

Wolar

**Serving Oilfield and Petro-Chemical
Markets Worldwide**

PT. UNGGUL JAYA SAKTI



RING JOINT GASKETS



MISSION STATEMENT

We are a premier manufacturer of standard and specialty ring joint gaskets which we distribute to the oilfield and petro-chem markets world wide. Our goal is to achieve sustained and profitable growth through fair and honest dealings with our customers and our employees.

To our customers: we pledge to provide you with a wide range of quality products, available when you need them, with outstanding service at a fair price to meet your needs.

To our employees: we pledge a "fair day's pay for a fair day's work" in a safe and pleasant work environment providing opportunities for personal growth and advancement in a stable work environment.

Last but not least we pledge to maintain our leadership position in our industry by keeping up-to-date on technological innovations, thus improving our efficiency and productivity, expanding our product lines and services where appropriate.



R - SERIES GASKET

The R-Type ring gasket can be ordered in two different profiles, oval or octagonal in cross-sections. Both types have identical pitch diameter as the flange groove they correspond to. These gaskets are used in pressures up to 5,000 PSI. The oval type is the only gasket that will fit a bottom radiused groove. Flanges with flat bottom v-grooves will accept either style.



RX - SERIES GASKET

RX gaskets are designed for pressures up to 5,000 PSI. They are interchangeable with R-oval or R-octagonal rings used on API 6B flanges. RX type gaskets perform excellent in 6B flanged blowout preventer stacks, requiring the additional mass of the RX gasket to support the higher pressures with higher vibrations and heavier weights of these units.



BX - SERIES GASKET

The BX Series can only be used with 6BX flanges and 16BX hubs. BX Gaskets are designed for higher-pressure ratings starting at 5,000 lbs. and ending with 20,000 lbs. Pitch diameters on BX gaskets are slightly larger than the pitch diameter of the flange. This forces the gasket to initially seal on its outside angles and secondly seal with its inside angles as the flange is bolted down to respective torque settings.



SUBSEA GASKET

SRX and SBX series are American Petroleum standardized underwater rings. RX and SRX or the BX and SBX will fit into their appropriate flange designated numbers. The "S" prefix identifies a gasket as having intersecting vent holes, allowing a pressure less metal-to-metal initial contact between the gasket and flange groove, while made up underwater.



RUBBER COATED GASKET

Rubber coated gaskets start with a precision machined low carbon steel gasket and then rubber molded in a electrically induced 300 ton compression press in our own manufacturing plant. These gaskets are used in hydrostatic testing of equipment where testing pressures are equal to or beyond the equipment's operating range.

Wolar has an in-house turnkey manufacturing operation that includes a gasket plating line, heat treating furnace, electric mold presses and numerous CNC machining equipment to assure our customers the most expedited deliveries for stock and non stock ring type joint gaskets.

CMM reports and PMI reports can be readily produced on site to verify dimensional and material specifications.

FURNANCE



RTJ gaskets produced from carbon steel materials can go through a normalizing process to reduce hardness to API specifications as required. This also ensures hardness is evenly distributed among the gasket eliminating hard spots that could initiate sealing failure or flange damage. Having our own furnace assures annealing and normalizing processes along with proper time requirements are carried out as specified. An annual furnace calibration is performed by an outside agency to verify even heat containment and temperatures are distributed and maintained by the equipment as reported. Wolar's ability to perform these functions in house assist in our commitment to quality and service to our customer base.

RUBBER COATING



Wolar Rubber Covered gaskets start with a precision machined low carbon steel gasket and then rubber molded in an electrically induced 300 ton compression press in our own manufacturing plant. Nitrile rubber, having a 70 Durometer, is molded on a finished gasket that has been carefully prepared to accept complete adhesion of the rubber. By performing all functions in-house, we are assured our gaskets are machined and molded properly.

These gaskets are used in hydrostatic testing of equipment where testing pressures are equal to or beyond the equipments operating range. With proper care, these gaskets can be reused numerous times. They also help to minimize and prevent additional damage to a flange groove. We recommend storing these gaskets away from excessive heat and ultraviolet light. Shelf life is

PLATING LINE



Wolar is the only domestic manufacturer that has the ability to manufacture a carbon steel gasket and Zinc plate it in-house. Our commitment to supplying a quality product does not rely on subcontractors. Our plating line is designed specifically to plate RTJ's and nothing else. The plating is Zinc and the thickness tolerances are kept to API specifications using latest electronic thickness coating equipment that is used in the plating industry, as standard issue for measuring thickness.

Our plating facility is continually audited by all government agencies at City, State and Federal levels, which have always been in compliance.

MANUFACTURING



Wolar manufactures a complete line of RTJ gaskets in Houston, TX occupying 50,000 square feet and looking to expand.

We are one of the few US manufactures that can supply gaskets at a global level. CNC lathes provide the repetitive quality and continuous production rates to keep us competitive. With over 12 CNC lathes dedicated to solely producing RTJ's, we are able to produce either one gasket or hundreds to meet customer demand.

With concerns of the oil and gas crisis over the world both onshore and offshore, we know that you require quality materials manufactured to API and or OEM specifications, and that is exactly what we will deliver. Wolar will not cut corners on quality and put everyone's hard work at risk for the sake of a sale. Locally or across the world you will always receive from Wolar what you demand from the rest.

COORDINATE MEASURING MACHINE (CMM)

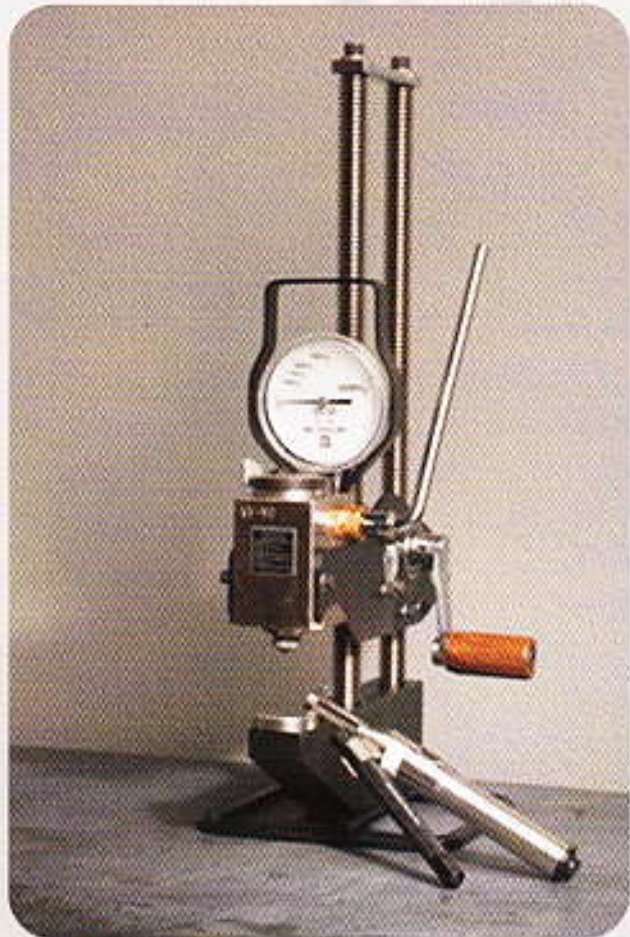


To ensure API and OEM dimensional specifications are met, a Nikon CMM is used to perform first article inspections on intricately designed gaskets to verify the accuracy of the setup. Inspection Data Reports can be generated and supplied to customers requiring inspection reports.

