



Duralon[°] Composite Bearings

TABLE OF CONTENTS

Page Number

Applications 2 Manufacturing 3 Thin Wall Series Dimensions 4, 5 Heavy Wall Series Dimensions 6, 7 Additional Configurations SQ & Hex Bore Dimensions Ball & Linear Replacements 8 Linear Replacement Composite Bearings 9 Selection Procedures/Examples 10

Selection Chart. 11 Design & Application Guidelines 12 Bearing Properties & Shafting 13 Competitive Testing Results & Failure Types 14 Features/Benefits & Non-lub Bearing Comparison 16 Additional Configurations Spherical & Actuator Nut 17 Retention Methods 18 Index 19

Page Number

DURALON® BEARINGS

Duralon bearings are self-lubricating, with a woven Teflon® fabric liner, backed by filament-wound fiberglass and epoxy resin, designed

to withstand the demanding loads and speeds of a wide variety of applications.



nance

- · High load shock resistance
- Reduces galling, scoring and
- corrosion Self-lubrication reduces mainte-



BUSINESS MACHINES

- · Long life, consistent performance
- Tight tolerances allow precision fit-up
- · Self-lubrication prevents dirt, paper and dust collection



COAL EQUIPMENT

- · Self-lubrication reduces maintenance
- Reduces galling, scoring and corrosion
- · Low wear rate yields long life



AGRICULTURAL IMPLEMENTS

- · Low sliding friction; long life
- Reduces galling, scoring and corrosion
- Self-lubrication reduces maintenance
- ® Duralon is a registered trademark of Rexnord Corp.
- ® Teflon is a registered trademark of E.I. DuPont De Nemours & Co.(Inc.)

FOOD INDUSTRY

- · Self-lubricating, thus no contamination
- USDA approved
- · Corrosion-resistant in wet environments

DEVELOPED TO DELIVER DESIGN FREEDOM

Duralon bearings are the most recent advancement in Light Weight, High Performance bearings — units that provide more "plus factors" for the designer than any other Teflon fabric-lined bearing available.

Product construction and resulting features

The manufacturing technique involves combining a woven Teflon/ Dacron® fabric liner with a filament-wound fiberglass epoxy resin matrix. The liner, in tubular form, is heat shrunk over an appropriately sized mandrel and fully impregnated with epoxy resin. The back-up shell is constructed on a filament winding machine by running continuous strands of fiberglass through a resin bath.

Winding the layers of fiberglass over the mandrel at precise angles and specified tension yields optimum strength characteristics. When the proper thickness of fiberglass has been built up, the strands are cut and the wound mandrel is removed. Selective heat treatments are used to cure the resin. This produces optimum bearing and structural properties. The tubular composite is then machined, ground and cut and finished to final bearing size.

(1) BEARING FABRIC TEFLON FIBERS (DARK) ARE INTERWOVEN WITH BONDABLE (LIGHT) DACRON YARNS.



(4) EPOXY COATED FIBERGLASS FILAMENTS WOUND IN OVERLAPPING LAYERS.







(2) WOVEN FABRIC PLACED OVER MANDREL.



(3) HEAT APPLIED TO SHRINK FABRIC.



® Dacron is a registered trademark of E.I. DuPont DeNemours & Co. (Inc.)





THIN WALL SERIES

DURALON JOURNAL BEARING PLAIN TFE LINED

THINWALL				MODEL NUMBER SUFFIX AND BEARING AREA FACTOR (BAF)					
Madal Number	в	D	Housing	Wt (Ref)	L = Length Suffix in Multiples of $\frac{1}{32}$ " (Tolerance +.000/020)				
Model Number	Bore	0.D.	Bore	Lb/In.	.250/BAF	.375/BAF	.500/BAF	.625/BAF	.750/BAF
701-00004-XXX	<u>.2540</u> .2530	<u>.3767</u> .3757	<u>.3755</u> .3745	.0043	-008 (.082)	-012 (.145)	-016 (.209)	-020 (.273)	-024 (.337)
701-00006-XXX	<u>.3790</u> .3780	<u>.5017</u> .5007	<u>.5005</u> .4995	.0060	-008 (.099)	-012 (.177)	-016 (.255)	-020 (.332)	-024 (.410)
701-00008-XXX	<u>.5040</u> .5030	<u>.6267</u> .6257	<u>.6255</u> .6245	.0077	-008 (.114)	-012 (.204)	-016 (.293)	-020 (.382)	-024 (.471)
701-0010-XXX	<u>.6290</u> .6280	<u>.7517</u> .7507	<u>.7505</u> .7495	.0094		-012 (.227)	-016 (.326)	-020 (.426)	-024 (.526)
701-00012-XXX	<u>.7540</u> .7530	<u>.8767</u> .8757	<u>.8755</u> .8745	.0111		-012 (.248)	-016 (.357)	-020 (.466)	-024 (.574)
701-00014-XXX	<u>.8790</u> .8780	<u>1.0642</u> 1.0632	<u>1.0630</u> 1.0620	.0199			-016 (.385)	-020 (.502)	-024 (.620)
701-00016-XXX	<u>1.0040</u> 1.0030	<u>1.1892</u> 1.1882	<u>1.1880</u> 1.1870	.0224			-016 (.411)	-020 (.536)	-024 (.661)
701-00018-XXX	<u>1.1290</u> 1.1280	<u>1.3142</u> 1.3132	<u>1.3130</u> 1.3120	.0250				-020 (.568)	-024 (.700)
701-00020-XXX	<u>1.2540</u> 1.2530	<u>1.4392</u> 1.4382	<u>1.4380</u> 1.4370	.0276				-020 (.598)	-024 (.738)
701-00022-XXX	<u>1.3790</u> 1.3780	<u>1.5642</u> 1.5632	<u>1.5630</u> 1.5620	.0301					-024 (.773)
701-00024-XXX	<u>1.5040</u> 1.5030	<u>1.6892</u> 1.6882	<u>1.6880</u> 1.6870	.0325					-024 (.806)
701-00026-XXX	<u>1.6290</u> 1.6280	<u>1.8142</u> 1.8132	<u>1.8130</u> 1.8120	.0352					
701-00028-XXX	<u>1.7540</u> 1.7530	<u>1.9392</u> 1.9382	<u>1.9380</u> 1.9370	.0378					
701-00030-XXX	<u>1.8790</u> 1.8780	<u>2.0642</u> 2.0632	<u>2.0630</u> 2.0620	.0404					
701-00032-XXX	<u>2.0040</u> 2.0030	<u>2.1892</u> 2.1882	<u>2.1880</u> 2.1870	.0429					
701-00034-XXX	<u>2.1290</u> 2.1280	2.3142 2.3132	2.3130 2.3120	.0455					
701-00036-XXX	<u>2.2540</u> 2.2530	<u>2.4392</u> 2.4382	<u>2.4380</u> 2.4370	.0480					
701-00040-XXX	<u>2.5040</u> 2.5030	<u>2.6892</u> 2.6882	<u>2.6880</u> 2.6870	.0532					
701-00044-XXX	<u>2.7550</u> 2.7540	<u>2.9492</u> 2.9482	<u>2.9480</u> 2.9470	.0612					

Shaft sizes based on cold finish steel tolerances



BEARING MODEL NUMBER CALLOUT

701_00 XXX_XXX



BEARING BORE IN MULTIPLES OF 1/16"

THIN WALL SERIES

BEARING TYPE CODE: PLAIN JOURNAL

The Bearing Area Factor (BAF) is a numerical index of a bearing's dynamic performance ability and is based upon effective bearing area.

