drawings clearly illustrating the individual components.

2.0 PRODUCT

- 2.1 The valve shall be rated for 250 PSI, have integral ANSI Class 125/150 flanged connections and employ only three components – the body, the cover and the flexible disc. The body shall have a "full waterway" with a flow area not less than the nominal pipe area through the valve. Valves 4-inch and larger shall be capable of passing a 3-inch sphere. To minimize closure time, the valve shall seat on a 45 degree angle. The valve body shall incorporate a bottom threaded port with pipe plug to allow field installation of a backflow device without the need for special tools.
- 2.2 The cover shall be removable and allow removal of the flexible disc without removing the valve from the line. The cover shall be of a "domed" shape to facilitate self-cleaning. There shall be a threaded port with pipe plug to permit installation of a visual or electrical position indicator (4" and larger).
- 2.3 The flexible disc shall be one-piece and precision molded with alloy steel and Nylon reinforcement and an integral O-ring style seat for drop tight seating at low pressure. As required by AWWA C508, the flexible disc shall have been independently tested to a minimum of 1,000,000 cycles with no signs of wear, abrasion or cracking and be drop-tight at the conclusion of testing.

3.0 MATERIALS

- 3.1 Valve bodies and covers shall be made from ductile iron per ASTM A536 Grade 65-45-12
- 3.2 The flexible disc shall be made from Buna-N (NBR) rubber.
- 3.3 The valve body and cover shall be factory lined and coated with 2-part epoxy, NSF-61 certified for contact with drinking water.

4.0 OPTIONS [Include when required]

- 4.1 A backflow device shall be provided to permit the valve to be manually opened in order to prime or flush a pump. The backflow device shall be of the "rising stem" type and made from brass and stainless steel.
- 4.2 A mechanical position indicator shall be provided to provide a visual indication of the disc on valves 4" and larger.
- 4.3 An electrical position switch shall provide remote indication of valve closed/not closed on valves 4" and larger. The switch shall be UL-Listed, NEMA 4, 4X, 6 and 6P, rated for 5 amps 12VDC to 250VAC.

5.0 MANUFACTURER

- 5.1 Valves shall be Figure 200 as manufactured by GA Industries, LLC, Cranberry Township, PA USA.

