

PUMPS, MECHANICAL SEALS, GLAND PACKING & GASKETS

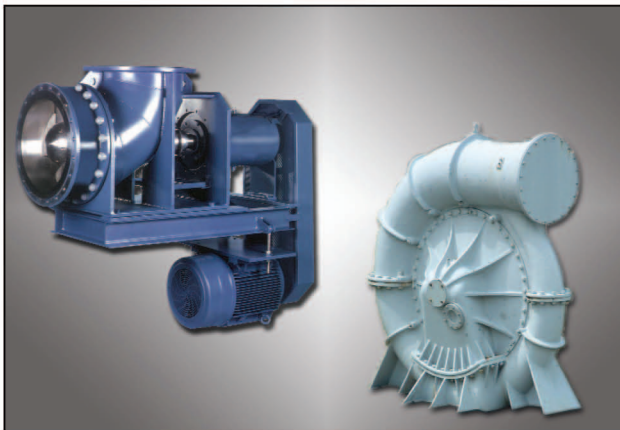
As a subsidiary of Associated Pump Engineers UK Ltd, Muchina Engineering are suppliers of Mechanical Seals, Pumps, Gland Packing and Gaskets. Muchina Engineering are the sole distributors of Gusher pumps in South Africa

In 2008 Muchina Engineering, in conjunction with Associated Pump Engineers UK, invested one million dollars changing from traditional Sand Castings to Investment Castings for our Impellers and Casings.

The vision of our Company represents us with an incredible foundation, an underpinning which gives us confidence, strength and insight as we continue to be a leader in the growing premium pump and seals industry.

Muchina Engineering has an innovative, cutting edge product already being hailed as the best in its class. With experienced engineers, business people and sales specialists, we have the expertise to meet shifting market demands.

In every aspect of our business, we are now able to respond even faster than ever before to changing client needs. This is true not only for our consulting expertise, orders processing and delivery levels, but also for after sales service, including maintenance, repairs and spare parts supply.



Muchina Engineering cc

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*Ramie Fibre Packing***Muchina 2400(SC), 2400G****DATA SHEET****Construction:****2400 Ramie Fibre Packing with PTFE**

Highest quality ramie fiber impregnated with light-colored, special PTFE and inert lubricant during square plaiting operation. It can prevent product contaminated. Low maintenance, easy-to-control, it is not harsh on shafts and stems. Material Flax is also available on request.

2400SC Ramie packing with silicon Rubber Core

High elastic silicon core can absorb vibration, to control leakage.

2400G Ramie Packing with graphite & oil impregnation

Square braided construction, graphite coated and mineral oil lubricated throughout.

**Application:**

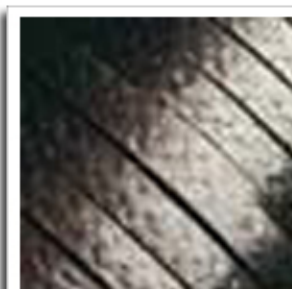
- 2400 (SC) - For pumps, refiners, filters and valves in the brewing and beverage industry, shipbuilding and other fields. Especially resistant to abrasive media in the paper industry.
- 2400 G - A medium hard packing which is lubricated and graphited throughout. Extremely low frictional characteristics where minimum shaft wear is essential. Rot resistant and ideal for marine use, handling cold water, brine and cold oils.

Service Limits:

Style		2400(SC)	2400G
Density		1.25g/cm ³	1.25g/cm ³
PH Range		5~11	6~8
Maximum Temperature °C		130	100
Pressure bar	Rotating	20	15
	Reciprocating	20	15
	Static	30	20
Shaft speed	m/s	10	6

Forms of Supply:

In coils of 2 to 5 kg, other package on request.
As packing rings----R2400(SC), R2400G
As precut length

**Stock Dimensions:**

Size mm	5	6	8	10	12	13	14	15	16	18	20	22	25
appr. m/kg	33	23	13	8.0	5.5	5.0	4.2	3.7	3.2	2.5	2.1	1.7	1.3
Appr. ft/lb	49	34	19	12	8.2	7.4	6.2	5.5	4.8	3.7	3.1	2.5	1.9
kg/coil	2					5							

All information data quoted are based on our extensive tests and years of experience, however, they can only serve as guide values.