THIN WALL SERIES — Continued

DURALON JOURNAL BEARING PLAIN TFE LINED

MODEL NUMBER SUFFIX AND BEARING AREA FACTOR (BAF)								
L = Length Suffix in Multiples of $\frac{1}{32}$ " (Tolerance +.000/020)								Model Number
.875/BAF	1.000/BAF	1.125/BAF	1.250/BAF	1.375/BAF	1.500/BAF	1.750/BAF	2.000/BAF	Model Number
-028 (.400)	-032 (.464)	-036 (.528)						701-00004-XXX
-028 (.488)	-032 (.565)	-036 (.643)						701-00006-XXX
-028 (.561)	-032 (.650)	-036 (.739)						701-00008-XXX
-028 (.625)	-032 (.725)	-036 (.824)	-040 (.924)	-044 (1.023)				701-00010-XXX
-028 (.683)	-032 (.792)	-036 (.901)	-040 (1.010)	-044 (1.119)				701-00012-XXX
-028 (.737)	-032 (.854)	-036 (.971)	-040 (1.089)	-044 (1.206)	-048 (1.323)			701-00014-XXX
-028 (.786)	-032 (.912)	-036 (1.037)	-040 (1.162)	-044 (1.288)	-048 (1.413)	-056 (1.663)	-064 (1.914)	701-00016-XXX
-028 (.833)	-032 (.966)	-036 (1.099)	-040 (1.231)	-044 (1.364)	-048 (1.497)	-056 (1.762)	-064 (2.027)	701-00018-XXX
-028 (.877)	-032 (1.017)	-036 (1.157)	-040 (1.296)	-044 (1.436)	-048 (1.576)	-056 (1.855)	-064 (2.134)	701-00020-XXX
-028 (.919)	-032 (1.066)	-036 (1.212)	-040 (1.358)	-044 (1.505)	-048 (1.651)	-056 (1.944)	-064 (2.236)	701-00022-XXX
-028 (.959)	-032 (1.112)	-036 (1.265)	-040 (1.417)	-044 (1.570)	-048 (1.723)	-056 (2.028)	-064 (2.334)	701-00024-XXX
-028 (.998)	-032 (1.156)	-036 (1.315)	-040 (1.474)	-044 (1.633)	-048 (1.792)	-056 (2.109)	-064 (2.427)	701-00026-XXX
-028 (1.034)	-032 (1.199)	-036 (1.364)	-040 (1.528)	-044 (1.693)	-048 (1.858)	-056 (2.187)	-064 (2.517)	701-00028-XXX
	-032 (1.240)	-036 (1.411)	-040 (1.581)	-044 (1.752)	-048 (1.922)	-056 (2.263)	-064 (2.603)	701-00030-XXX
	-032 (1.280)	-036 (1.456)	-040 (1.632)	-044 (1.808)	-048 (1.984)	-056 (2.335)	-064 (2.687)	701-00032-XXX
		-036 (1.500)	-040 (1.681)	-044 (1.862)	-048 (2.043)	-056 (2.406)	-064 (2.768)	701-00034-XXX
		-036 (1.543)	-040 (1.729)	-044 (1.915)	-048 (2.102)	-056 (2.474)	-064 (2.847)	701-00036-XXX
			-040 (1.820)	-044 (2.017)	-048 (2.213)	-056 (2.605)	-064 (2.998)	701-00040-XXX
				-044 (2.114)	-048 (2.319)	-056 (2.730)	-064 (3.142)	701-00044-XXX



BEARING MODEL NUMBER CALLOUT



BEARING LENGTH IN MULTIPLES OF 1/32" BEARING BORE IN MULTIPLES OF 1/16" THIN WALL SERIES BEARING TYPE CODE: PLAIN JOURNAL

The Bearing Area Factor (BAF) is a numerical index of a bearing's dynamic performance ability and is based upon effective bearing area.