GA Industries, LLC

9025 MARSHALL ROAD
CRANBERRY TOWNSHIP, PA 16066 USA
TELEPHONE: 724-776-1020 FAX: 724-776-1254

SAMPLE SPECIFICATION

RUBBER FLAPPER CHECK VALVES

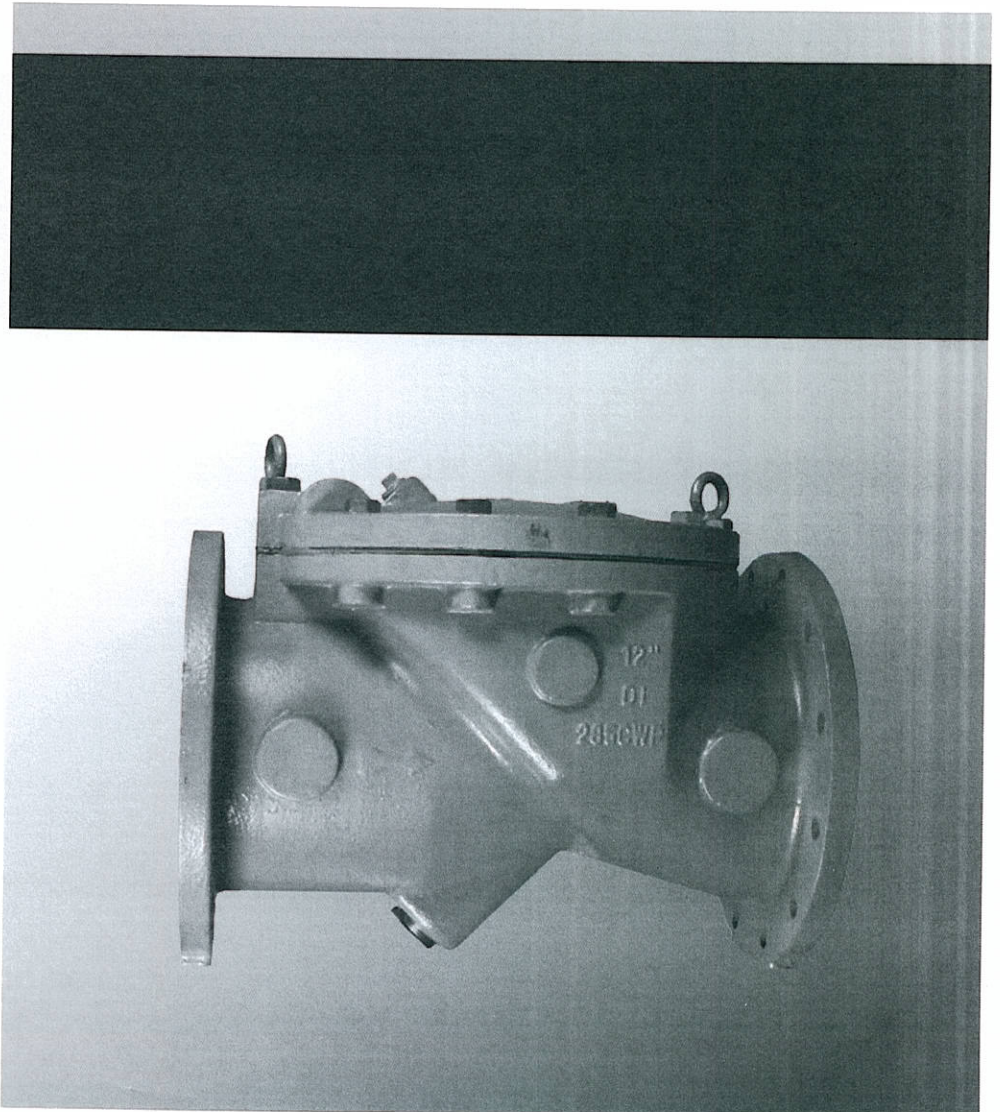
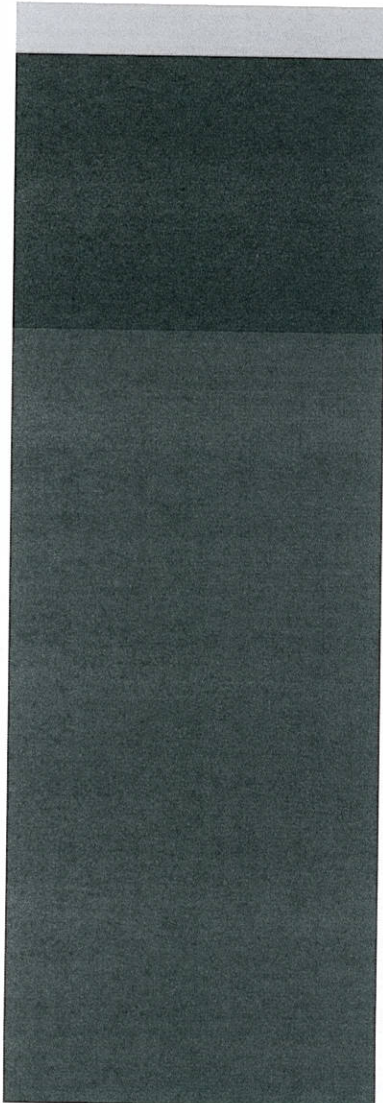
December 23, 2010

CV-RFCV-200



Rubber Flapper Swing Check Valve

Includes Spring Assisted Slaminator™



AWWA C508 RUBBER FLAPPER SWING CHECK VALVES

QUIET CLOSING



WATER OR SEWAGE SERVICE

More than a century of valve design and manufacturing.

Consult factory for availability of options.

Working Pressure
3" through 24" . . . 250 psi

Hydrostatic Test Pressure
3" through 24" . . . 500 psi

Figure No. 200

FEATURES

1. Meets or exceeds AWWA C508 design, materials of construction and testing requirements
2. Heavy-duty NSF-61 epoxy lined and coated ASTM A536 ductile iron body and cover
3. ANSI Class 125/150 flanges
4. 100% flow area, full waterway for low headloss
5. Rubber seated, zero leakage
6. Horizontal or vertical installation
7. No shaft packing or bearings to leak or wear out
8. Easily rubber lined for abrasion resistance
9. Optional visual and/or electrical position indication (4" and larger)
9. Available with internal spring assist for improved slam resistance (See Slaminator™ page 6)

