

DURAMAX

DuraBlue™ Composite Rudder Bushing

- ▶ Greaseless, Self-Lubricating, Pollution Free
- ▶ Extremely Long Life
- ▶ High Load Capability & Ultra Low Friction



Rudder Stocks, Pintles
and Steering Gear Bushings
Diameter: 1" - 42" (2.5 - 1007cm)

Sheet Stock Available for
Thrust Washers and Wear Pads
Stock Sheets: 31" x 48"
Thickness: 1/8" - 3"

PRODUCT INFORMATION AND SELECTION GUIDE

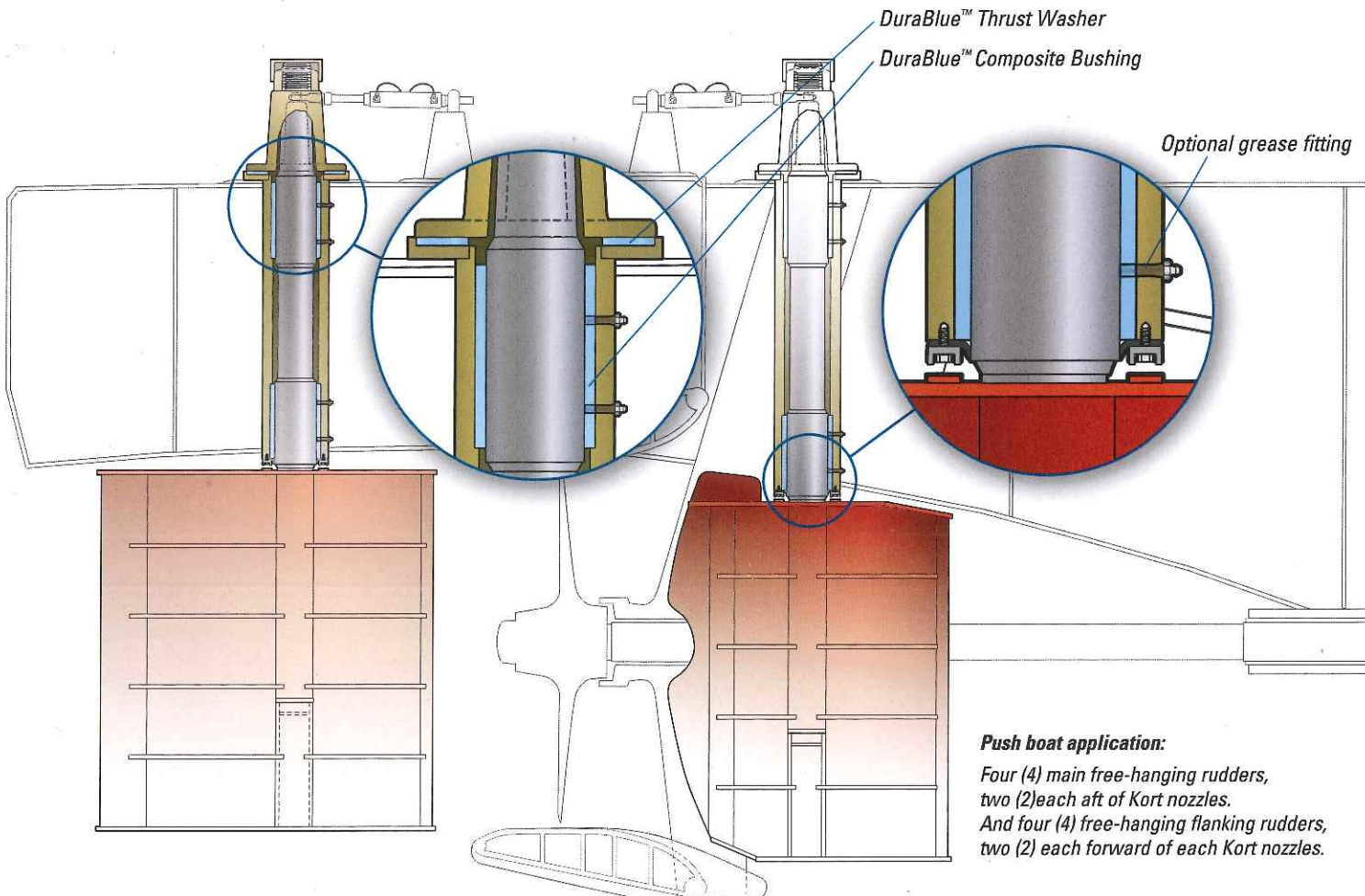
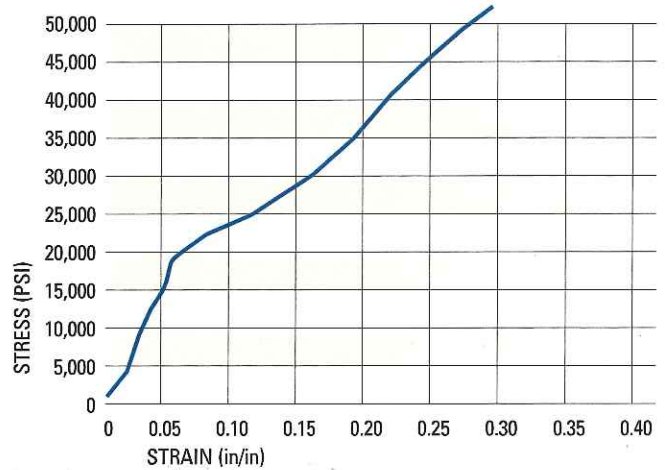
DURAMAX MARINE®