HEAVY WALL SERIES

DURALON JOURNAL BEARING PLAIN TFE LINED

			Sha	ft sizes bas	ed on cold finish s	teel tolerances			
	HEA	VY WAL	L	T	MODEL NU	MBER SUFFIX AND	BEARING AREA FA	CTOR (BAF)	
Model Number	В	D	Housing	Wt (Ref)	L = Length Suffix in Multiples of $\frac{1}{32}$ " (Tolerance +.000/020)				
	Bore	0.D.	Bore	Lb/In.	1.000/BAF	1.250/BAF	1.500/BAF	1.750/BAF	
701-01028-XXX	<u>1.7600</u> 1.7580	<u>2.2510</u> 2.2500	<u>2.2480</u> 2.2460	.1086	.032 (1.201)	-040 (1.531)	-048 (1.861)	-056 (2.191)	
701-01032-XXX	<u>2.0100</u> 2.0080	<u>2.5010</u> 2.5000	<u>2.4980</u> 2.4960	.1222	-032 (1.282)	-040 (1.634)	-048 (1.987)	-056 (2.339)	
701-01036-XXX	<u>2.2600</u> 2.2580	<u>2.7510</u> 2.7500	<u>2.7480</u> 2.7460	.1357	-032 (1.358)	-040 (1.731)	-048 (2.104)	-056 (2.477)	
701-01040-XXX	<u>2.5100</u> 2.5080	<u>3.0010</u> 3.0000	<u>2.9980</u> 2.9960	.1493	-032 (1.430)	-040 (1.823)	-048 (2.215)	-056 (2.608)	
701-01044-XXX	<u>2.7600</u> 2.7580	<u>3.2510</u> 3.2500	<u>3.2480</u> 3.2460	.1628		-040 (1.910)	-048 (2.321)	-056 (2.733)	
701-01048-XXX	<u>3.0110</u> 3.0085	<u>3.5010</u> 3.5000	<u>3.4980</u> 3.4960	.1762			-048 (2.422)	-056 (2.852)	
701-01052-XXX	<u>3.2610</u> 3.2585	<u>3.7510</u> 3.7500	<u>3.7480</u> 3.7460	.1898				-056 (2.966)	
701-01056-XXX	<u>3.5110</u> 3.5085	<u>4.0010</u> 4.0000	<u>3.9980</u> 3.9960	.2033				-056 (3.076)	
701-01060-XXX	<u>3.7610</u> 3.7585	<u>4.2510</u> 4.2500	<u>4.2480</u> 4.2460	.2169					
701-01064-XXX	<u>4.0120</u> 4.0090	<u>4.5010</u> 4.5000	<u>4.4980</u> 4.4960	.2302					
701-01068-XXX	<u>4.2620</u> 4.2590	<u>4.7510</u> 4.7500	<u>4.7480</u> 4.7460	.2437					
701-01072-XXX	<u>4.5140</u> 4.5110	5.0010 5.0000	<u>4.9980</u> 4.9960	.2562					
701-01076-XXX	<u>4.7630</u> 4.7600	5.2510 5.2500	<u>5.2480</u> 5.2460	.2702					
701-01080-XXX	5.0130 5.0095	5.5010 5.5000	<u>5.4980</u> 5.4960	.2840					
701-01084-XXX	5.2630 5.2595	5.7510 5.7500	<u>5.7480</u> 5.7460	.2975					
701-01088-XXX	5.5160 5.5125	6.0015 6.0000	<u>5.9970</u> 5.9950	.3095					
701-01092-XXX	<u>5.7660</u> 5.7625	6.2515 6.2500	<u>6.2470</u> 6.2450	.3230					
701-01096-XXX	6.0160 6.0120	6.5015 6.5000	<u>6.4970</u> 6.4950	.3367					
701-01100-XXX	<u>6.2660</u> 6.2620	<u>6.7515</u> 6.7500	<u>6.7470</u> 6.7450	.3502					
701-01104-XXX	<u>6.5160</u> 6.5120	7.0015 7.0000	<u>6.9970</u> 6.9940	.3636					
701-01108-XXX	<u>6.7660</u> 6.7620	7.2515 7.2500	7.2470 7.2440	.3771					
701-01112-XXX	7.0160 7.0115	7.5015 7.5000	7.4970 7.4940	.3910					
701-01120-XXX	7.5160 7.5115	8.0015 8.0000	<u>7.9970</u> 7.9940	.4179					
701-01128-XXX	8.0160 8.0110	8.5015 8.5000	<u>8.4970</u> 8.4940	.4453					
701-01136-XXX	<u>8.5160</u> 8.5110	<u>9.0020</u> 9.0000	<u>8.9970</u> 8.9940	.4727					
701-01144-XXX	9.0160 9.0110	9.5020 9.5000	<u>9.4970</u> 9.4940	.4997					
701-01152-XXX	<u>9.5160</u> 9.5110	<u>10.0020</u> 10.0000	<u>9.9970</u> 9.9940	.5267					
701-01160-XXX	<u>10.0160</u> 10.0110	<u>10.5020</u> 10.5000	<u>10.4970</u> 10.4940	.5537					



BEARING MODEL NUMBER CALLOUT

701_00 XXX_XXX



- BEARING BORE IN MULTIPLES OF 1/16"
- ------ THIN WALL SERIES

------ BEARING TYPE CODE: PLAIN JOURNAL

The Bearing Area Factor (BAF) is a numerical index of a bearing's dynamic performance ability and is based upon effective bearing area.

HEAVY WALL SERIES — Continued

DURALON JOURNAL BEARING PLAIN TFE LINED

MODEL NUMBER SUFFIX AND BEARING AREA FACTOR (BAF)							
	L	Length Suffix in	Multiples of 1/32"	(Tolerance +.00	0/020)		Model Number
2.000/BAF	2.500/BAF	3.000/BAF	3.500/BAF	4.000/BAF	6.000/BAF	10.000/BAF	mouel Humber
-064 (2.521)	-080 (3.181)	-096 (3.841)	-112 (4.501)	-128 (5.161)	-192 (7.801)	-320 (13.080)	701-01028-XXX
-064 (2.691)	-080 (3.395)	-096 (4.100)	-112 (4.804)	-128 (5.509)	-192 (8.327)	-320 (13.962)	701-01032-XXX
-064 (2.850)	-080 (3.596)	-096 (4.343)	-112 (5.089)	-128 (5.835)	-192 (8.820)	-320 (14.789)	701-01036-XXX
-064 (3.001)	-080 (3.787)	-096 (4.572)	-112 (5.358)	-128 (6.143)	-192 (9.286)	-320 (15.571)	701-01040-XXX
-064 (3.144)	-080 (3.967)	-096 (4.790)	-112 (5.614)	-128 (6.437)	-192 (9.729)	-320 (16.314)	701-01044-XXX
-064 (3.282)	-080 (4.141)	-096 (5.000)	-112 (5.859)	-128 (6.718)	-192 (10.154)	-320 (17.026)	701-01048-XXX
-064 (3.413)	-080 (4.306)	-096 (5.199)	-112 (6.093)	-128 (6.986)	-192 (10.559)	-320 (17.706)	701-01052-XXX
-064 (3.539)	-080 (4.465)	-096 (5.391)	-112 (6.318)	-128 (7.244)	-192 (10.949)	-320 (18.360)	701-01056-XXX
-064 (3.660)	-080 (4.618)	-096 (5.577)	-112 (6.535)	-128 (7.493)	-192 (11.326)	-320 (18.992)	701-01060-XXX
-064 (3.778)	-080 (4.767)	-096 (5.756)	-112 (6.745)	-128 (7.734)	-192 (11.691)	-320 (19.603)	701-01064-XXX
-064 (3.892)	-080 (4.911)	-096 (5.930)	-112 (6.949)	-128 (7.967)	-192 (12.043)	-320 (20.194)	701-01068-XXX
	-080 (5.051)	-096 (6.099)	-112 (7.147)	-128 (8.195)	-192 (12.387)	-320 (20.771)	701-01072-XXX
	-080 (5.186)	-096 (6.262)	-112 (7.338)	-128 (8.414)	-192 (12.718)	-320 (21.326)	701-01076-XXX
	-080 (5.318)	-096 (6.422)	-112 (7.525)	-128 (8.628)	-192 (13.042)	-320 (21.868)	701-01080-XXX
		-096 (6.577)	-112 (7.707)	-128 (8.837)	-192 (13.357)	-320 (22.398)	701-01084-XXX
		-096 (6.730)	-112 (7.887)	-128 (9.043)	-192 (13.669)	-320 (22.920)	701-01088-XXX
		-096 (6.878)	-112 (8.060)	-128 (9.242)	-192 (13.970)	-320 (23.424)	701-01092-XXX
		-096 (7.023)	-112 (8.230)	-128 (9.437)	-192 (14.264)	-320 (23.918)	701-01096-XXX
			-112 (8.396)	-128 (9.627)	-192 (14.552)	-320 (24.400)	701-01100-XXX
			-112 (8.559)	-128 (9.814)	-192 (14.834)	-320 (24.874)	701-01104-XXX
			-112 (8.719)	-128 (9.997)	-192 (15.111)	-320 (25.338)	701-01108-XXX
			-112 (8.875)	-128 (10.177)	-192 (15.382)	-320 (25.793)	701-01112-XXX
				-128 (10.526)	-192 (15.911)	-320 (26.680)	701-01120-XXX
				-128 (10.865)	-192 (16.422)	-320 (27.537)	701-01128-XXX
					-192 (16.917)	-320 (28.367)	701-01136-XXX
					-192 (17.398)	-320 (29.173)	701-01144-XXX
					-192 (17.865)	-320 (29.957)	701-01152-XXX
					-192 (18.320)	-320 (30.719)	701-01160-XXX





