

**RESILIENT
WEDGE VALVES**

CLOW VALVE COMPANY

**CLOW AWWA Resilient Wedge Gate Valves
Meet or Exceed the Requirements of
AWWA Standard C515**

Size Range	Water Working Pressure psi	Bubble Tight Test psi	Hydrostatic Shell Test psi
AWWA 4"-48"	250	250	500
ULFM 4"-16"	200	200	400

Available in either non-rising stem, outside screw & yoke.

Available End Connections & Size Range

Figure No.

FLG End (NRS)	4"-48"	F-6102
M.J.	4"-48"(except 2 1/2")	F-6100
FLG & M.J.	4"-48"	F-6106
Push-on for PVC (SDR)	4"-12"	F-6110
FLG End (OS & Y)	4"-24"	F-6136
M.J. for Tapping	4"-24"	F-6114
Tyton for D.I. & C900 PVC	4"-12" & 16"	F-6112
M.J. Cutting-in	4"-12"	F-6111
Tyton for D.I. X FLG	4"-12"	F-6113

Accessories (Illustrated in the Gate Valve Section)

Indicator Posts	2" Sq. Operating Nuts
Enclosed Gearing (14"-24")	Handwheels
"T" Handles	Extension Stems
Stem Guides	Floor Boxes
Electric Motor Actuators	Chain Wheels
Floorstands (non-rising stem)	

NOTE:

It is recommended that valves be installed with stems vertical when used in raw sewage or sludge applications or in water with excessive sediment.

MODEL 2638 AWWA C515 REDUCED WALL DUCTILE IRON

CR (CORROSION RESISTANCE) COATING

CLOW VALVE COMPANY

CHEMICAL	EPOXY RATING		CHEMICAL	EPOXY RATING	
	70°F	180°F		70°F	180°F
ACIDS:			ALKALIES:		
Acetic, 10%	F	N	Ammonium Hydroxide	E	G
Benzene Sulfonic, 10%	E	E	Calcium Hydroxide	E	E
Benzoic	E	E	Potassium Hydroxide	E	E
Boric	E	E	Sodium Hydroxide	E	E
Chloracetic, 10%	E	E	ACID SALTS:		
Chromic, 5%	F	N	Aluminum Sulfate	E	E
Citric, 10%	E	N	Ammonium Chloride*	E	E
Fatty Acids	E	E	Copper Chloride*	E	E
Formic, 90%	E	F	Iron Chloride*	E	E
Hydrobromic, 20%	G	G	Nickel Chloride*	E	E
Hydrochloric, 20%	E	G	Zinc Chloride*	E	E
Hydrocyanic	E	E	ALKALINE SALTS:		
Hydrofluoric, 205	G	G	Barium Sulfide	E	E
Hypochlorous, 5%	F	N	Sodium Bicarbonate	E	E
Lactic, 5%	F	N	Sodium Carbonate	E	E
Maleic, 25%	E	E	Sodium Sulfide	E	E
Nitric, 5%	E	G	Trisodium Phosphate	E	E
Nitric, 30%	G	P	NEUTRAL SALTS:		
Oleic	E	E	Calcium Chloride*	E	E
Oxalic	E	E	Magnesium Chloride*	E	E
Phosphoric	G	F	Potassium Chloride*	E	E
Picric	G	F	Sodium Chloride*	E	E
Steric	E	E	SOLVENTS:		
Sulfuric, 50%	G	F	Alcohols	E	E
Tannic	E	E	Aliphatic Hydrocarbons	E	E
			Aromatic Hydrocarbons	E	E
Ketones	F	F	Benzene	E	E
Ethers	F	F	Formaldehyde, 37%	E	G
Esters	F	F	Phenol, 5%	G	F
Gasoline	E	E	Mineral Oils	E	E
Cargon Tetrachloride	E	E	Vegetable Oils	E	E
Organics:			Chlorobenzene		
Aniline	G	P			

KEY: E - no attack
 G - appreciably no attack
 F - some attack, but useable in some instances
 P - attacked, not recommended for use
 N - rapidly attacked
 * - and nitrate and sulfate