WATER - JET



Wolar's ability to water-jet raw material from plate into rough gasket blanks has greatly improved our turn around time from PO to Invoice. Water jetting introduces no material stresses or edge hardening problems as a plasma or gas torch will. This allows us to immediately take the rough blank from the water-jet to the CNC machine for final machining.



The Top Management of Wolar Industrial, Inc. is committed to providing products and services that meet or exceed our customer's requirements and the requirements of recognized industrial standards. We accomplish this by adhering to our Quality Management System and operational methods that recognize customer satisfaction as a primary goal.

We strive to continually improve the effectiveness of our quality Management System and our commitment to customer satisfaction by monitoring our performance against our established objectives and through leadership that promotes employee involvement. This concept represents Wolar's commitment to quality and the increasing need to better serve a growing and demanding customer base.

R - SERIES GASKETS



Description:

The R-Type ring gasket can be ordered to two different profiles, oval or octagonal in cross-sections. Both types have identical pitch diameter as the flange groove they correspond to. These gaskets are used in pressures up to 5,000 PSI. The octagonal type has a higher sealing coefficient than the oval, therefore being the better gasket of the two. The oval type is the only gasket that will fit a bottom radiused groove. Flanges with flat bottom v-grooves will

accept either style. Gaskets that have been torqued initiating a metal-to-metal seal should be discarded and not reused.

Pressure Class Ratings

Wolar R-Gaskets For API 6B Flanges

	150	3/600	900	1500	2500	2000	3000	5000	10000
R-11		1/2							
R-12			1/2	1/2					
R-13		3/4			1/2				
R-14			3/4	3/4					
R-15	1								
R-16		1	1	1	3/4				
R-17	1 1/4								
R-18		1 1/4	1 1/4	1 1/4	1				
R-19	1 1/2								
R-20		1 1/2	1 1/2	1 1/2		1 1/2	1 1/2	1 1/2	
	150	3/600	900	1500	2500	2000	3000	5000	10000
R-21					1 1/4				
R-22	2								
R-23		2			1 1/2	2			
R-24			2	2			2	2	
R-25	2 1/2								
R-26		2 1/2			2	2 1/2			
R-27			2 1/2	2 1/2			2 1/2	2 1/2	
R-28					2 1/2				
R-29	3								
R-30		3							
	150	3/600	900	1500	2500	2000	3000	5000	10000
R-31		3	3			3	3		
R-32					3				
R-33	3 1/2								
R-34		3 1/2							
R-35				3				3	
R-36	4								
R-37		4	4			4	4		
R-38					4				
R-39				4				4	

Pressure Class Ratings

Wolar R-Gaskets For API 6B Flanges

	150	3/600	900	1500	2500	2000	3000	5000	10000
R-81									
R-82									1
R-83									
R-84									1 1/2
R-85									2
R-86									2 1/2
R-87									3
R-88									4
R-89									3 1/2
R-90									5
	150	3/600	900	1500	2500	2000	3000	5000	10000
R-91									10
R-92									
R-93			26						
R-94			28						
R-95			30						
R-96			32						
R-97			34						
R-98			36						
R-99									
R-100				26					
	150	3/600	900	1500	2500	2000	3000	5000	10000
R-101				28					
R-102				30					
R-103				32					
R-104				34					
R-105				36					

RX - SERIES GASKETS



Description:

RX gaskets are designed for pressures up to 5,000 PSI. These gaskets are interchangeable with R-oval or R-octagonal rings used on API 6B flanges. RX types of gaskets are more costly than your standard oval or octagonal rings, therefore not as popular. RX type gaskets perform excellent in 6B flanged blowout preventer stacks, which requires the additional mass of the RX gasket to support the higher pressures with higher vibrations and heavier weights of

these units. Gaskets that have been torqued initiating a metal-to-metal seal should be discarded and not reused.

Pressure Class Ratings

Wolar RX-Gaskets For API 6B Flanges

	720	960	2000	2900	3000	5000
RX-20	1 1/2	1 1/2	1 1/2		1 1/2	1 1/2
RX-23	2	2	2			
RX-24					2	2
RX-25						3
RX-26	2 1/2	2 1/2	2 1/2			
RX-27					2 1/2	2 1/2
RX-31	3	3	3		3	
RX-35						3
RX-37	4	4	4		4	
RX-39						4
	720	960	2000	2900	3000	5000
RX-41	5	5	5		5	
RX-44						5
RX-45	6	6	6		6	
RX-46						6
RX-47						8
RX-49	8	8	8		8	
RX-50						8
RX-53	10	10	10		10	
RX-54						10
RX-57	12	12	12		12	
	720	960	2000	2900	3000	5000
RX-63						14
RX-65	16	16	16			
RX-66						
RX-69	18	18	18		16	
RX-70						
RX-73	20	20	20		18	
RX-74						
RX-82				1	20	
RX-84				1 1/2		
RX-85				2		

Pressure Class Ratings

Wolar RX-Gaskets For API 6B Flanges

	720	960	2000	2900	3000	5000
RX-86				2 1/2		
RX-87				3		
RX-88				4		
RX-89				3 1/2		
RX-90				5		
RX-91				10		
RX-99	8	8	8		8	
RX-201						1 1/4
RX-205						1 3/4
RX-210						2 1/2
	720	960	2000	2900	3000	5000
RX-215						4
RX-215						4x4 1/4

BX - SERIES GASKETS



Description:

Although similar in style to the octagonal gaskets, the BX Series can only be used with 6BX flanges and 16BX hubs. BX-Gaskets have been designed for higher-pressure ratings starting at 5,000 lbs. and ending with 20,000 lbs. Pitch diameters on BX gaskets are slightly larger than the pitch diameter of the flange. This forces the gasket to initially seal on its outside angles and secondly seal with its inside angles as the flange is bolted down to respective

torque settings. Gaskets that have been torqued initiating a metal-to-metal seal should be discarded and not reused.

Gaskets coin themselves (Blend In / Molds) to the surface finish of the groove, forming a custom surface seal. The vent hole on the BX Series through the gasket helps equalize pressures caught between the flange grooves. Gaskets that have been torqued initiating a metal-to-metal seal should be discarded and not reused.

Pressure Class Ratings

Wolar BX-Gaskets For API 6BX Flanges

	5.000	10.000	15.000	20.000
BX-150		1 11/16	1 11/16	
BX-151		1 13/16	1 13/16	1 13/16
BX-152		2 1/16	2 1/16	2 1/16
BX-153		2 9/16	2 9/16	2 9/16
BX-154		3 1/16	3 1/16	3 1/16
BX-155		4 1/16	4 1/16	4 1/16
BX-156		7 1/16	7 1/16	7 1/16
BX-157		9	9	
BX-158		11	11	
BX-159		13 5/8		
	5.000	10.000	15.000	20.000
BX-160	13 5/8			
BX-161	16 3/4			
BX-162	16 3/4	16 3/4		
BX-163	18 3/4			
BX-164		18 3/4		
BX-165	21 1/4			
BX-166		21 1/4		
BX-167		26 3/4*		
BX-168		26 3/4**		
BX-169		5 1/8		
	5.000	10.000	15.000	20.000
BX-171				
BX-172				
BX-303				

* At 2,000 PSI

** At 3,000 PSI

RUBBER COATED GASKETS



Description:

Wolar Rubber Covered gaskets start with a precision machined low carbon steel gasket and then rubber molded in a electrically induced 300 ton compression press in our own manufacturing plant. These gaskets are used in hydrostatic testing of equipment where testing pressures are equal to or beyond the equipment's operating range.