ADDITIONAL DURALON CONFIGURATIONS

AXIAL MOVEMENT AND TORQUE TRANSMISSION

Duralon bearings in a nonround bore configuration act as torque transmitting devices. With comparable bore and OD configuration, they are capable of transmitting torque through an assembly while at the same time allowing linear motion of the shaft to occur in the bearing bore. This type of self-lubricating bearing, available in standard 701-70 series square bore or 701-90 series for hexagonal bore configurations, replaces costlier splines, steel-on-steel and/or ball and roller slip assemblies.



Part No.	B In.	OD In.	H In.	L*
701-70004-XXX	<u>.255</u> .253	<u>.5017</u> .5007	<u>.3330</u> .3130	3.0
701-70006-XXX	<u>.380</u> .378	<u>.7517</u> .7507	<u>.5100</u> .4900	6.0
701-70008-XXX	<u>.505</u> .503	<u>.8767</u> .8757	<u>.6870</u> .6670	6.0
701-70010-XXX	<u>.630</u> .628	<u>1.0017</u> 1.0007	<u>.8630</u> .8430	10.0
701-70012-XXX	<u>.755</u> .753	<u>1.2517</u> 1.2507	<u>1.0400</u> 1.0200	10.0
701-70014-XXX	<u>.880</u> .878	<u>1.5017</u> 1.5007	<u>1.2170</u> 1.1970	10.0
701-70016-XXX	<u>1.005</u> 1.003	<u>1.6267</u> 1.6257	<u>1.3940</u> 1.3740	10.0
701-70018-XXX	<u>1.130</u> 1.128	<u>1.8767</u> 1.8757	<u>1.5710</u> 1.5510	10.0
701-70020-XXX	<u>1.255</u> 1.253	<u>2.0017</u> 2.0007	<u>1.7470</u> 1.7270	10.0
701-70022-XXX	<u>1.380</u> 1.378	<u>2.2517</u> 2.2507	<u>1.9240</u> 1.9040	10.0
701-70024-XXX	<u>1.505</u> 1.503	<u>2.5017</u> 2.5007	<u>2.1010</u> 2.0810	10.0

Advantages and Benefits

- 1. Reduces total parts and assembly costs
- 2. Eliminates lubrication
- 3. Minimizes space required
- 4. Resists corrosion
- Minimizes galling and scoring
 Lowers maintenance cost
- Lowers maintenant
 Absorbs vibration

DURALON HEXAGON BEARINGS





Part No.	B In.	OD In.	H In.	L*
701-90004-XXX	<u>.256</u> .253	<u>.5017</u> .5007	<u>.268</u> .248	3.0
701-90006-XXX	<u>.381</u> .378	<u>.6267</u> .6257	<u>.412</u> .392	6.0
701-90008-XXX	<u>.506</u> .503	<u>.7517</u> .7507	<u>.557</u> .537	6.0
701-90010-XXX	<u>.631</u> .628	<u>.8767</u> .8757	<u>.701</u> .681	10.0
701-90012-XXX	<u>.756</u> .753	<u>1.0017</u> 1.0007	<u>.845</u> .825	10.0
701-90014-XXX	<u>.881</u> .878	<u>1.2517</u> 1.2507	<u>.990</u> .970	10.0
701-90016-XXX	<u>1.006</u> 1.003	<u>1.5017</u> 1.5007	<u>1.134</u> 1.114	10.0
701-90018-XXX	<u>1.132</u> 1.128	<u>1.6267</u> 1.6257	<u>1.279</u> 1.259	10.0
701-90020-XXX	<u>1.257</u> 1.253	<u>1.7517</u> 1.7507	<u>1.423</u> 1.403	10.0
701-90022-XXX	<u>1.382</u> 1.378	<u>1.8767</u> 1.8757	<u>1.567</u> 1.547	10.0
701-90024-XXX	<u>1.507</u> 1.503	<u>2.0017</u> 2.0007	<u>1.712</u> 1.692	10.0

REPLACEMENTS FOR EXISTING BEARINGS

Duralon self-lubricating bearings are available as dimensional interchanges to popular styles and sizes of ball and linear bearings for applications where maintenance is difficult or impossible. However, to properly utilize these designs, the mating shaft must be compatible (material, size, finish) to achieve the performance benefits of Duralon bearings.

Duralon 710 series replaces cylindrical OD configuration, whereas the711 series provides a spherical outside diameter for self-alignment. The 701-60 series sleeves are designed to replace linear bearings.

Advantages and Benefits

- 1. Dimensional interchangeability
- 2. Eliminates lubrication
- 3. Resists corrosion
- 4. Seizure resistant
- 5. Lowers maintenance cost
- 6. Can operate over wide range of speeds and loads
- 7. Absorbs vibration



Ball Bearing Replacement



LINEAR REPLACEMENT COMPOSITE BEARINGS:

SMOOTH, ACCURATE, DURABLE

Made from woven Teflon® fibers backed by filament-wound fiberglass and epoxy resin, non-metallic Rex Duralon bearings work like magic in a broad range of applications.

- <u>Maintenance-free.</u> Self-lubricating. Wear resistant. Quiet operation.
- <u>Reliable in any environment.</u> Resistant to chemical, galvanic and fretting corrosion, high temperatures, moisture and gases.
- <u>High in load capacity</u>. Proven in linear, oscillating, rotating or torque transmission loads, or any combination.
- <u>Strong, yet lightweight.</u> Weighs 77% less than steel, 30% less than aluminum.
- Easy on shafting. Does not gall or brinnell mating shaft.
- <u>Choice of shafting</u>. Shaft can be ground and polished cold-rolled steel, chrome plated steel or stainless steel, depending one nvironment.
- Low cost. Can greatly reduce auxiliary hardware needs and costs.