Failure to select proper sealing products could result in property damage and/ or serious injury. Specifications are subject to change without

Graphited PTFE Packing**Muchina 2320A/B/C, GFO, 2322****DATA SHEET****Construction:****2320A/B Graphited PTFE Packing**

Braided from graphited PTFE (GPTFE) yarn. The packing is soft. There are no free particles of graphite on surface and therefore no contamination can occur.

2320A is a packing with A grade of quality.(Chinese "GFO")

2320B is economical GPTFE packing.

2320GFO is 100% GFO Packing

2320L Graphited PTFE Packing with oil (2320C)

Packing made of 100% GPTFE yarns, and re-impregnated with a silicone lubricant. It is also economical GPTFE packing.

2322 Sintered Graphited PTFE Packing

Braided from sintered PTFE pretreated with graphite impregnation. This yarns are 100% from Leizing. The characteristics are similar to GFO, just has cross-sectional density, and some particles of graphite on surface.

**Application:**

For use in pumps, valves, reciprocating and rotating shafts, mixers and agitators.

Especially designed for services involving surface speeds and temperature higher than those normally specified for pure PTFE packings. Can be safely used in all chemical pump applications with the exception of molten alkali metals, fluoride, fuming nitric acid and other strong oxidizing agents. It is also against water, steam, petroleum derivatives, vegetable oil and solvents.

Service Limits:

Style		2320A	2320B	2320L	2322
Pressure	Rotating	20 bar	15 bar	15 bar	20 bar
	Reciprocating	100 bar	100 bar	100 bar	150 bar
	Static	150 bar	200 bar	200 bar	250 bar
Shaft speed		16 m/s	12 m/s	12 m/s	20 m/s
Density		1.4~1.6g/cm ³			
Temperature		-150~+280°C			
PH range		0~14			

Forms of Supply:

In coils of 2 to 5 kg, other weight on request;

as precut length;

as prepressed rings----R2320A/B,R2320L,R2322

**Stock Dimensions:**

Size mm	4	5	6	8	10	12	14	16	18	20	22	25
appr. m/kg	45	29	21	12	7.4	5.1	3.8	2.9	2.3	1.9	1.6	1.3
Appr. ft/lb	68	47	27	17	12	6.8	5.4	4.4	3.6	3.2	2.3	1.8
kg/coil	2						5					

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**Improved Style Flexible Graphite Packing
Muchina 2000P, 2010, 2030****DATA SHEET****Construction:****Aiflon 2000P Graphite packing with PTFE impregnation**

Made of expanded flexible graphite, which are reinforced by textile fibers, with PTFE impregnation. Compared to traditional graphite packing, it has excellent cross-section tightness, structural strength and very low friction-value, wear resistant, yet gentle to shaft and stem.

Aiflon 2010 Graphite packing with carbon fiber corners

Diagonally braided from expanded flexible graphite, reinforced at the corners throughout with high quality carbon fiber. This corners and body make it three times more resistant to extrusion and also increase the pressure handing capabilities compared to 2000.

Aiflon 2030 Graphite packing with PTFE corners

PTFE corners effectively prevent graphite extrusion, this packing contains the advantage of PTFE and graphite. Graphited PTFE corner is also efficient.

Application:

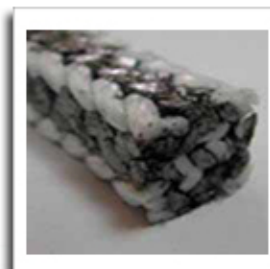
Can be used in many demanding applications, both dynamic and static. Particularly suited for high temperature and high pressure service in valves, pumps, expansion joints, mixers and agitators of pulp and paper, power station and chemical plant etc.