DuraBlue™ Composite physical properties are excellent for rudder applications.

PROPERTY	UNIT		VALUE	
Compressive Strength	MPa	Psi	325	47100
Shear Strength	MPa	Psi	95	13700
Modulus of Elasticity	MPa	Psi	2000	290,000
Hardness	Rockwell "R"		120	
Density	10 ³ kg/m ³	lb/in ³	1.25	0.045
Water Absorption	%		<0.09	
Coefficient of Thermal Expansion	10 ⁻⁶ /°C	10 ⁻⁶ /°F	65	36
Chemical Resistance	NA		Good	
Color	NA		Blue	
Maximum Temperature	°C	°F	130	270
Minimum Temperature	°C	°F	<-200	<-300
Advised Maximum Working Temperature	°C	°F	80	176
Typical Friction Value	NA		0.04 – 0.08	
General Wear Resistance	NA		Very Good	
Resistance Against Abrasive Wear	NA		Good	

Duramax® DuraBlue™ compression test

An independent laboratory static compression test on the DuraBlue™ composite material showed it exceeded 51,000 PSI.



Push boat application:

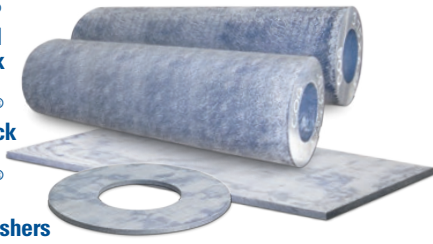
Four (4) main free-hanging rudders, two (2) each aft of Kort nozzles. And four (4) free-hanging flanking rudders, two (2) each forward of each Kort nozzles.

DuraBlue® Self-Lubricating Rudder Bushings & Sheet Stock

**DuraBlue®
Unfinished
Tube Stock**

**DuraBlue®
Sheet Stock**

**DuraBlue®
Finished
Thrust Washers**



DuraBlue® Bearings and Sheets are:

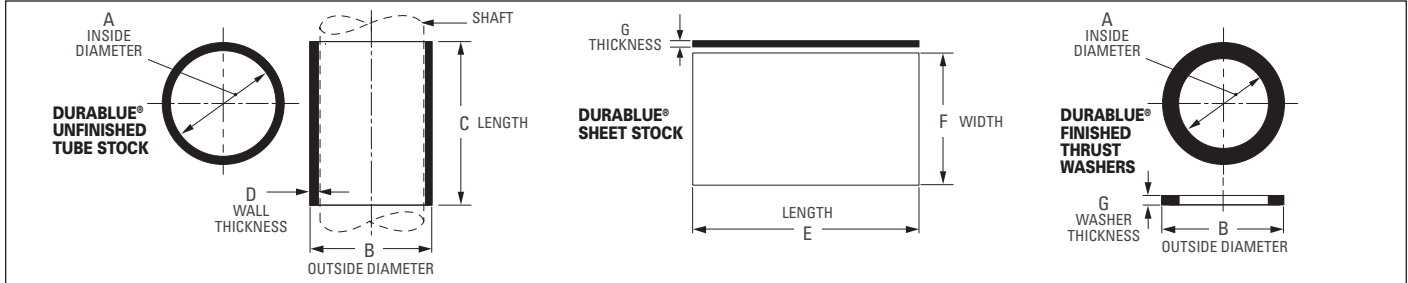
- Greaseless, self-lubricating and pollution free
- Dimensionally stable with extremely long life
- High load capability & ultra low friction
- All DuraBlue® Composite Bushings and Sheets are rated for continuous duty and extremely smooth operation with specific pressure up to 25N/mm²

DuraBlue® Rudder Bearings

All standard size rudder bearings shown are carried in-stock at our regional warehouses and manufacturing facility in Hiram, Ohio. Any size not shown can be made to order. 1" - 42" Inside Diameter range.

DuraBlue® Sheet Stock

For fabrication of Thrust Washers, Wear Pads and Skid Plates.