Typical Duralon linear bearing

Applications:

Feeding mechanisms • packaging machinery • welding equipment • plastic molding machines • glass manufacturing equipment • hydraulic and pneumatic cylinders • foundry machines • office equipment • food processing equipment.

USDA APPROVED FOR NONCONTACT FOOD APPLICATIONS.

Part No.	ID In.	OD In. +.000 —.001	Width In. +.000 —.020	G In.	OD to ID Concentricity
701-66004-024	.2515 .2505	.5006	.750	.447 .427	
701-66006-028	.3765 .3755	.6256	.875	.572 .552	
701-66008-040	.5015 .5005	.8756	1.250	.885 .865	
701-66010-048	.6265 .6255	1.1256	1.500	1.010 .990	
701-66012-052	.7515 .7505	1.2506	1.625	1.072 1.052	.001 TIR
701-66016-072	1.0015 1.0005	1.5631	2.250	1.635 1.615	
701-66020-084	1.2515 1.2505	2.0006	2.625	1.890 1.860	
701-66024-096	1.5015 1.5005	2.3756	3.000	2.265 2.235	
701-66032-128	2.0015 2.0005	3.0006	4.000	3.015 2.985	
701-60040-160	2.5060 2.5050	3.7506	5.000	3.765 3.735	
701-60048-192	3.0070 3.0050	4.5006	6.000	4.515 4.485	.003 TIR
701-60064-256	4.0080 4.0050	6.0006	8.000	6.020 5.980	

DURALON BEARING SELECTION

The Duralon selection graph is designed to handle general applications described by the following parameters:

- 1. Speed not exceeding 60 cycles per minute (12FPM).
- 2. Pressures not exceeding 25,000 psi.
- 3. Oscillation up to 90° included angle.

For application requirements exceeding these parameters, consult the local Rexnord Sales Engineer.

Duralon selection problems are typically either: a) a life calculation where load and size are known, or b) a size selection, where load and required life are known.

Using the selection graph, a few simple steps can handle either situation:

Life Calculation

(Known load, oscillation and bearing size)

- 1. Convert oscillation angle to included angle, then follow that line horizontally until it intersects load level.
- 2. From that point, drop vertically down the chart until the B.A.F. value is intersected.
- 3. From that point, follow horizontally from that point and read resulting cycles of life (to .006 wear).

Size Selection

(Known load, oscillation and required life)

- 1. Locate the intersection of the oscillation angle and load lines.
- Drop vertically down the chart until the required life value is intersected.
- 3. Determine the required capacity (B.A.F.) by following the inclined line from that point.
- Select appropriate size bearing from the thin or heavy series with a B.A.F. in excess of that value, incorporating any known size restrictions — and checking to assure that pin strength (bending) is adequate.



Life Calculation Example

EXAMPLE — Life Calculation

Information required to use the selection chart is as follows:

Oscillation angle — ±25

Radial Load - 15,000 lbs.

Bearing size - 1" dia., 5%" long

 Step 1. Included angle equals the plus and minus motion although the midpoint of the cycle ±25 degrees equals an included angle of 50 degrees (point 1).

Radial load equals 15,000 lbs. (point 2). These two intersect at point 3.

- Step 2. The B.A.F. for a 1.0 dia. .625 width bearing is .536, as found in the table of Page 4 (point 4). This line intersects the point 3 requirements at point 5.
- Step 3. To determine life to .006 inch wear from chart read the vertical axis value (point 6 equals 130,000 cycles).

EXAMPLE — Size Selection

Information to use chart is as follows:

Oscillation angle — $\pm 30^{\circ}$

Radial Load — 20,000

Required life — 500,000 cycles

Size restriction — Cannot exceed 11/4 dia. pin

- Step 1. Included angle equals the plus and minus motion through the midpoint of the cycle, thus ± 30 degrees equals an included angle of 60° (point 1) the radial load is 20,000 pounds (point 2), and the intersection of angle and load is point 3.
- Step 2. Move down the chart vertically until the 500,000 cycle life (point 4) line is intersected point 5.
- Step 3. Follow the inclined line and read the required B.A.F. value (point 6) of 1.5.
- Step 4. With a required B.A.F. of 1.5, any bearing from the tables of 4-5 or 6-7 that exceeds that value could be selected ie., with a 1¹/₄ dia. pin, a 1¹/₂ inch length is required, thus a 701-00020-048. However, if a 1" pin will accept the load, a longer bearing (1³/₄) is required 701-00016-056. —Thus a check of pin bending strength is appropriate.



DURALON SELECTION CHART

EQUIVALENT RADIAL LOAD - POUNDS



BEARING AREA FACTOR

DESIGN AND APPLICATION GUIDELINES

The overall performance of Filament bearings is directly affected by operating factors such as applied loads, operating motions, duty cycle, environmental conditions, installation methods and shaft finish and hardness. While specific design criteria are not available for all applications, certain guidelines must be followed to provide the rated life.

1.Loads and ratings

The back-up material in Duralon journal bearings is capable of withstanding static radial load levels as high as 60,000 psi on the projected bearing area. This is in excess of the fabric liner capability of (50,000 psi) based on previous experience. The load deflection relationship of Duralon journal bearings and metal-backed Teflon lined bearings is very similar. The yield point and ultimate strength of the Filament back-up material are approximately equal.

2. Load-life relationship

Since accumulated wear terminates the useful life of a properly selected Teflon lined bearing, the Duralon selection procedure is based on the use of Bearing Area Factors (BAF), rather than load ratings, to select a bearing which meets the combined load-life requirements of the application. The Bearing Area Factor (BAF) is a numerical index of a bearing's dynamic performance ability and is based upon effective bearing area.

Duralon bearings are rated on the basis of L10 life expectancy which means that 90% of a given group of bearings will exceed the predicted life. The correlation of load and life is shown in the lower half of the Selection Chart which relates the BAF to cycles of life. BAF values for bearings involving standard combinations of bore and length, are shown in the bearing listings.

3. Motion

Duralon bearings can withstand various degrees of motion, depending upon speed and load. They will operate under all degrees of motion normally encountered in applications. Note that the degree of oscillation can affect bearing performance and must be taken into account when making a bearing selection, as shown on the nomograph.

Laboratory testing of Filament journal bearings has shown their capacity to operate successfully under the low speeds, (less than 90 cycles per minute), high load conditions, (up to 30,000 psi), as well as the high speeds, (up to 300 cpm), light load conditions (less than 5,000 psi). Test results shown on page 14. Full rotation can be accommodated if load and speed are below the curve in the following graph. See reference formula for pressure and velocity.





5. Temperature

The normal operating temperature range for Duralon bearings is -65° to $+325^{\circ}$ F. Satisfactory operation can be obtained with limited exposure to temperatures as high as 450° F. However, at continuous temperatures above 325° F an increase in wear rates will be experienced.