1,000,000 CYCLE "PROOF of DESIGN TEST"

1200 Pitman Avenue
Pittsburgh, PA 15222
Phone: (412) 588-0553
Fax: (412) 281-6489



July 12, 2004

GA Industries, Inc.
9025 Marshall Road
Cranberry Township, PA 16066-3696

Attention: Mr. R. R. Schweitzer
Project Manager

Subject: 8" Diameter Rubber Flapper Swing Check Valve Model: Fig. 200
Valve Disc Cycle Testing
Test Oversight Services

1,000,000 Cycle Witness Test

PJM&D Project No. 031101.00

Dear Mr. Schweitzer:

We are submitting the attached report to satisfy your requirements for witnessing the conclusion of 1,000,000 cycles opening and closing the valve disc on the subject valve.

I have personally witnessed the tests and verified the valve tested had met the requirements of the Fig. 200 8" Rubber Flapper Swing Check Valve.

We appreciate your contracting PJM&D Engineering Corporation for your Test Oversight. If you have any further questions or information needed for this test certification, please do not hesitate to let me know.

PJM&D ENGINEERING CORPORATION

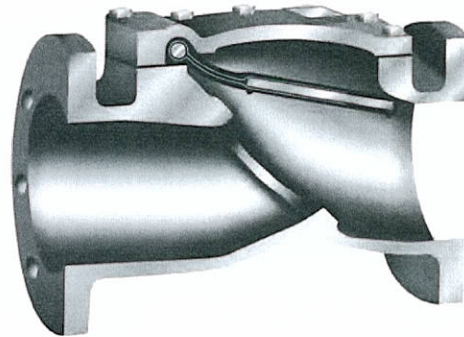
Kirsh R. Patel
Kirsh R. Patel, P.E.
Vice President of Engineering

KRP:pmg

Enclosure



CROSS SECTION



Applications

Water Systems
Raw Sewage
Salt Water
Chemicals
Industrial Waste
Light Slurries

Acid Lines
Tailing Systems
Scrubbers
Brine
Sea Water
Corrosive Service

Figure SB200D Rubber Flapper Check Valve

SLAMINATOR™

4" to 24" Spring Assisted

GENERAL DIMENSIONS								
Size	A	B	C	D	E	F	Bolt Size	No. of Bolts
4	11-1/2	7-1/2	9	15/16	4	5-3/4	5/8	8
6	15	9-1/2	11	1	6	6-7/8	3/4	8
8	19-1/2	11-3/4	13-1/2	1-1/8	8	8-3/8	3/4	8
10	24-1/2	14-1/4	16	1-3/16	10	10-3/4	7/8	12
12	27-1/2	17	19	1-1/4	12	12-1/2	7/8	12
14	31	18-3/4	21	1-3/8	14	13	1	12
16	32	21-1/4	23-1/2	1-7/16	16	14-1/4	1	16
18	36	22-3/4	25	1-9/16	18	15-1/4	1-1/8	16
20	40	25	27-1/2	1-11/16	20	16-7/8	1-1/8	20
24	48	28-1/2	32	1-7/8	24	19-1/4	1-1/4	20

Dimensions in inches, weight in pounds.

BILL OF MATERIALS		
Part Number	Part Name	Standard Material
1	Body	Ductile Iron, ASTM A536 Grade 65-45-12*
2	Cover	Ductile Iron, ASTM A536 Grade 65-45-12*
3	Flexible Disc	Buna-N Rubber, Nylon and Steel Reinforced
4	Cover Gasket	Buna-N Rubber
5	Cover Bolts	Stainless Steel, Type 304
6	Spring	Stainless Steel, Type 302 half-hard
7	Spring Retainer	Stainless Steel, Type 304
8	Retainer Screws	Stainless Steel, Type 316

