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**CERTIFICATE OF COMPLIANCE**  
**Material and Production Test Certification**  
**Mueller 14-24" A2361 Resilient Wedge Gate Valves**

Date: 4/26/2021

**WE HEREBY CERTIFY** that MUELLER CO. 14-24" A2361 Series RWGV's are manufactured and tested at the Mueller ISO 9001 registered facility in Chattanooga, TN, USA. Mueller certifies these valves are UL 262 Listed, FM 1120/1130 Approved, are certified to ANSI/NSF 61 & 372 and meet the requirements of AWWA C515. Production testing is performed in accordance with these standards and meets the following specifications.

APPROVALS / PRODUCTION TESTING							
Size	Description	Model No.	AWWA (psi)	UL# (psi)	FM*# (psi)	Hydro Seat Test (psi)	Hydro Shell Test (psi)
14 – 16"	NRS – MJ x MJ	A2361-20	250	250	250	375/375	500
	NRS – FL x MJ	A 2361-19					
	NRS – FL x FL	A 2361-06					
18 – 24"	NRS – MJ x MJ	A 2361-20	250	175	250	275/275	500
	NRS – FL x MJ	A 2361-19					
	NRS – FL x FL	A 2361-06					

\* NOTE: FM only approves Open Left valves.  
 # NOTE: UL and FM do not recognize geared valves

Mueller certifies that valve body, bonnet and wedge are manufactured in a Mueller foundry in Albertville, AL or Chattanooga, TN per Mueller QA procedures; each heat is tested and certified to be within the specification shown in the chart below under a controlled program and in accordance with ASTM A536 Ductile Iron.

<b>Ductile Iron: ASTM A536</b>										
CHEMICAL COMPOSITION										
Element	C	Si	Mn	S	Cu	P	Cr	Ti	Pb	Mo
Minimum	3.900	2.500	0.370	-----	0.140	-----	-----	-----	-----	-----
Maximum	3.950	2.800	0.420	0.022	0.180	0.050	0.080	0.015	0.005	-----

Mueller certifies that A2361 valves feature manganese bronze stems manufactured under a controlled program and are in accordance with the following alloys.

<b>14" – 16" Manganese Bronze ASTM B138; Alloy C67600 (H04)</b>									
Chemical Composition							Mechanical Properties		
Element	Cu	Fe	Pb	Mn	Sn	Zn	Tensile	Yield	Elongation
Minimum	57.00	0.40	0.50	0.05	0.50	Remainder	76,000	52,000	10.00%
Maximum	60.00	1.30	1.00	0.50	1.50	Remainder	-----	-----	-----

<b>18-24" Valves: Manganese Bronze ASTM B584; Alloy C86400</b>										
Chemical Composition								Mechanical Properties		
Element	Cu	Al	Fe	Pb	Mn	Sn	Zn	Tensile	Yield	Elongation
Minimum	56.00	0.50	0.40	0.50	0.10	0.50	34.00	60,000	20,000	15.00%
Maximum	62.00	1.50	2.00	1.50	1.50	1.50	42.00	-----	-----	-----

Mueller certifies that A2361 14-16" valves feature SBR encapsulated wedges and 18-24" valves feature EPDM encapsulated wedges. Wedges are manufactured under a controlled program and are in accordance with the following elastomer specifications.

<b>SBR (Mueller Rubber Specification R-88); ASTM D2000</b>				
Specification	Durometer	Tensile	Elongation	Compression Set
Minimum	73	2,000	200%	0.00
Maximum	83	----	----	18.00

<b>EPDM (Mueller Rubber Specification R-97); ASTM D2000</b>				
Specification	Durometer	Tensile	Elongation	Compression Set
Minimum	69	2,000	200%	0.00
Maximum	79	----	----	18.00



Mueller certifies the coating supplied with these valves is Mueller® Pro-Gard™ Epoxy Coating, an exceptional fusion bonded epoxy electrostatically applied to valve internal and external surfaces to protect against corrosion. This coating is Sienna red in color, non-toxic and suitable for use with drinking water components. Mueller valves with Pro-Gard are certified to NSF 61 & 372 and meet or exceed AWWA C550 requirements. Valves have a standard coating of ten mils nominal thickness.

Mueller certifies that components for A2361 RWGV's are manufactured in accordance with Mueller Co. QA procedures which include but are not limited to relevant dimensional, visual, and functional inspection and verification.

Respectfully,

*Matthew Littell*

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