6. Environmental

Duralon bearings are resistant to most environmental elements encountered in bearing applications. Predictable wear lives have been obtained when bearings were operated in various fluids. However, specific test or evaluation is recommended.

BEARING PROPERTIES & SHAFTING

1.

F

Filament Bearing Properties Plain Journal Bearings

Typical physical characteristics of the filament wound backup material used in the Filament journal bearings are listed below:

1. Mechanical Properties

The mechanical properties of the filament wound back-up material are derived from the modulus of elasticity of the individual materials, and the construction. The values shown in Table I have been developed by using standard tests for cylindrical shapes.

Та	bl	е	
----	----	---	--

	Modulus (PSI)	Ultimate Strength (PSI)
Axial Compression	.8 x10 ⁶	20,000
Hoop Tension	2.7 x10 ⁶	35,000
Bending	1.5 x10 ⁶	25,000
Torsion (45° helix angle)	1.5 x10 ⁶	27,000
Interlaminar Shear		3,000-5,000
Impact resistance (notch)	· · · · · · · · · · · · · · · · · · ·	41 ft.lb/in. 1.9

NOTE: These values are applicable in -65° F to 250° F temperature range.

2. Thermal Properties

Comparative values of the coefficient of expansion for the Duralon back-up material, aluminum and steel are given in Table II. The similarity between steel and Duralon in the hoop direction should be noted. A higher value for thermal expansion is realized in the axial direction because of the fiberglass filament orientation.

Table II **Thermal Properties** Aluminum Steel 1. Expansion (In/In/F°) Axial Direction 15.0 x 10-6 13.3 x10-6 6.0 x10-6 Hoop Direction 7.0 x 10-6 13.3 x10-6 6.0 x10-6 Conductivity (BTUIn/Ft2F° Hr) 610-1100 1.4 95-185 2.

3. Electrical Properties

The Duralon back-up material is an electrical insulator. Its dielectric strength is about 300 volts per mil. Since the back-up material is electrically non-conducting, electrolytic or galvanic action will not take place between it and the housing or the shaft.

4. Chemical Properties

While Duralon materials are typically chemical resistant, due to the wide range of exposures, specific conditions must be checked. Consult Rexnord Corp., Bearing Operation, Downers Grove, IL 60515 (630) 969-1770.

Reference Formulae

These formulae may aid in the selection of Duralon bearings.

Bearing Pressure

$$PSI = Load lbs.$$

I.D. x W

- 2. Speed (Surface Velocity)
 - a. Full Rotation Surface velocity (Ft/Min) = .262 x I.D. x RPM
 - b. Oscillatory Motion Surface Velocity = <u>I.D. x 2 x included angle x CPM</u> (Ft/Min) 1.38 x 10³
- 3. Bearing Area Factor
 - BAF = I.D. ^{.491} x (W .090)
 - I.D. = Bearing Inner Diameter
 - W = Bearing Length

All dimensions are in inches All angles in degrees

Shafting

Since the shaft surface significantly affects the operation of a journal bearing design, its selection in regard to material, hardness, coating and surface roughness is crucial.

High loads require smooth surfaces with hardened and heat treated shafts. With stress levels of 8,000 to 30,000 psi shafting should have a surface finish of 8 micro inch or better to achieve optimum performance. However, tests have been run on 25-30 micro inch finishes with 55 Rc shafts at 4,000 psi with acceptable results.

Shafting Materials

A number of shaft materials have been used in conjunction with Duralon bearings:

- 1. 52100 high carbon steel
- 2. 4140 chrome and nickel plated steel
- 3. 300 and 400 series stainless steel
- 4. Precipitation hardened grades 17-4PH, 15-5PH, 13-8PH Moly chrome and nickel plated stainless steel
- 5. 2000 and 7000 series aluminum grades hard anodized
- 6. Low to high carbon steels



Surface roughness values do not define the character of the finish. Polished shafting (right) normally produces longer life.

COMPETITIVE NON-LUBED BEARINGS

General

A vast number of metallic and non-metallic, lined and unlined sliding bearings are available. The various combinations of materials and construction, as well as performance characteristics and cost, can present quite a dilemma for the engineer faced with selection of a bearing.

Characteristics such as static capacity or ultimate strength must be considered from a structural standpoint and control some selections.Wear life or dynamic performance capabilities are the prime concern in others. Temperature limits may be a factor in regard to the liner or lubrication. There is a wide range of chemical capabilities, electrical conductivity, and other properties that can be the key in still other applications.

General groupings of friction bearings include molded plastic materials, metallic bearings with liner strips, powdered metal with oil impregnation, Teflon lined with fiberglass backing, and Teflon fabric lined with metal backing.

Within the group of fiberglass-backed bearings, those made from

chopped fibers or braided filament have lower strength than those of filament-wound construction. Filament wound bearings rank high in static structural capacity and are also often tops in dynamic performance or wear-rate considerations.

Powdered metal bearings with oil impregnation — if relubricated — offer high dynamic ratings, but are subject to wear if the oil is lost. There are also high load and temperature limitations.

Metallic backed parts, with strip liners offer better wear life, but have only modest static capacity and temperature resistance. Molded plastic bearings can offer temperature advantages, but frequently have very low static capacity ratings.

Competitive Testing

To gain insight into basic performance capabilities and provide general application guidance, Rexnord has tested a variety of bearings under two basic conditions: First, a high load/low speed and second low load/high speed. The chart below and the graphs on the next page indicate the results.

Bearing Type	Low Load Test	High Load Test					
Rexnord Duralon Bearing	25.2 x10 ⁶	1.00 x 10 ⁶					
Powder Bronze	70,000	0					
Strip Overlay (Teflon, Bronze, Steel Backed)	.58 x 10 ⁶	14,000					
Strip Overlay(Tape, Steel Backed)	30,000	220					
Fiberglass Backed (Nomex, Teflon*)	.40 x 10 ⁶	.20 x 10 ⁶					
Braided Fiberglass Backed (Teflon)	1.6 x 10 ⁶	0					
Filament Wound Composite (Nomex, Teflon)	7.0 x 10 ⁶	.36 x 10 ⁶					
Filament Wound Composite (Tape Liner)	1.0 x 10 ⁶	12,000					
LaminatedPhenolic	Less than 7,000	0					
Phenolic Back (Teflon Fabric)	.50 x 10 ⁶	100					
Molded Compounded Teflon	0	0					
Oil Filled Molded Plastic	58,000	0					
Molybdenum Disulfide Filled Nylon	900	0					

L10 Life in Cycles to .006 In. Wear

Test Conditions

Low Load Test

Load: 4000 psiSpeed: 168 CPMOscillations ±10°(Travel .52 inches per cycle)High Load TestLoad: 20,000 psiSpeed: 90 CPMOscillations ±25°(Travel 1.3 inches per cycle)

All tests run on 4140-50RC - 8 RMS shafting polished or better, on test bearings with 1.5" I.D., 0.5" width.