* Lined and Coated with NSF-61 Certified Amerlok 400 Epoxy

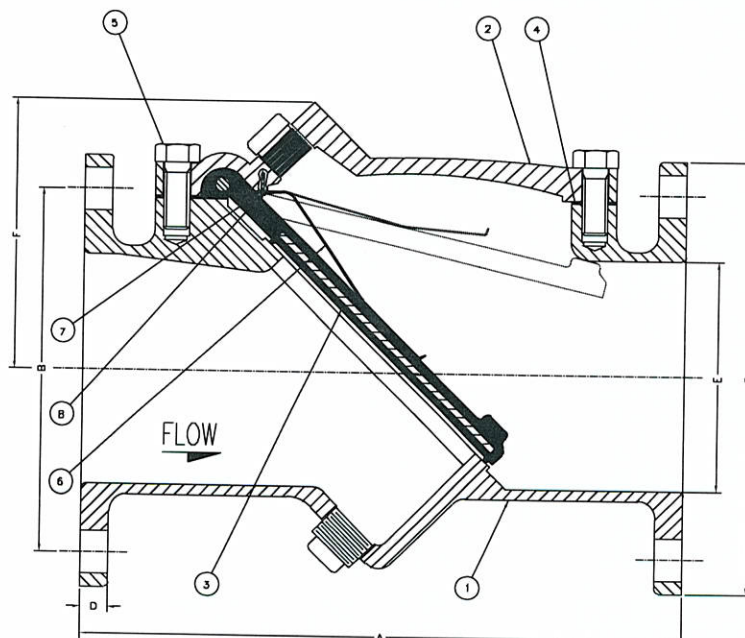


Figure No. SB200D

NOTE: Slaminator™ available with backflow device and/or visual or electrical position indicator. If not supplied, body and cover threaded ports are provided with steel pipe plugs.

Figure SB200D Rubber Flapper Check Valve

SLAMINATOR™

1.0 GENERAL

1.1 Manufacturer shall have a minimum of five (5) years' experience in the manufacture of rubber flapper check valves.

1.2 When requested, manufacturer shall provide detailed product data and descriptive literature including dimensions, weight, headloss, pressure rating, materials of construction and cross-sectional drawings clearly illustrating the individual components.

2.0 PRODUCT

2.1 The valve shall be rated for 250 PSI, have integral ANSI Class 125/150 flanged connections and employ only two moving parts – the flexible disc and the spring. The body shall have a "full waterway" with a flow area not less than the nominal pipe area through the valve. Valves 4-inch and larger shall be capable of passing a 3-inch sphere. To minimize closure time, the valve shall seat on a 45 degree angle. The valve body shall incorporate a bottom threaded port with pipe plug to allow field installation of a backflow device without the need for special tools.

2.2 The cover shall be removable and allow removal of the flexible disc without removing the valve from the line. The cover shall be of a "domed" shape to facilitate self-cleaning. There shall be a threaded port with pipe plug to permit installation of a visual or electrical position indicator (4" and larger).

2.3 The flexible disc shall be one-piece and precision molded with alloy steel and Nylon reinforcement and an integral O-ring style seat for drop tight seating at low pressure. As required by AWWA C508, the flexible disc shall have been independently tested to a minimum of 1,000,000 cycles with no signs of wear, abrasion or cracking and be drop-tight at the conclusion of testing.

2.4 The spring assist shall be one-piece construction formed with a large radius to allow smooth movement and provide rapid valve closure. The spring assist shall be secured to the cover using Type 316 screws and field replaceable without removing the valve from the line and or the need for special tools.

3.0 MATERIALS

3.1 Valve bodies and covers shall be made from ductile iron per ASTM A536 Grade 65-45-12

3.2 The flexible disc shall be made from Buna-N (NBR) rubber.

3.3 The spring assist shall be made from type 316 stainless steel.

3.4 The valve body and cover shall be factory lined and coated with 2-part epoxy, NSF-61 certified for contact with drinking water.

4.0 OPTIONS [Include when required]

4.1 A backflow device shall be provided to permit the valve to be manually opened in order to prime or flush a pump. The backflow device shall be of the "rising stem" type and made from brass and stainless steel.

4.2 A mechanical position indicator shall be provided to provide a visual indication of the disc on valves 4" and larger.

4.3 An electrical position switch shall provide remote indication of valve closed/not closed on valves 4" and larger. The switch shall be UL-Listed, NEMA 4, 4X, 6 and 6P, rated for 5 amps 12VDC to 250VAC.

5.0 MANUFACTURER

5.1 Valves shall be Figure SB200D as manufactured by GA Industries, LLC, Cranberry Township, PA USA.



GA Industries offers a broad range of valves designed specifically for the waterworks market.