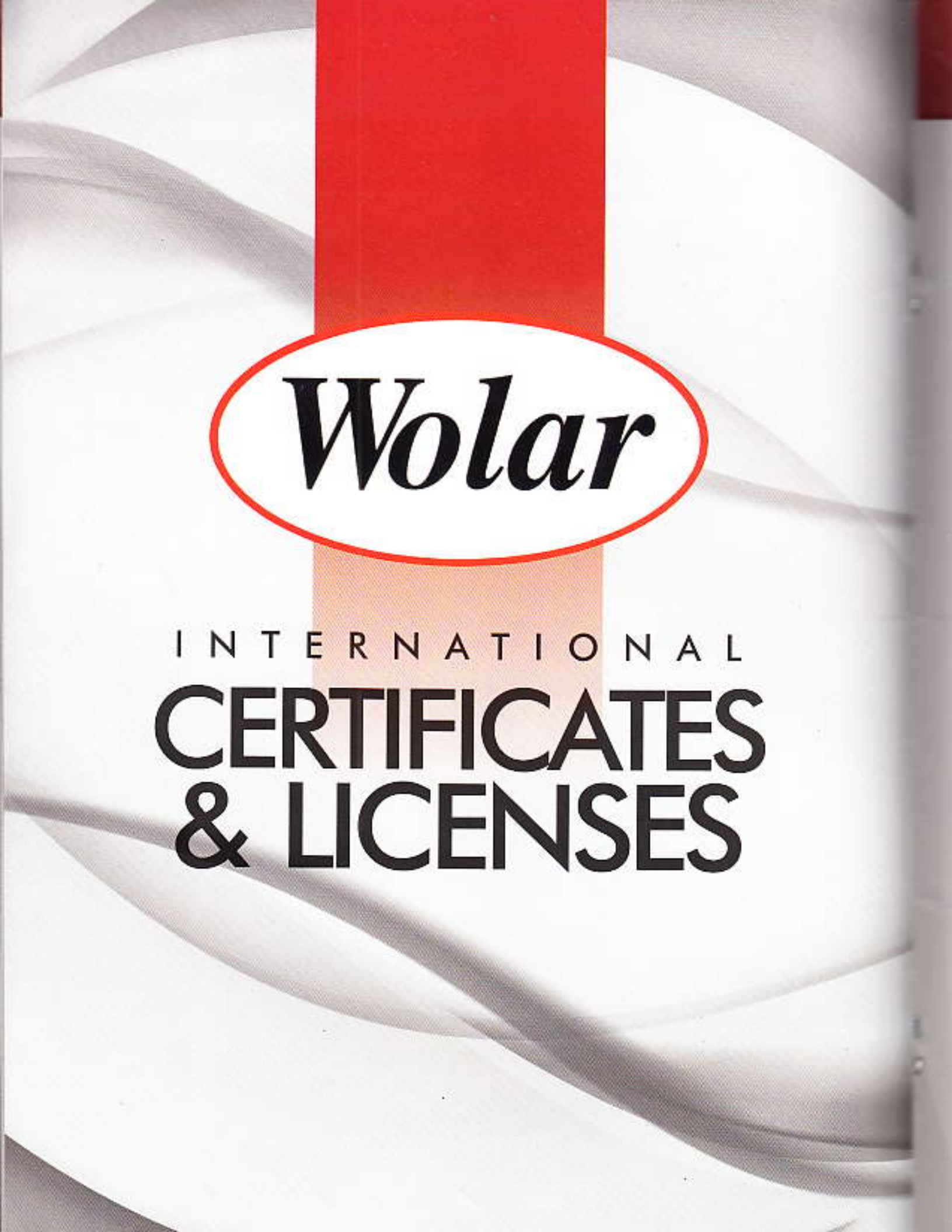
With proper care, these gaskets can be reused numerous times. They also help to minimize and prevent additional damage to a flange groove.

We recommend storing these gaskets away from excessive heat and ultraviolet light. Shelf life is contingent on storage conditions but gaskets should remain useable for a minimum of 2 years.

Pressure Class Ratings

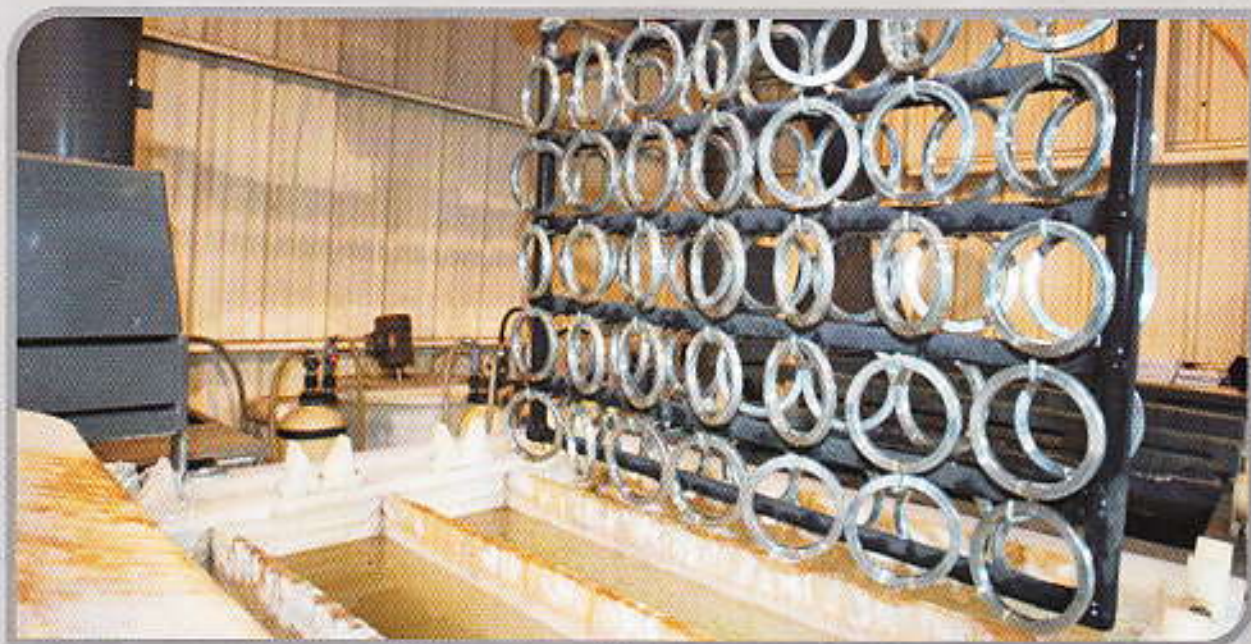
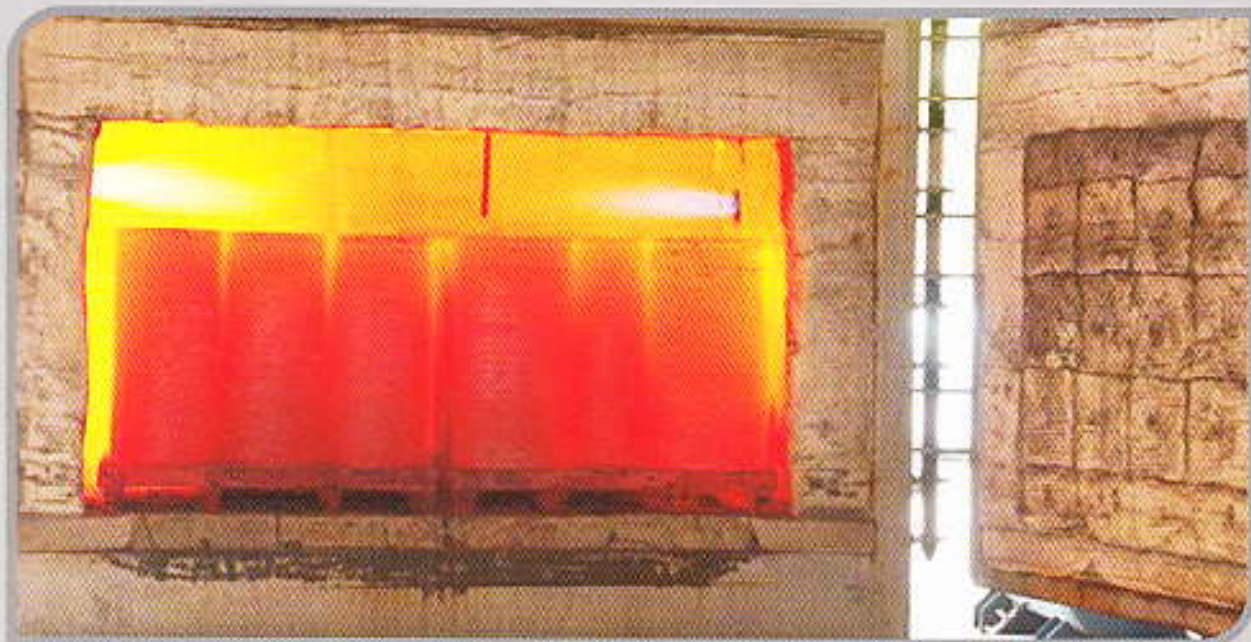
Wolar Rubber Coated Gaskets