COMPETITIVE NON-LUBED BEARINGS

Competitive Testing

The graphic illustrations below compare typical self-lubricated sleeve bearing designs under both low and high load conditions. In low load testing, while results vary dramatically, the mode of failure is "wear". However, in the high load test, many styles experience an "ultimate strength" failure.

Bearing Failure — Wear

Bearing failure can be defined in various ways; however typically sliding type bearings relate it to a wearing away of the load carrying surface and resulting increase in clearance. Traditionally the industry value for evaluating wear life is .006. This is based on early work associated with TFE fabric liners, where the composition of the material changed as wear progressed. Significant changes in wear rate, torque, etc. occurred at about that point. However, since Duralon liner composition does not change, significant additional wear life is available beyond .006.

Bearing industry premise not only defines life (wear), but also typically assigns a probability or confidence level to those values. The traditional failure probability rating is 10%, known throughout the industry as an L-10 rating — meaning 10% will fall short of the value, but 90% will exceed it! An L-10 life rating is more conservative than an "average" (L-50) value.



"Wear" failure — this fabric liner has been worn away in the load carrying zone.

Bearing Failure — Ultimate Strength

All materials, metallic and non-metallic have varying capabilities to support applied load. In bearings, the basic materials, processing, construction, etc. all contribute to the basic ability to support load or the ultimate capacity of the bearing. In situations where loads exceed the ultimate strength of a bearing, the structure is fractured, resulting in rapid or even instantaneous failure. Sinceself-lubricating bearings cover a wide range of materials and constructions, some are not capable of withstanding loading above 1000 psi without experiencing ultimate load failures.



"Ultimate strength" failure — this injected molded material could not support this load level applied resulting in cold flow in load zone.

Fretting Corrosion and Its Affects

When the lubricant is removed from the bearing surface it allows the contact of the bearing to the shaft. This exposure can cause fretting corrosion under the following conditions:

Small angles of oscillations — Like toggle linkages.

- Relative motion Hydraulic sytem fluid flowing through valves. Vibrations — Torsional vibration from diesel engine crank shafts
- or unbalanced electric motors.
- Loading and unloading Variable speed belt drives.

Metallic surfaces exposed to the above conditions start to fatigue, particles break off and begin to oxidize and the results is fretting corrosion. It can occur at high and low loads. This produces a residue of steel iron oxide a reddish appearing dust commonly called Jeweler's rouge. These metallic particles are very abrasive and cause early wear of the bearing element. In our case a foot print of the bearing fabric can be obsderved on the metallic shaft, even if the surfaces are 50 RC.



*Fretting corrosion of steel shafts.

Several processes have been used to eliminate fretting corrosion as follows:

Hard chrome plating .0003/.0005 inches thick.

Electroless nickel .0003/.0005 inches thick.

Melonite QPQ heat treatment.

Other considerations are necessary when selecting the above processes. Contact engineering for an in-depth analysis.

WHY USE DURALON BEARINGS

ECONOMICAL BEARINGS WITH RELIABLE PERFORMANCE AND CAPABILITIES BEYOND COMPETITIVE TYPES

Major Duralon bearings features

- Consistency the unique manufacturing process provides highly reliable and predictable performance from part to part.
- Strength Fiberglass structure exhibits ultimate crush strength under radial load in excess of 75,000 psi in sleeve configuration.
- Corrosion resistance Non-metallic materials resist galvanic, chemical and fretting corrosion.
- Self-lubricating Teflon fibers woven into the bearing liner provide the lubrication.
- Seizure resistance Fiberglass backing material will not seize or gall on the shaft under extreme wear.
- Lightweight Fiberglass structure saves 77% of steel weight, 30% of aluminum.

Major Duralon bearing benefits

- Operates self-lubricated to 30,000 psi dynamically.
- Minimizes galling and scoring.
- Resists galvanic and fretting corrosion.
- Operates above or below useful temperature of lubricants.
- Operates at high or low speeds that would squeeze out ordinary lubricants.
- Eliminates contaminating lubricants.
- Reduces weight.
- Minimizes slipstick problems.
- Eliminates complex lubrication systems.
- Provides electrical insulation.
- Reduces noise volume.
- Optimizes strength/weight ratio.

Comparison of non-lubricated bearings

OPERATING LIMITS (Machine Design — 1972-73 Bearing Reference Issue)

Bearing Material	Load Capacity (psi)	Max Temp. (F)	Max Speed (fpm)	PV Limit Psi Load Times Surface Fpm
Porous bronze	4,500	160	1,500	50,000
Porous iron	8,000	160	800	50,000
Phenolics	6,000	200	2,500	15,000
Nylon	1,000	200	1,000	3,000
TÉE	500	500	50	1,000
Reinforced Teflon .	2,500	500	1,000	10,000
TFE fabric*	60,000	500	150	25,000
Polycarbonate	1,000	220	1,000	3,000
Acetal	1,000	180	1,000	3,000
Carbon-graphite	600	750	2,500	15,000
Rubber	50	150	4,000	—
Wood	2.000	160	2.000	12.000

* Shows Duralon bearing classification. Not to be used for design purposes.

FRICTION PROPERTIES

Bearing Material	Co- efficient	Slip- stick
Steel-on-Steel	.50	Yes
Bronze-on-Steel	.35	Yes
Aluminum Bronze-on-Steel	.45	Yes
Sintered Bronze-on-Steel (mineral oil)	.13	No
Bronze-on-Steel (mineraloil)	.16	No
Copper LeadAlloy-on-Steel	.22	Yes
Lead Film Deposited on Copper-on-Steel	.18	Yes
Copper Film Deposited on Steel	.30	Yes
Acetal-on-Steel	.20	No
Nylon-on-Steel	.32	Yes
UHMWP-on-Steel	.20	Yes
Teflon-on-Steel	.04	No
Duralon-on-Steel	.0516	No

The other half of the bearing

With sleeve bearings, the mating surface is the shaft, and it must be considered as a portion of the bearing in order to yield proper performance. Typically, the shaft utilized with a Duralon bearing should be turned, ground and polished (commercially available), and of appropriate chemistry and strength for the application conditions. For higher load applications, hardened shafting, with ground and polished surfaces, is recommended.

ADDITIONAL DURALON CONFIGURATIONS AND — PERFORMANCE CAPABILITIES

SPHERICAL BEARINGS

Filament spherical bearings are designed for applications where both misaligning and oscillatory motions are present under dynamic conditions. Bearing design combines a metallic inner race with a filament outer race to produce a lightweight, corrosion-resistant component. In addition, near perfect conformance of the outer race I.D. to the inner race O.D. assures consistent bearing performance and longer life.