RW Gate Valve
EPDM Wedge Compatibility Chart

CLOW VALVE COMPANY

Chemical	Rating
Acetic (10%)	1
Alcohols	2
Aliphatic Hydrocarbons	4
Aluminum Sulfate	1
Ammonium Chloride	1
Ammonium Hydroxide	1
Aniline	2
Aromatic Hydrocarbons	4
Barium Sulfide	1
Benzene	4
Benzene Sulfonic (10%)	4
Benzoic	4
Boric	1
Calcium Chloride	1
Calcium Hydroxide	1
Carbon Tetrachloride	4
Chloracetic (10%)	2
Chlorobenzene	4
Chromic (5%)	2
Citric (10%)	1
Copper Chloride	1
Esters	3
Ethers	3
Fatty Acids	3
Formaldehyde (37%)	2
Formic (90%)	1
Gasoline	4
Hydrobromic (20%)	1
Hydrochloric (20%)	3
Hydrocyanic	1

Chemical	Rating
Hydrofluoric (20%)	X
Hypochlorous (5%)	2
Iron Chloride	1
Ketones	1
Lactic (5%)	1
Magnesium Chloride	1
Maleic (25%)	2
Mineral Oils	3
Nickel Chloride	1
Nitric (30%)	3
Nitric (5%)	2
Oleic	4
Oxalic	1
Phenol (5%)	4
Phosphoric	1
Picric	1
Potassium Chloride	1
Potassium Hydroxide	1
Sodium Bicarbonate	1
Sodium Carbonate	1
Sodium Chloride	1
Sodium Hydroxide	1
Sodium Sulfide	1
Stearic	2
Sulfuric (50%)	4
Tannic	1
Trisodium Phosphate	1
Vegatable Oils	3
Zinc Chloride	1

- 1 = Satisfactory
- 2 = Fair (usually acceptable for static seal)
- 3 = Doubtful (sometimes acceptable for static seal)
- 4 = Unsatisfactory
- X = Insufficient Data

Ratings are based on solutions at room temperature. Specific conditions of each application, such as flow and temperature, can significantly affect results. Always test under actual service conditions.

Resilient Wedge (RW) Gate Valve
Product Analysis

CLOW VALVE COMPANY

Model 2638

Valve meets or exceeds the requirements of AWWA C515

Valve is certified by UL/FM (where applicable)

Features	Benefits
Bubble Tight Closure at full rated pressure	<ul style="list-style-type: none">• No leakage across the wedge
Smooth, Unobstructed Waterway	<ul style="list-style-type: none">• Minimal flow loss• Sediment buildup is minimized• Will not impede the travel of line cleaning tools
Only Three Internal Parts	<ul style="list-style-type: none">• Virtually maintenance free
No Seat Rings	<ul style="list-style-type: none">• Nothing to be damaged by scoring
Anti-Friction Thrust Bearing	<ul style="list-style-type: none">• Operating torque is minimized
Copper Alloy Stem Nut and High Strength Copper Alloy Stem	<ul style="list-style-type: none">• No corrosion• Trouble free service
Stem Nut is Self-Centering	<ul style="list-style-type: none">• Reduces lateral stress on stem and wedge
Two O-ring seals above stem thrust collar	<ul style="list-style-type: none">• O-Rings can be replaced with the valve in service
Fully Encapsulated Iron Wedge	<ul style="list-style-type: none">• Trouble free service with minimal maintenance
Wedge design incorporates two seating surfaces	<ul style="list-style-type: none">• Seals in either direction

Note:

It is recommended that valves be installed with stems vertical when used in water with excessive sediment.

Valve meets or exceeds the requirements of AWWA C515

Valve is rated at 250 psi working pressure

Per AWWA C515, every valve:

- has been operated through a full cycle to ensure the proper functioning of parts
- has been hydrostatically shell tested a twice rated pressure (500 psi)
- has been hydrostatically seat tested on both sides at full rated pressure (250 psi) to confirm there is no leakage across the seat.