There are currently no pressure class ratings available

The cover features a background of white, wavy, fabric-like folds. A vertical red stripe runs down the center. A white oval with a red border is centered on the red stripe, containing the word 'Wolar' in a black, italicized serif font.

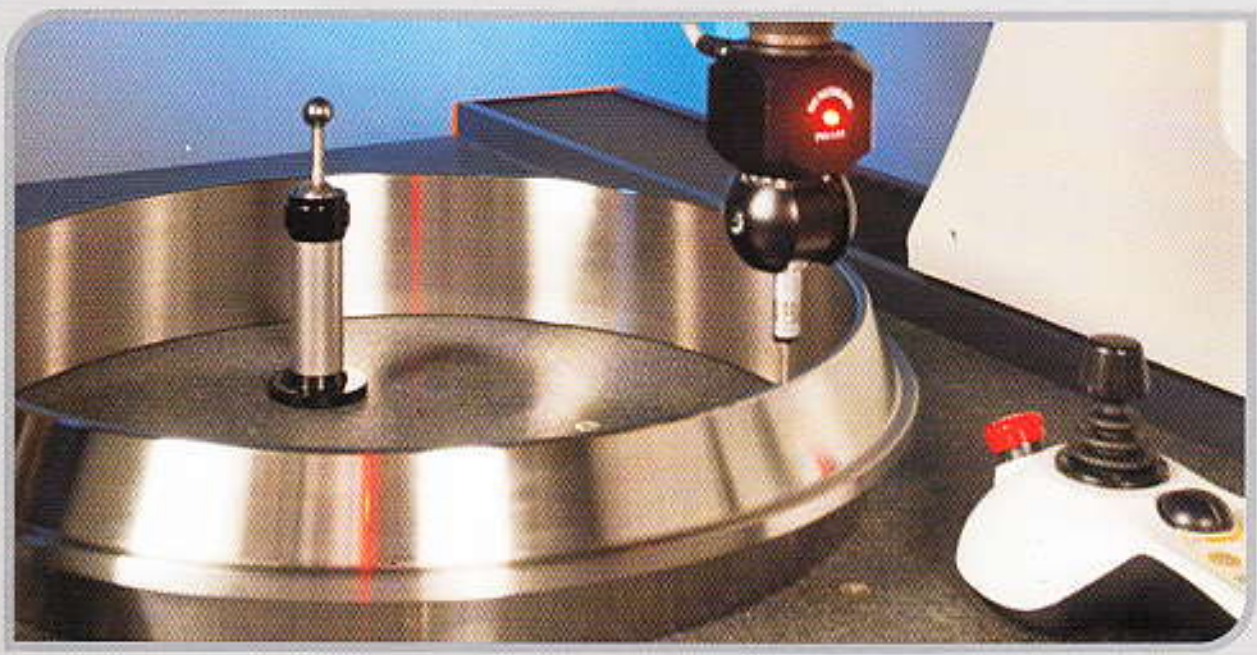
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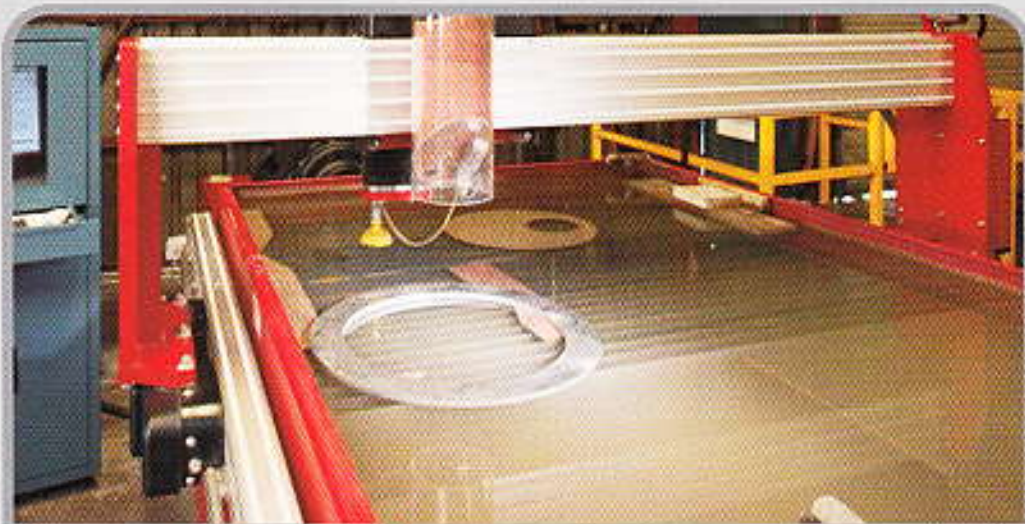
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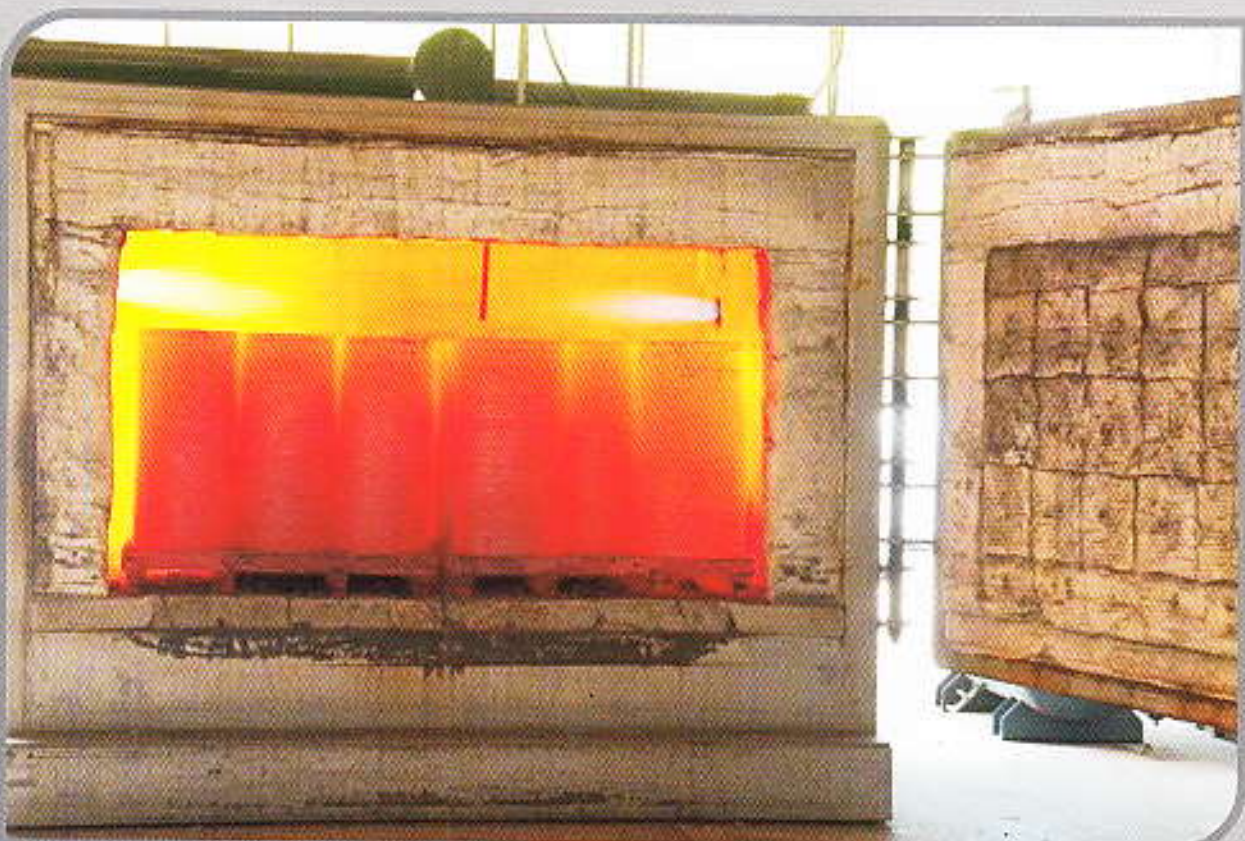
RING JOINT GASKET MANUFACTURE