DuraBlue® Unfinished Tube Stock

CODE	A Inside Diameter		B Outside Diameter		C Length		D Wall Thickness		Approx. Wt.	
	inch	mm	inch	mm	inch	mm	inch	mm	lbs.	kg.
AGE	1.00	25	2.00	51	30.50	775	0.500	13	3.4	1.6
AIM	1.00	25	2.50	64	30.50	775	0.750	19	6.2	2.8
AIR	1.00	25	3.00	76	30.50	775	1.000	25	9.3	4.2
ALE	1.00	25	3.50	89	30.50	775	1.250	32	13.1	5.9
ARC	1.00	25	5.00	127	30.50	775	2.000	51	27.8	12.6
ARM	1.75	44	4.25	108	30.50	775	1.250	32	17.4	7.9
BAT	2.00	51	5.00	127	30.50	775	1.500	38	24.3	11.0
BOX	2.75	70	5.25	133	30.50	775	1.250	32	22.9	10.4
CAN	3.50	89	6.75	171	30.50	775	1.625	41	37.0	16.8
COG	3.75	95	6.25	159	30.50	775	1.250	32	35.0	15.9
DEW	4.00	102	7.00	178	30.50	775	1.500	38	38.0	17.2
DOT	4.75	121	7.25	184	30.50	775	1.250	32	34.7	15.7
ECO	5.25	133	8.25	210	30.50	775	1.500	38	47.4	21.5
ELK	5.75	146	8.25	210	30.50	775	1.250	32	40.5	18.4
ELM	5.75	146	9.25	235	30.50	775	1.750	44	60.8	27.5
FOX	6.75	171	9.25	235	30.50	775	1.250	32	46.3	21.0
GAL	7.00	178	10.50	267	30.50	775	1.750	44	70.9	32.1
GAP	7.75	197	10.25	260	20.50	521	1.250	32	34.4	15.6
GEM	7.75	197	10.25	260	30.50	775	1.250	32	52.1	23.6
HAT	8.25	210	10.75	273	30.50	775	1.250	32	54.6	24.7
HUB	8.75	222	11.25	286	30.50	775	1.250	32	57.9	26.2
INN	9.25	235	12.50	318	30.50	775	1.625	41	82.3	37.3
ION	9.75	248	12.25	311	30.50	775	1.250	32	62.6	28.4
IVY	9.75	248	13.00	330	20.50	521	1.625	41	57.3	27.0
JAB	10.00	254	13.00	330	30.50	775	1.500	38	79.6	36.0
JIG	10.75	273	13.75	349	20.50	521	1.500	38	56.3	25.5
JUG	10.75	273	13.75	349	30.50	775	1.500	38	84.8	38.4
KAS	11.00	279	14.00	356	20.50	521	1.500	38	58.1	27.4
KEG	11.50	292	14.00	356	20.50	521	1.250	32	49.4	23.3
KEY	11.75	298	14.75	375	20.50	521	1.500	38	60.9	27.6
KIT	11.75	298	14.75	375	30.50	775	1.500	38	92.9	42.1
LID	12.75	324	16.25	413	20.50	521	1.750	44	77.7	35.2
LOG	12.75	324	16.25	413	30.50	775	1.750	44	117.6	53.3
MOP	13.75	349	17.25	438	20.50	521	1.750	44	83.0	37.6
MUG	13.75	349	17.25	438	30.50	775	1.750	44	123.5	55.9
NAB	14.75	375	18.25	464	20.50	521	1.750	44	88.4	40.0
NAP	14.00	356	17.50	445	20.50	521	1.750	44	84.3	39.7
NOD	14.75	375	18.25	464	30.50	775	1.750	44	131.5	59.6

DuraBlue® Sheet Stock

CODE	E Sheet Length		F Sheet Width		G Sheet Thickness		Approx. Wt.	
	inch	mm	inch	mm	inch	mm	lbs.	kg.
SAW	48.50	1232	20.50	521	0.50	12.70	24.0	10.9
SAT	48.50	1232	30.50	775	0.50	12.70	36.0	16.3
SKY	48.50	1232	20.50	521	0.75	19.05	36.0	16.3
SEA	48.50	1232	30.50	775	0.75	19.05	57.0	25.9
SUN	48.50	1232	20.50	521	1.00	25.40	47.0	21.3
SOX	48.50	1232	30.50	775	1.00	25.40	70.0	31.8

DuraBlue® Finished Thrust Washers

CODE	Quantity	A Inside Diameter		B Outside Diameter		G Washer Thickness	
		inch	mm	inch	mm	inch	mm
TOW	12	6.063	154.00	12	304.80	0.50	12.70
TUG	12	7.063	179.40	14	355.60	0.50	12.70

Sheet surfaces are finished and ready for service.

www.DuramaxMarine.com