AWWA C504

Rubber Seated Butterfly Valves

- Flanged and Mechanical Joint Ends
- Manual and Automatic Actuation

AWWA C507

Ball Valves

- Metal Seated
- Resilient Seated
- Hydraulic, Pneumatic, or Electric Motor Actuation

AWWA C508

Check Valves

- Cushioned Swing Check
- Rubber Flapper Check
- Globe and Wafer Silent Check
- Ball Check
- Foot Valves

AWWA C512

Air Valves for Water and Sewage

- Air Release
- Air and Vacuum
- Combination
- Vacuum Breaking

AWWA C517

Eccentric Plug Valves

- Flanged, Threaded, and Mechanical Joint Ends
- Manual and Automatic Actuation

AWWA C530

Control Valves

- Pump Control for Water and Sewage
- Surge Relief for Water and Sewage
- Level Control
- Pressure Regulating
- Solenoid Operated
- Anti-Cavitation

GA Industries offers the very best in Aftermarket Services that include Field Inspection and Evaluation, Valve and Gate Refurbishing and Repair, Supply and Replacement Parts, Control System Evaluation and Repair, In-House Capabilities, and Flow Control Design Support. Contact our experienced and dedicated team for all of your needs.

For more information about GA Industries' products, or to contact a sales representative, visit the GA website www.gaindustries.com

GA Industries, LLC • 9025 Marshall Road • Cranberry Township, PA 16066-3696 USA
Phone: 724-776-1020 • Fax: 724-776-1254 • E-Mail: info-ga@vag-group.com

Interior and Exterior Surfaces

Amerlock® 400

Amerlock Series

High-solids epoxy coating

Product Data/ Application Instructions

- Low VOC
- High-performance general maintenance coating for new or old steel
- Cures through wide temperature range
- Self-priming topcoat over most existing coatings
- Can be overcoated with wide range of topcoats
- Compatible with prepared damp surfaces
- Compatible with adherent rust remaining on prepared surfaces
- 5 mils or more in a single coat
- Resists high humidity and moisture
- Temperature resistance to 450°F on insulated or uninsulated surfaces when mixed with Amercoat 880 glass flake additive
- Can be applied to substrates with temperatures up to 250°F

Amerlock's low solvent level meets VOC requirements, reduces the chances for film pinholing and solvent entrapment at the substrate-coating interface, often a major cause of coating failure with conventional epoxies and lower solids systems.

Amerlock 400 is available in a variety of colors, including aluminum, and therefore does not require a topcoat. For extended weatherability or special uses, a topcoat may be desired.

Typical Uses

Amerlock 400 is used in those areas where blasting is impractical or impossible. As a maintenance coating, Amerlock 400 protects steel structures in industrial facilities, bridges, tank exteriors, marine weathering, offshore, oil tanks, piping, roofs, water towers and other exposures. Amerlock 400 has good chemical resistance to splash/spillage, fumes and immersion in neutral, fresh and salt water (see resistance table). Contact your PPG representative for specific information.

Typical Properties

Physical

Abrasion resistance (ASTM D4060)	
1 kg load/1000 cycles	weight loss
CS-17 wheel	102 mg
Impact resistance (ASTM D2794)	
Direct	24 in • lb
Reverse	6 in • lb
Moisture vapor transmission (ASTM D1653)	
	6.28g/m ² /24hrs.
Adhesion (ASTM D4541)	
	900 psi

Performance

Salt spray (ASTM B117) 3000 hours	
Face blistering	None
Humidity (ASTM D2247) 750 hours	
Face corrosion, blistering	None
Immersion (NACE TM-01-69) fresh water 1 year	
blistering	None

Qualifications

USDA – Incidental food contact
 NFPA – Class A
 NSF Standard 61* – For use in drinking water, valves only.

* For NSF application information, please visit our website at www.ppgamercoat.us.ppgpmc.com/NSF/



Physical Data

Finish	Semigloss	
Color	Standard, Rapid Response, custom colors and aluminum	
<i>White and light colors may show yellowing on aging. Use of Amercoat 861 with white or light colors will slightly discolor.</i>		
<i>Yellow, red and orange colors will fade faster than other colors due to the replacement of lead-based pigments with lead-free pigments in these colors</i>		
Components	2	
Curing mechanism	Solvent release and chemical reaction between components	
Volume solids (ASTM D2697 modified)		
400	83% ± 3%	
400AL	88% ± 3%	
Dry film thickness (per coat)	4-8 mils (100-200 microns)	
Coats	1 or 2	
Theoretical coverage	ft ² /gal	m ² /L
1 mil (25 microns)		
400	1331	32.6
400AL	1412	34.7
5 mils (125 microns)		
400	266	6.5
400AL	282	6.9
VOC	lb/gal	g/L
400 mixed*	1.5	180
mixed/thinned (½ pt/gal)**	1.8	220
400AL mixed**	1.0	120
mixed/thinned (1½ pt/gal)**	2.0	240