Advantages and Benefits

- 1. High degree of conformity between outer race and inner race
- 2. Reduced maintenance cost
- 3. Self-lubricating TFE liner
- 4. Corrosion resistant outer race
- 5. Will not seize or gall onto the inner race under extreme wear conditions.





ACTUATOR NUTS

The development of actuator nuts is an extension of the process used in manufacturing the basic sleeve configuration utilizing the Teflon fabric as a bearing surface and the fiberglass epoxy matrix as the support structure. Acme thread forms or modified acme thread forms as small as $\frac{1}{2}$ inch major diameter, 10 threads per inch have been wound successfully. These nuts can be considered as replacement for ball screw and jack screw shaft assemblies.

Advantage and Benefits

- 1. No lubrication required due to self-lubricating liner.
- 2. Improved power/weight factor due to lightweight Duralon material.
- 3. Higher degree of corrosion resistance.
- High degree of functional precision between Duralon actuator nut and drive screw.
- 5. Lash-free movement between Duralon actuator nut and drive screw.

DESIGN INNOVATION

The filament winding technique used to manufacture Duralon bearings allows the production of many unusual bearing shapes. Square, hexagonal and threaded I.D. shapes can be produced easily and inexpensively and offer many advantages and benefits not found with conventional metallic components. Utilizing the configuration flexibility of filament wound bearings can often result in overall design and cost savings.

The unique combination of material properties and manufacturing techniques found in Duralon filament wound bearings opens the door to imaginative problem solutions by engineers. Contact Rexnord for assistance in developing innovative configurations to fulfill unique application requirements.



RETENTION METHODS

Bearing retention

The standard method of sleeve bearing retention is a "press" or interference fit. For Duralon, this recommended range is from .0002" to .0022" press; however, to avoid shearing the back-up material, the interference should not exceed .007". NOTE: Bore diameter will be reduced an amount equal to housing interference. This fact must be taken into consideration when determining proper pin size. A minimum clearance fit of .0005" to .0015" per inch of diameter is normally used between the shaft and the bearing bore.



Other retention methods



* Check with Rexnord's engineering department for additional information.

BONDING



Several types of adhesives can be used. Epoxys have given the highest shear strength.*





SNAP RINGS



Used for linear travel on small diameter bearings.

INDEX

ADDITIONAL DURALON CONFIGURATIONS AND PERFORMANCE CAPABILITIES
BEARING PROPERTIES & SHAFTING 13 1. Mechanical Properties 13 2. Thermal Properties 13 3. Electrical Properties 13 4. Chemical Properties 13 Filament Bearing Properties 13 Reference Formulae 13 Shafting 13 Shafting Materials 13
COMPETITIVE NON-LUBED BEARINGS 14 Competitive Testing 14 General 14 Test Conditions 14 Bearing Failure — Wear 15 Bearing Failure — Ultimate Strength 15 Competitive Testing 15 High Load Test 15 Low Load Test 15
DESIGN AND APPLICATION GUIDELINES121. Loads and ratings122. Loalife relationship123. Motion124. Friction125. Temperature126. Environmental12
DEVELOPED TO DELIVER DESIGN FREEDOM

DURALON BEARING SELECTION EXAMPLE — Life Calculation EXAMPLE — Size Selection Life Calculation Size Selection	10 10 10 10 10
DURALON BEARINGS	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
DURALON SELECTION CHART	11
HEAVY WALL SERIES	6 9
LINEAR REPLACEMENT COMPOSITE BEARINGS: Applications:	9 9 9
RETENTION METHODS Bearing retention Other retention methods	18 18 18
THIN WALL SERIES DURALON JOURNAL BEARING PLAIN TFE LINED	4
WHY USE DURALON BEARINGS ECONOMICAL BEARINGS WITH RELIABLE PERFOR- MANCE AND CAPABILITIES BEYOND COMPETITIVE TYPES	16 16
Major Duralon bearing benefits Major Duralon bearings features The other half of the bearing	16 16 16

World Class

For more than 100 years, the dedicated people of Rexnord have delivered excellence in quality and service to our customers around the globe. Rexnord is a trusted name when it comes to providing skillfully engineered products that improve productivity and efficiency for industrial applications worldwide. We are committed to exceeding customer expectations in every area of our business: product design, application engineering, operations, and customer service.

Because of our customer focus, we are able to thoroughly understand the needs of your business and have the resources available to work closely with you to reduce maintenance costs, eliminate redundant inventories and prevent equipment down time.

Rexnord represents the most comprehensive portfolio of power transmission and conveying components in the world with the brands you know and trust.

WORLDWIDE CUSTOMER SERVICE

AUSTRALIA

Rexnord Australia Pty. Ltd. Picton, New South Wales Phone: 61-2-4677-3811 Fax: 61-2-4677-3812

BRAZIL

Rexnord Correntes Ltda. Sao Leopoldo - RS Phone: 55-51-579-8022 Fax: 55-51-579-8029

CANADA

Rexnord Canada Ltd. Scarborough, Ontario Phone: 1-416-297-6868 Fax: 1-416-297-6873

CHINA

Rexnord China Shanghai, China Phone: 86-21-62701942 Fax: 86-21-62701943

EUROPE

Rexnord NV/SA Mechelen, Belgium Phone: 32-15-.443811 Fax: 32-15-443860

Rexnord Kette GmbH Betzdorf, Germany Phone: 49-2741-2840 Fax: 49-2741-284-385

LATIN AMERICA

Rexnord International, Inc. Milwaukee, Wisconsin Phone: 1-414-643-2366 Fax: 1-414-643-3222 E-mail: international2@rexnord.com

MEXICO

Rexnord S.A. de C.V. Queretaro, Qro. Phone: 52-442-218.5000 Fax: 52-.442-218-1090

SINGAPORE

Rexnord International, Inc. Singapore City, Singapore Phone: 65-6338-5622 Fax: 65-6338-5422

UNITED STATES

Customer Service Phone: 1-866-REXNORD (1-866-739-6673) Fax: 1-614-675-1898 E-mail: rexnordcs(state)@rexnord.com Example: rexnordcsohio@rexnord.com

ALL COUNTRIES NOT LISTED

Rexnord International Milwaukee, Wisconsin Phone: 1-414-643-2366 Fax: 1-414-643-3222 E-mail: international1@rexnord.com



Rexnord Industries, LLC, Filament Wound Operation, 2324 Curtiss Street, Downers Grove, IL 60515-4017 USA Phone: 630-719-2337 Fax: 630-969-8752 1030 07/2006 Delzer Litho Printed in USA

© 2006 Rexnord Industries LLC