Wolar

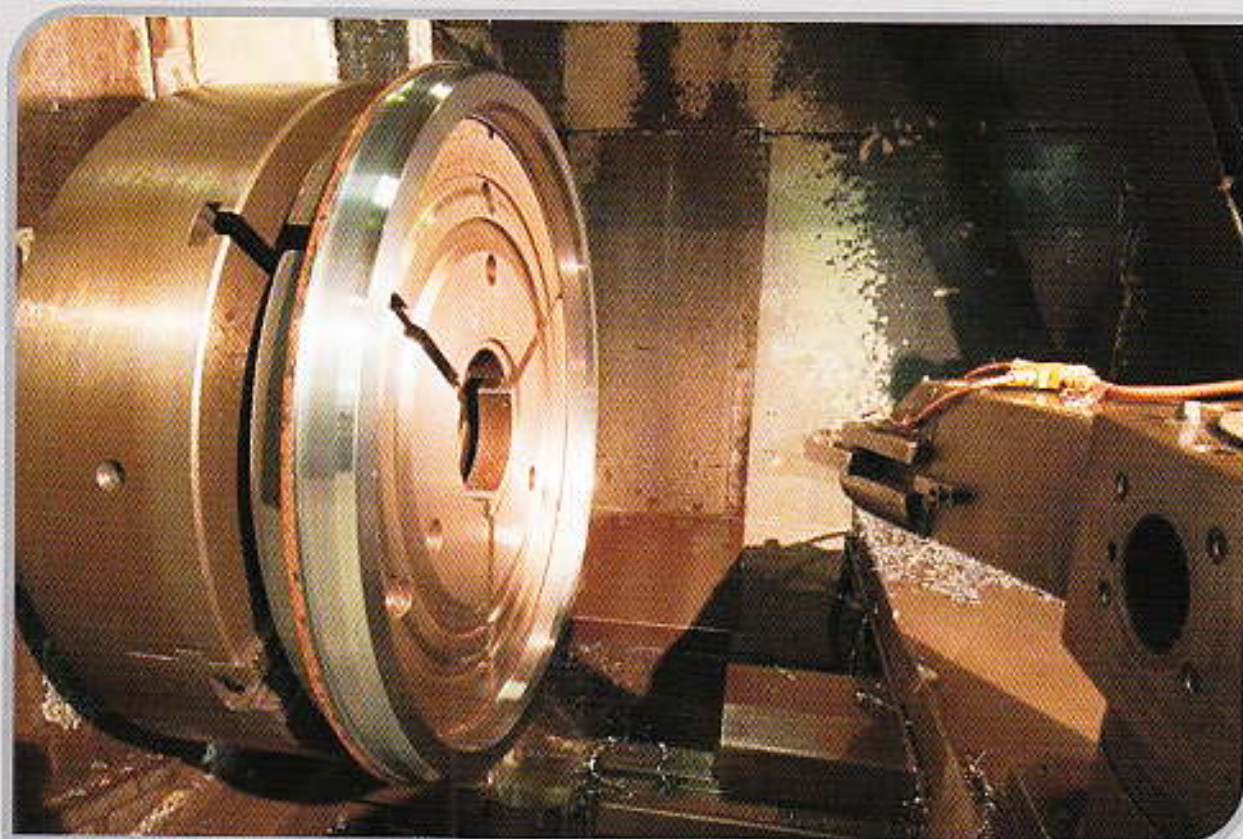
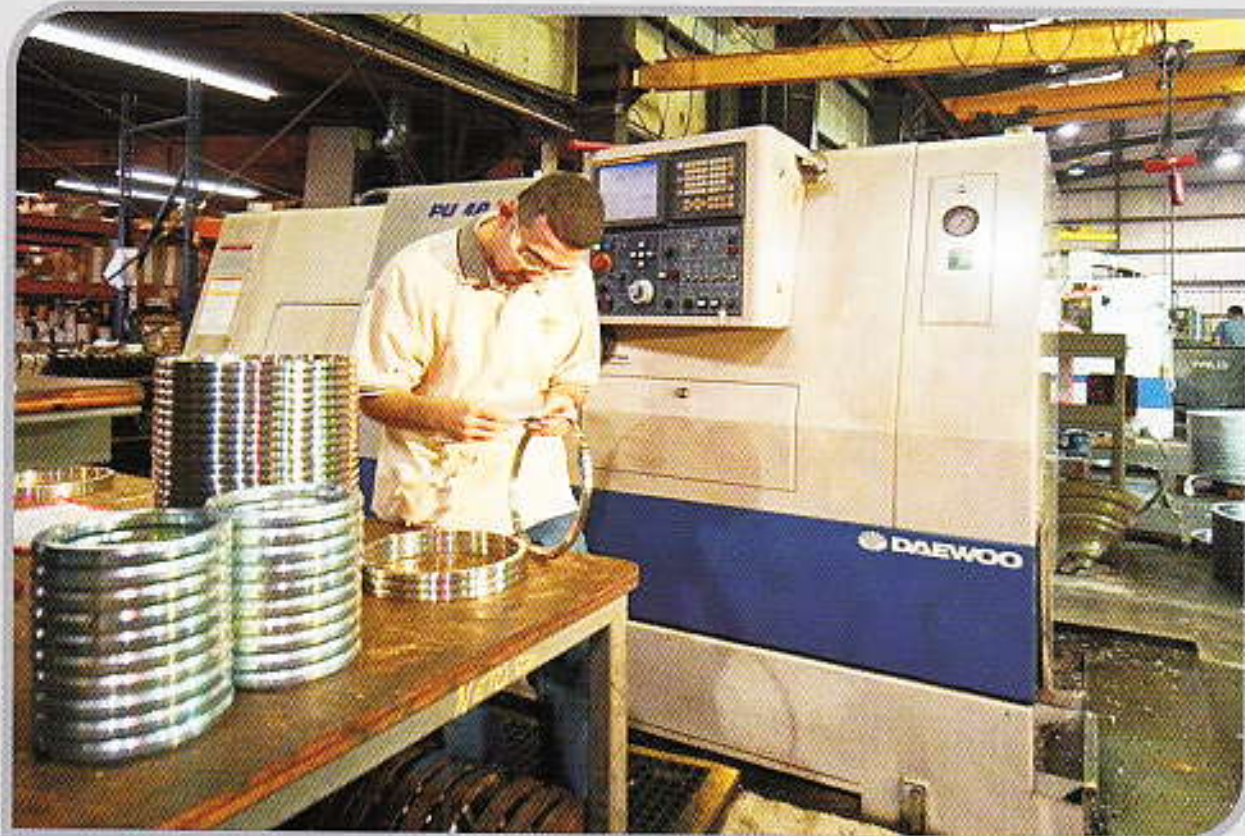
RING JOINT GASKET MANUFACTURE