* EPA method 24

** Calculated

Temperature resistance,*	wet		dry	
	°F	°C	°F	°C
400				
continuous	100	38	200	93
intermittent	100	38	350	177
with 880 (1 gal can/2 gal mix)				
continuous	100	38	425	218
intermittent	100	38	450	232

* At temperatures above 200°F, dry film thickness must not exceed 10 mils (250 microns).

Some discoloration and darkening will occur at temperatures greater than 200°F; this will not affect film integrity or coating performance.

Flash point (SETA)	°F	°C
2/400 resin	131	55
400 cure	85	29
2AL/400AL resin	110	43
400AL cure	116	47
Amercoat® 8	20	-7
Amercoat 65	78	25
Amercoat 101	145	63
Amercoat 12	2	-17

* Amerlock 400 resin and Amerlock 2 resin are identical, and are packaged under a common label as Amerlock 2/400 resin. Amerlock 400 cure and Amerlock 2 cure are different, and are labeled individually.

Chemical Resistance Guide

Environment	Immersion		Splash and Spillage		Fumes and Weather	
	400	400AL	400	400AL	400	400AL
Acidic	*	*	F	F	G	G
Alkaline	*	*	E	G	E	E
Solvents	*	*	G	G	E	E
Salt water	E	E	E	E	E	E
Water	E	E	E	E	E	E

F-Fair G-Good E-Excellent

*Contact your PPG representative.

This table is only a guide to show typical resistances of Amerlock 400 and 400AL. For specific recommendations, contact your PPG representative for your particular corrosion protection needs.

Systems using Amerlock 400 or 400AL

1 st coat	2 nd Coat***	3 rd coat***
400	None	None
400	450H Series	None
Amershield™	None	
400**	400	None
Dimetecote® 9	400	None
Series		
Dimetecote 9	400	450H Series
Series		

**Water immersion.

***For color contrast when 2 coats of 400AL are used, 400AL red can be used as first coat.

Recoat/Topcoat time

	°F/°C		
minimum (hours)	90/32	70/21	50/10
400	8	16	30
400 with 1 pt 861	4	7	16
400AL	3	12	48
400AL with ½ pt 861	3	5	12

Recoat/Topcoat time @ 70°F (21°C)

System	Maximum time
400/400	3 months
400 with 861/400	1 month
400/Amershield or 450H Series	1 month
400/5405	1 day
400 with 861/Amershield or 450H Series	2 weeks

Drying times are dependent on air and surface temperatures as well as film thickness, ventilation and relative humidity. Maximum recoating time is highly dependent upon actual surface temperatures - not simply ambient air temperatures. Surface temperatures should be monitored, especially with sun-exposed or otherwise heated surfaces. Higher surface temperatures shorten the maximum recoat window.

Note: If maximum time is exceeded, roughen surface. For topcoats (finish coats) not listed, see Product Data sheet for specific topcoat time limitations.

Surface Preparation

Coating performance is, in general, proportional to the degree of surface preparation. Abrasive blasting is usually the most effective and economical method. When this is impossible or impractical, Amerlock 400 can be applied over mechanically cleaned surfaces. All surfaces must be clean, dry and free of all contaminants, including salt deposits.

Amerlock 400 may be used over most types of properly prepared and tightly adhering coatings. A test patch is recommended for use over existing coatings.

Steel - Remove all loose rust, dirt, moisture, grease or other contaminants from surface. Power-tool clean SSPC-SP3 or hand-tool clean SSPC-SP2. For more severe environments, dry abrasive blast SSPC-SP7. Water blasting is also acceptable. For immersion service - dry abrasive blast SSPC-SP10. For high-heat service on uninsulated substrates, abrasive blast per SSPC-SP6. For insulated substrates, abrasive blast per SSPC-SP10. In both cases, a 2-3 mil profile must be obtained.