Per AWWA C515, a representative valve:

- has been hydrostatically tested at 2 times rated pressure on each side of the gate
- has been hydrostatically shell tested at 2.5 times rated pressure
- has been over torqued in both the fully closed and fully open positions according to the values published in the standard
- has been cycle tested for a minimum of 500 cycles without loss of bubble-tight seal

Rubber to iron bond on wedge is inspected for strength per ASTM D429 specification

Note:

It is recommended that valves be installed with stems vertical when used in water with excessive sediment.

2"-16" RW Gate Valves for UL/FM Service
Performance Information

CLOW VALVE COMPANY

Model 2638

Valve complies with Underwriters Laboratory standard UL 262 and the FM standard for "Fire Service Water Control Valves"

Valve is rated at 200 psi working pressure

Per the UL and FM Standards, each valve:

- Has been hydrostatically shell tested at twice rated pressure (400 psi)
- Has been hydrostatically seat tested at full rated pressure (200 psi) for a bubble tight seal without exceeding the torque limits listed in the FM Standard
- Has been hydrostatically seat tested at 1.5X rated pressure (300 psi) for a bubble tight seal on both sides

Per the UL and FM Standards, a representative valve:

- Has been hydrostatically shell tested at four times rated pressure (800 psi)
- Has been hydrostatically seat tested at full rated pressure (200 psi) for a bubble tight seal without exceeding the torque limits listed in the FM Standard
- Has been hydrostatically seat tested at 1.5X rated pressure (300 psi) for a bubble tight seal without exceeding the torque limits listed in the UL Standard
- Has been over torqued in both the open and close directions according to the values in the UL and FM standards without loss of functionality
- Has been hydrostatically tested for the strength of the gate at twice rated pressure (400 psi) in both directions
- Has been cycle tested for a minimum of 1000 cycles without loss of bubble tight seal

Rubber to iron bond on wedge is inspected for strength as per ASTM D429 specification.

For complete data on the tests
Underwriters Laboratories
performed reference UL file
EX2697 Project 87NK7353

NOTE:

It is recommended that valves be installed with stems vertical when used in water with excessive sediment.

1. Valves shall conform to the latest revision of AWWA Standard C515 covering resilient-seated (RS) gate valves for water supply service.
2. AWWA C515 valves shall have a ductile iron body, bonnet and O-ring plate. The wedge shall be fully encapsulated with rubber.
3. The sealing rubber shall be permanently bonded to the wedge casting per ASTM D429.
4. Valves shall be supplied with O-ring seals at all pressure retaining joints. No flat gaskets shall be allowed.
5. The valve shall be non-rising stem (NRS) or rising stem (OS&Y), opened by turning left or right, and provided with a 2" square operating nut or a handwheel. The operating nut and the handwheel shall be marked indicating the direction to open with the word "Open" and an arrow.
6. Stems shall be made with copper alloy or stainless steel, with an integral collar, and in full compliance with AWWA C515. All stems shall operate with copper alloy stem nuts independent of the wedge.
7. All NRS stems shall have two O-rings located above the thrust collar and at least one below. The upper o-rings or packing shall be replaceable with the valve fully opened and subjected to full pressure. The stems on 4"-12" NRS valves shall have a low torque thrust bearing located both above and below the stem collar to reduce friction during operation.
8. Waterway shall be smooth, unobstructed, and free of all pockets, cavities and depressions in the seat area. Valves made with a tapping flange shall accept a full-size tapping cutter.
9. The body, bonnet, and O-ring plate shall be coated, both on the interior and the exterior, with fusion-bonded epoxy. Epoxy shall be applied in accordance with AWWA C550 and be certified NSF 61.
10. Each valve shall have the manufacturer's name, the pressure rating, and the year in which it was manufactured cast into the body. Prior to shipment from the factory, each valve shall be hydrostatically pressure tested according to the requirements of AWWA C515 (and UL/FM where applicable).
11. Valves shall have all component parts cast and assembled in the United States and shall be manufactured by the Clow Valve Company.