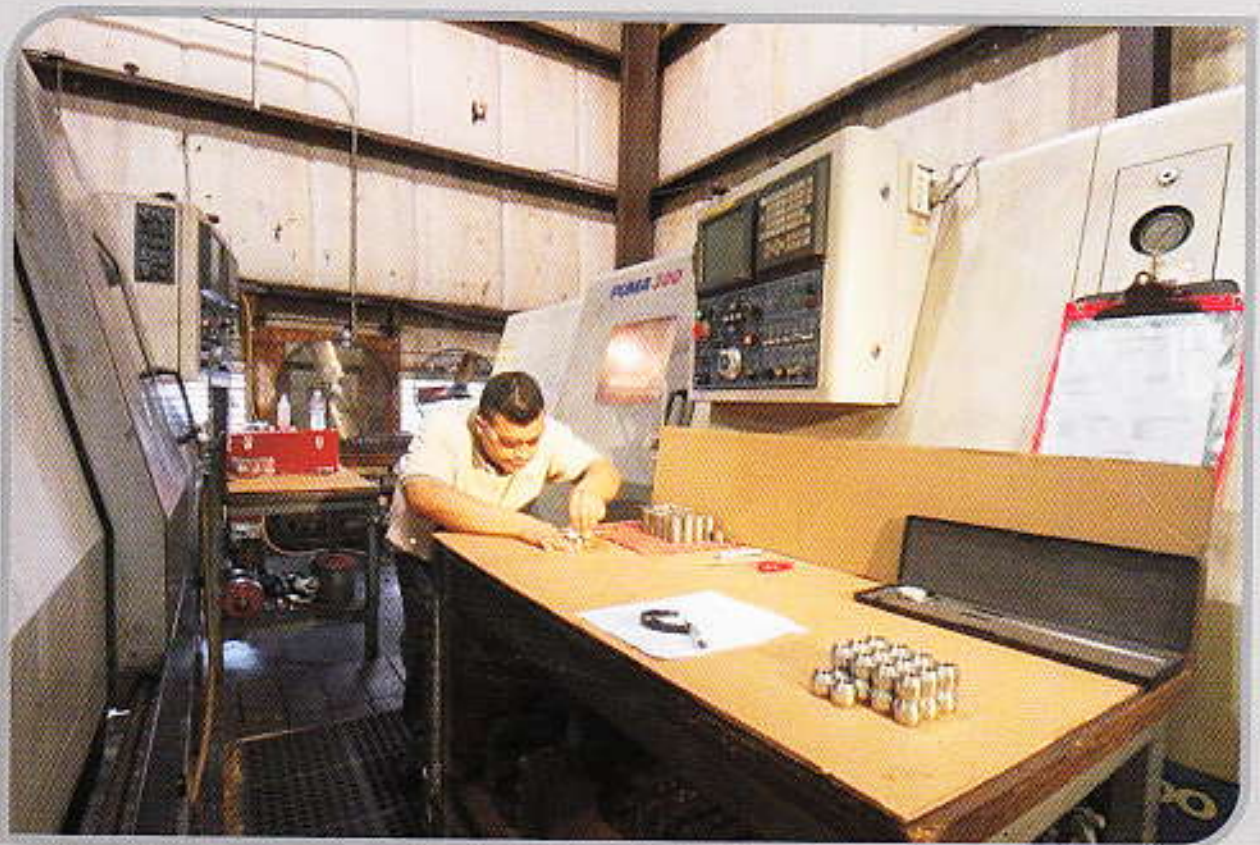


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RING JOINT GASKET MANUFACTURE