Aluminum - Remove oil, grease or soap film with neutral detergent or emulsion cleaner, treat with Alodine® 1200, Alumiprep® or equivalent or blast lightly with fine abrasive.

Galvanizing - Remove oil or soap film with detergent or emulsion cleaner, then use zinc treatment such as Galvaprep® or equivalent or blast lightly with fine abrasive.

Concrete - Acid etching (ASTM D4260) or abrasive blast (ASTM D4259) new concrete cured a minimum of 14 days.

Application Data

Applied over	Steel, concrete, aluminum, galvanizing
Surface preparation	
Steel	SSPC-SP2, 3, 6, 7, 10, 11, or 12
Concrete	ASTM D4259 or 4260
Aluminum	Alodine®, Alumiprep® or light abrasive blast
Galvanizing	Galvaprep® or light abrasive blast
Method	Airless or conventional spray. Brush or roller may require additional coats.

Mixing ratio (by volume) 1 part resin to 1 part cure

Pot life (hours)	°F/°C				
861 Accelerator	Amerlock	90/32	70/21	50/10	32/0
Amount	/mixed 5 gal				
None	400	1½	2½	4	7
	400AL	3½	5½	10	15
½ pt	400	1	1½	2½	4
	400AL	1	1½	2½	4
1 pt	400	½	1	1½	2

Pot life is the period of time after mixing that a five-gallon unit of material is sprayable when thinned as recommended. Mixture may appear fluid beyond this time, but spraying and film build characteristics may be impaired.

Environmental conditions

Product	Air or Surface Temperature
Amerlock 400	40° to 250°F (4° to 121°C)
Amerlock 400 AL	40° to 122°F (4° to 50°C)
Amerlock with 861	20° to 122°F (-6° to 50°C)
Amerlock 400 with 101*	123° to 250°F (51° to 121°C)

Surface temperatures must be at least 5°F (3°C) above dew point to prevent condensation. At freezing temperatures, surface must be free of ice.

Do not use Amerlock 400AL on water damp surfaces.

*Amerlock 400 may be applied to surfaces as hot as 250° (121°C). When applying Amerlock 400 to surfaces between 122°F and 250°F, thin ½ pint per gallon with Amercoat 101 thinner. Multiple passes may be required to achieve film build and to avoid solvent blistering.

Drying time (ASTM D1640) (hours)

861 Amt	Amerlock /mixed 5 gal	touch °F/°C					
		120/49	90/32	70/21	50/10	32/0	20/-6
None	400	1½	4½	9	28	96	NR
	400AL	1	4	12	36	96	NR
½ pt	400	1½	3	5	24	72	120
	400AL	1	1½	2½	5	10	24
1 pt	400	1	2	4	15	48	96

Drying time continued

None	400	through °F/°C					
		120/49	90/32	70/21	50/10	32/0	20/-6
	400AL	1½	7½	24	72	216	NR
½ pt	400	3	6	10	30	96	180
	400AL	2	4	9	24	48	120
1 pt	400	2½	5	9	24	72	160

Cure for immersion (days)

None	400						
		120/49	90/32	70/21	50/10	32/0	20/-6
	400AL	2	4	7	21	NR	NR
½ pt	400AL	1	2	3	7	21	NR
1 pt	400	1	2	3	7	21	NR

Amercoat 861 Accelerator will slightly discolor Amerlock 400 white and other Amerlock light colors.

NR = Not recommended

Thinner Amercoat 8, 65, or 101
Equipment cleaner Thinner or Amercoat 12

Application Equipment

The following is a guide; suitable equipment from other manufacturers may be used. Changes in pressure, hose and tip size may be needed for proper spray characteristics.

Airless spray – Standard equipment with 30:1 pump ratio or larger, with a 0.017- to 0.021-inch fluid tip.

Conventional spray – Industrial equipment, such as DeVilbiss MBC or JGA or Binks 18 or 62 spray gun. A moisture and oil trap in the main air supply line, a pressure material pot with mechanical agitator and separate regulators of air and fluid pressure are recommended.

Power mixer – Jiffy Mixer powered by an air or explosion-proof electric motor.

Brush or roller – Additional coats may be required to attain proper thickness.

Application Procedure

1. Flush all equipment with thinner or Amercoat® 12 before use.
2. Stir resin and cure using an explosion-proof power mixer to disperse pigments.
3. Add cure to resin. Mix thoroughly until uniformly blended to a workable consistency. For low temperature application, use Amercoat 861 accelerator. Do not exceed the 1 pint Amercoat 861 accelerator per 5 gallon unit recommendation.
4. Do not mix more material than can be used within the expected pot life.
5. For optimum application, material should be from 50° to 90°F (10° to 32°C). Above 122°F (50°C), sagging may occur.
6. Use only PPG recommended thinners. For potable water applications, see current NSF listing at www.nsf.org for approved thinners and thinning restrictions. For other applications, above 85°F (29°C) use Amercoat 8, or 101 at lower temperatures use Amercoat 65. A small amount of thinner greatly reduces viscosity; excessive thinning will cause running or sagging. Thin cautiously as follows:

Amercoat 8 or 65 thinner	400	400AL
Airless – up to	¼ pt/gal	1½ pt/gal
Conventional – up to	½ pt/gal	1½ pt/gal

Below 50°F additional thinning may be needed and multiple coats required to achieve specified thickness.

Above 122°F, up to 250°F surface temperatures, use Amercoat 101 thinner sparingly to promote flow and leveling. Excessive thinning will cause running or sagging.

7. To minimize orange peel appearance, adjust conventional spray equipment to obtain adequate atomization at lowest air pressure.
8. Apply a wet coat in even, parallel passes with 50 percent overlap to avoid holidays, bare areas and pinholes. If required, cross spray at right angles.
9. When applying Amerlock 400 directly over inorganic zincs or zinc rich primers, a mist coat/full coat technique may be required to minimize bubbling. This will depend on the age of the Dimetecote®, surface roughness and conditions during curing.

Note – Do not use Amerlock 400AL on water damp surfaces

10. Ventilate confined areas with clean air between coats and while curing the final coat. Prevent moisture condensation on the surface between coats.

11. Repair damaged areas by brush or spray.
12. Clean equipment with thinner or Amercoat 12 immediately after use.

Shipping Data

Packaging unit	2 gal	5 gal
cure	1-gal can	2.5-gal can
resin	1-gal can	2.5-gal can
Shipping weight (approx)	lbs	kg
2-gal unit		
400 cure	12.5	5.7
2/400 resin	13.7	6.2
400AL cure	12.1	5.5
400AL resin	11.0	5.0
5-gal unit		
400 cure	31.8	14.4
2/400 resin	35.0	15.9
400AL cure	30.9	14.0
400AL resin	28.3	12.8

Shelf life when stored indoors at 40° to 100°F (4° to 38°C)
resin and cure 3 years from date of manufacture.

Numerical values are subject to normal manufacturing tolerances, color and testing variances. Allow for application losses and surface irregularities.

This mixed product is photochemically reactive as defined by the South Coast Air Quality Management District's Rule 102 or equivalent regulations.

Safety Precautions

Read each component's material safety data sheet before use. Mixed material has hazards of each component. Safety precautions must be strictly followed during storage, handling and use.

CAUTION – Improper use and handling of this product can be hazardous to health and cause fire or explosion.

Do not use this product without first taking all appropriate safety measures to prevent property damage and injuries. These measures may include, without limitation: implementation of proper ventilation, use of proper lamps, wearing of proper protective clothing and masks, tenting and proper separation of application areas. Consult your supervisor. Proper ventilation and protective measures must be provided during application and drying to keep solvent vapor concentrations within safe limits and to protect against toxic hazards. Necessary safety equipment must be used and ventilation requirements carefully observed, especially in confined or enclosed spaces, such as tank interiors and buildings.

This product is to be used by those knowledgeable about proper application methods. PPG makes no recommendation about the types of safety measures that may need to be adopted because these depend on application and space, of which PPG is unaware and over which it has no control.

If you do not fully understand the warnings and instructions or if you cannot strictly comply with them, do not use the product.

Note: Consult Code of Federal Regulations Title 29, Labor, parts 1910 and 1915 concerning occupational safety and health standards and regulations, as well as any other applicable federal, state and local regulations on safe practices in coating operations.

This product is for industrial use only. Not for residential use.



PPG Protective & Marine Coatings

www.ppgpmc.com/northamerica

One PPG Place, Pittsburgh, PA 15272 • Tel: 888-9PPGPMC