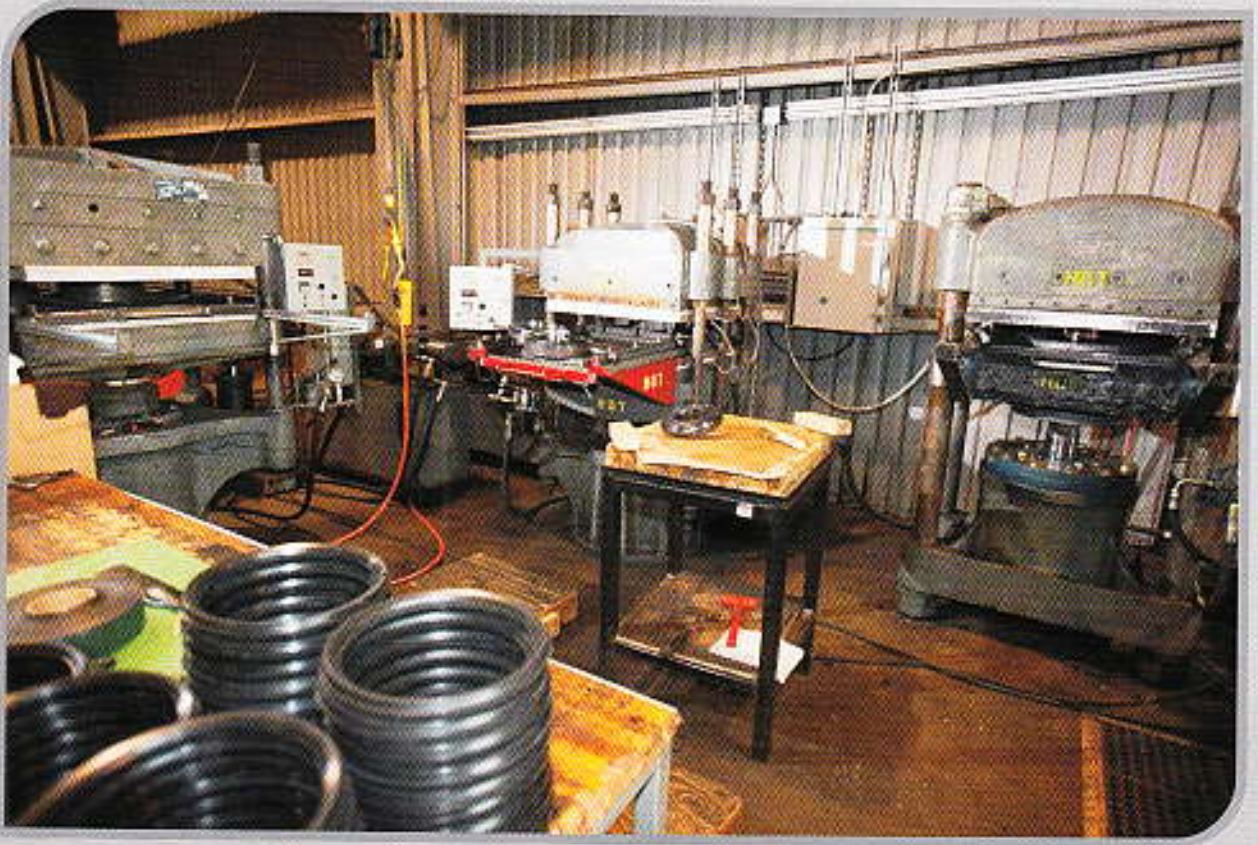








RING JOINT GASKET MANUFACTURE



EXPERIENCE

Wolar Industrial is the premiere manufacturer of ring joint gaskets. With over 70 years of combined experience in the industry, our people are dedicated to exceptional customer satisfaction.

QUALITY

Wolar has built a reputation for quality and service unequaled in the market. Wolar products are designed to perform in extremely critical environments, fully conforming to the standards of the American Petroleum Institute (API 6A), American Society of Mechanical Engineers (ASME B16.20, and NACE MR 01-75; as well as International standards DIN 50049 3.1B and ENS 10204.

SPECIAL PRODUCTS

Wolar not only offers a complete line of standard ring joint gasket in materials, but our craftsmen specialize on the manufacture of custom-made oilfield and industrial designed gaskets and seals, lens ring, delta gaskets, bonnet valve seal rings, and bridgeman gaskets, in a wide variety of exotic materials; monel, inconel, incoloy, copper, aluminum, alloy 20, hastalloy and others...

Specials are our Specialty!

COMPUTER CONTROLLED PROCESS

Wolar utilizes state-of-the-art technology to control the manufacturing process, induring the highest possible value to our customers.



RX Ring No.	PRESSURE CLASS RATING			
	720-960 2000	2900	3000	5000
	Nominal Pipe Size			
RX65	16	-	-	-
RX66	-	-	16	-
RX69	18	-	-	-
RX70	-	-	18	-
RX73	20	-	-	-
RX74	-	-	20	-
RX82	-	1	-	-
RX84	-	1 1/2	-	-
RX85	-	2	-	-
RX86	-	2 1/2	-	-
RX87	-	3	-	-
RX88	-	4	-	-
RX89	-	3 1/2	-	-
RX90	-	5	-	-
RX91	-	10	-	-
RX99	8	-	8	-
RX201	-	-	-	1 1/4
RX205	-	-	-	1 3/4
RX210	-	-	-	2 1/2
RX215	-	-	-	4
RX215	-	-	-	4x4 1/4

RX Ring No.	PRESSURE CLASS RATING			
	720-960 2000	2900	3000	5000
	Nominal Pipe Size			
RX20	1 1/2	-	1 1/2	1 1/2
RX23	2	-	-	-
RX24	-	-	2	2
RX25	-	-	-	3
RX26	2 1/2	-	-	-
RX27	-	-	2 1/2	2 1/2
RX31	3	-	3	-
RX35	-	-	-	3
RX37	4	-	4	-
RX39	-	-	-	4
RX41	5	-	5	-
RX44	-	-	-	5
RX45	6	-	6	-
RX46	-	-	-	6
RX47	-	-	-	8
RX49	8	-	8	-
RX50	-	-	-	8
RX53	10	-	10	-
RX54	-	-	-	10
RX57	12	-	12	-
RX63	-	-	-	14

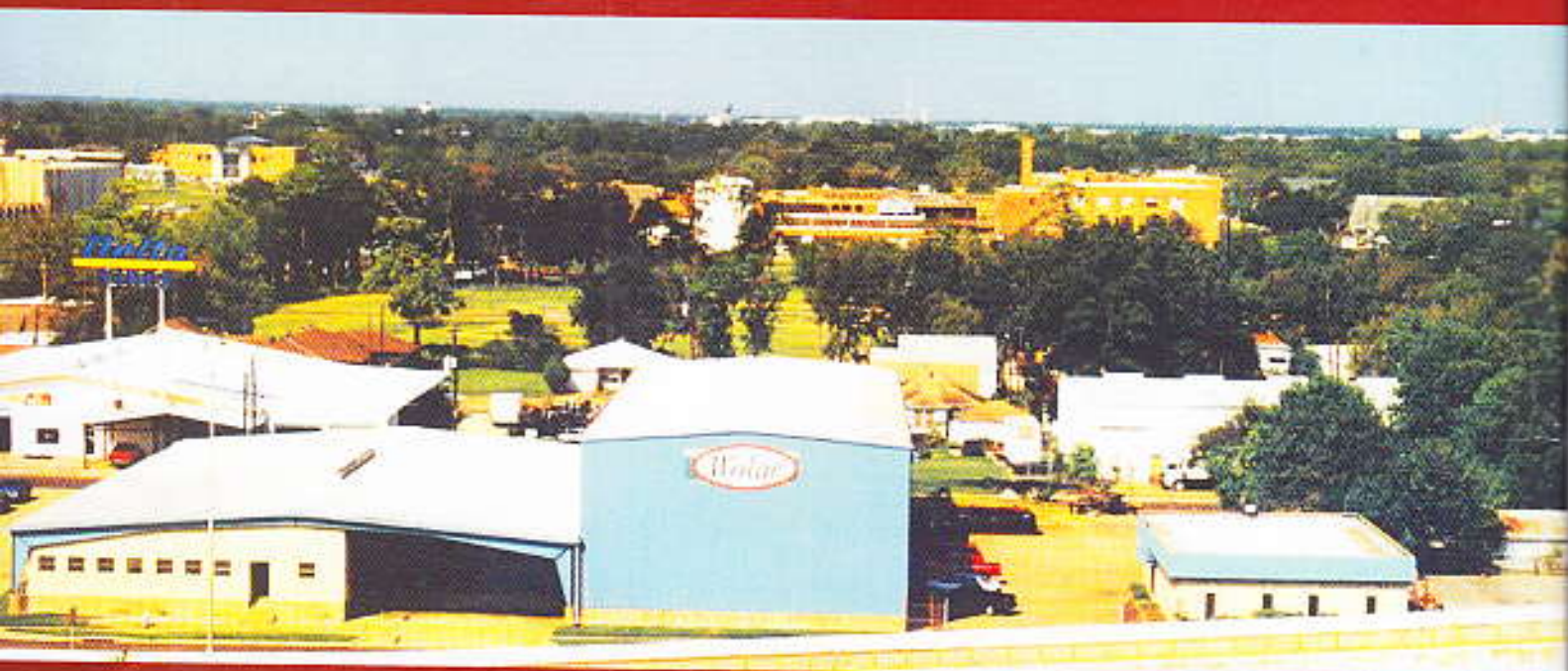
BX Ring No.	PRESSURE CLASS RATING			
	2000	2900	3000	5000
	Nominal Pipe Size			
BX150	-	1 11/16	1 11/16	-
BX151	-	1 13/16	1 13/16	1 13/16
BX152	-	2 1/16	2 1/16	2 1/16
BX153	-	2 9/16	2 9/16	2 9/16
BX154	-	3 1/16	3 1/16	3 1/16
BX155	-	4 1/16	4 1/16	4 1/16
BX156	-	7 1/16	7 1/16	7 1/16
BX157	-	9	9	-
BX158	-	11	11	-
BX159	-	13 5/8	-	-
BX160	13 5/8	-	-	-
BX161	16 3/4	-	-	-
BX162	16 3/4	16 3/4	-	-
BX163	18 3/4	-	-	-
BX164	-	18 3/4	-	-
BX165	21 1/4	-	-	-
BX166	-	21 1/4	-	-
BX167	-	-	-	-
BX168	-	-	-	-
BX169	-	5 1/8	-	-
BX170	-	-	-	-
BX171	-	-	-	-
BX172	-	-	-	-
BX303	-	-	-	-

R Ring No.	PRESSURE CLASS RATING							
	ANSI & BS					API		
	150	300 600	900	1500	2500	2000	3000	5000
	Nominal Pipe Size							
R11	-	1/2	-	-	-	-	-	-
R12	-	-	1/2	1/2	-	-	-	-
R13	-	3/4	-	-	1/2	-	-	-
R14	-	-	3/4	3/4	-	-	-	-
R15	1	-	-	-	-	-	-	-
R16	-	1	1	1	3/4	-	-	-
R17	1 1/4	-	-	-	-	-	-	-
R18	-	1 1/4	1 1/4	1 1/4	1	-	-	-
R19	1 1/2	-	-	-	-	-	-	-
R20+	-	1 1/2	1 1/2	1 1/2	-	1 1/2	1 1/2	1 1/2
R21	-	-	-	-	1 1/4	-	-	-
R22	2	-	-	-	1 1/2	2	-	-
R23+	-	2	-	-	1 1/2	2	-	-
R24+	-	-	2	2	-	-	2	2
R25	2 1/2	-	-	-	-	-	-	-
R26+	-	2 1/2	-	-	2	2 1/2	-	-
R27+	-	-	2 1/2	2 1/2	-	-	2 1/2	2 1/2
R28	-	-	-	-	2 1/2	-	-	-
R29	3	-	-	-	-	-	-	-
R30	-	3	-	-	-	-	-	-
R31+	-	3	3	-	-	3	3	-
R32	-	-	-	-	3	-	-	-
R33	3 1/2	-	-	-	-	-	-	-
R34	-	3 1/2	-	-	-	-	-	-
R35+	-	-	-	3	-	-	-	3
R36	4	-	-	-	-	-	-	-
R37+	-	4	4	-	-	4	4	-
R38	-	-	-	-	4	-	-	-
R39+	-	-	-	4	-	-	-	4
R40	5	-	-	-	-	-	-	-
R41+	-	5	5	-	-	5	5	-
R42	-	-	-	-	5	-	-	-
R43	6	-	-	-	-	-	-	-
R44+	-	-	-	5	-	-	-	5
R45+	-	6	6	-	-	6	6	-
R46+	-	-	-	6	-	-	-	6
R47+	-	-	-	-	6	-	-	-
R48	8	-	-	-	-	-	-	-
R49+	-	8	8	-	-	8	8	-
R50+	-	-	-	8	-	-	-	8
R51	-	-	-	-	8	-	-	-
R52	10	-	-	-	-	-	-	-
R53+	-	10	10	-	-	10	10	-
R54+	-	-	-	10	-	-	-	10
R55	-	-	-	-	10	-	-	-
R56	12	-	-	-	-	-	-	-
R57+	-	12	12	-	-	12	12	-
R58	-	-	-	12	-	-	-	-

R Ring No.	PRESSURE CLASS RATING							
	ANSI & BS					API		
	150	300 600	900	1500	2500	2000	3000	5000
	Nominal Pipe Size							
R59	14	-	-	-	-	-	-	-
R60	-	-	-	-	12	-	-	-
R61	-	14	-	-	-	-	-	-
R62	-	-	14	-	-	-	-	-
R63+	-	-	-	14	-	-	-	-
R64	16	-	-	-	-	-	-	-
R65+	-	16	-	-	-	16	-	-
R66+	-	-	16	-	-	-	16	-
R67	-	-	-	16	-	-	-	-
R68	18	-	-	-	-	-	-	-
R69+	-	18	-	-	-	18	-	-
R70+	-	-	18	-	-	-	18	-
R71	-	-	-	18	-	-	-	-
R72	20	-	-	-	-	-	-	-
R73+	-	20	-	-	-	20	-	-
R74+	-	-	20	-	-	-	20	-
R75	-	-	-	20	-	-	-	-
R76	24	-	-	-	-	-	-	-
R77	-	24	-	-	-	-	-	-
R78	-	-	24	-	-	-	-	-
R79	-	-	-	24	-	-	-	-
R80	22	-	-	-	-	-	-	-
R81	-	22	-	-	-	-	-	-
R82+	-	-	-	-	-	-	-	1
R83	-	-	-	-	-	-	-	-
R84+	-	-	-	-	-	-	-	1 ½
R85+	-	-	-	-	-	-	-	2
R86+	-	-	-	-	-	-	-	2 ½
R87+	-	-	-	-	-	-	-	3
R88+	-	-	-	-	-	-	-	4
R89+	-	-	-	-	-	-	-	3 ½
R90+	-	-	-	-	-	-	-	5
R91+	-	-	-	-	-	-	-	10
R92	-	-	-	-	-	-	-	-
R93	-	26	-	-	-	-	-	-
R94	-	28	-	-	-	-	-	-
R95	-	30	-	-	-	-	-	-
R96	-	32	-	-	-	-	-	-
R97	-	34	-	-	-	-	-	-
R98	-	36	-	-	-	-	-	-
R99+	-	-	-	-	-	-	-	-
R100	-	-	26	-	-	-	-	-
R101	-	-	28	-	-	-	-	-
R102	-	-	30	-	-	-	-	-
R103	-	-	32	-	-	-	-	-
R104	-	-	34	-	-	-	-	-
R105	-	-	36	-	-	-	-	-

Wolar

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