Service Limits:

Style		2010	2000P, 2030
Temperature		-200~+550 °C	+280°C
Pressure Shaft speed	Rotating	25 bar-20m/s	25 bar-25m/s
	Reciprocating	100 bar-2m/s	100 bar-2m/s
	Valve	300 bar-2m/s	300 bar-2m/s
PH Range		0~14	
Density(appr.)		1.0~1.3g/cm ³	1.3~1.5 g/cm ³

Forms of Supply:

In coils of 1 to 5 kg, other package on request.
as packing rings--- R2000P, R2010, R2030 etc.
as precut length

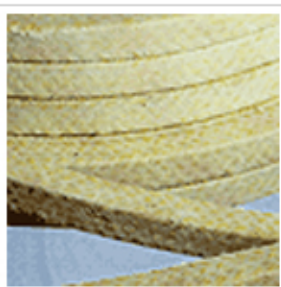
**Stock Dimensions:**

Size mm	4	5	6	8	10	12	14	15	16	18	20	25
appr. m/kg	48.1	30.8	21.4	12.0	7.7	5.3	3.9	3.39	3.0	2.4	1.91	1.22
Appr. ft/lb	71.5	45.8	31.8	17.8	11.4	7.9	5.8		4.5	3.6	2.8	1.8
kg/coil	2						5					

Weight of 2000P: approx 25% greater than 2010 or 2012.

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*Aramid Fiber Packing***Muchina 2200,2200L****DATA SHEET****Construction:****Aiflon 2200 Aramid Fiber Packing`**

Braided from high quality aramide fibres with PTFE-Impregnation and lubricant additive. Extremely hard wearing. It shows good chemical resistance, high elasticity and very low cold flow. It is wear resistant but may damage the shaft if not used properly. A minimum shaft hardness of 60HRC is therefore recommended. Compared with other kinds of packing, it can resist more severe media and higher pressure. The packing is also lubricated with a silicone-based compound for quick and easy break-in.

Spun Aramid fiber packing 2200S is also available on request.

Aiflon 2200L Aramid fiber packing with an inert lubricant

An extremely durable, highly abrasive resistant packing. It is ideal for slurry service application.

Application:

It is a universal packing which can be used for pumps in all types of industry such as chemical, petrochemical, pharmaceutical, food and sugar industries, pulp and paper mills, power stations etc. It is also a durable packing able to withstand granular and abrasive applications, it is recommended for serve in superheated steam, solvents, liquefied gases, sugar syrups and other abrasive fluids.

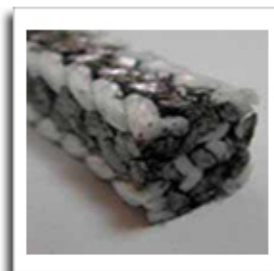
For hot water applications it can be used uncooled up to 160°C.

Service Limits:

	Rotating	Reciprocating	Static
Pressure	25 bar	100 bar	200 bar
Shaft speed	25 m/s	1.5 m/s	
Temperature	- 100~+280°C		
PH range	2~12		
Density	Appr. 1.4g/cm ³		

Forms of Supply:

In coils of 2 to 5 kg, other package on request.
as packing rings----R2200(L)
as precut length

**Stock Dimensions:**

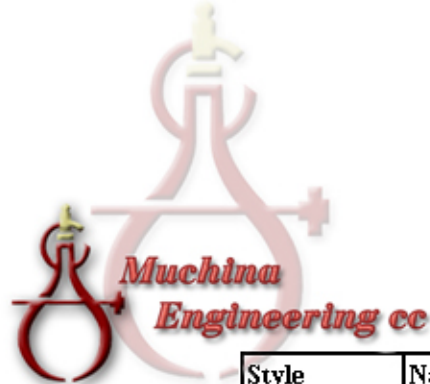
Size mm	6	8	10	12	12.7	14	15	16	18	20	22
appr. m/kg	19.0	11.0	7.0	4.8	4.3	3.5	3.1	2.7	2.1	1.75	1.42
Appr. ft/lb	28.3	16.4	10.4	7.1	6.4	5.2	4.6	4.0	3.1	2.6	2.12
kg/coil	2			5							

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Packings

Style	Name & Discription
	Graphite
2000(K)	Expanded graphite packing (with corrosion inhibitor)
2000I(K)	Inconel reinforced Graphite packing (with corrosion inhibitor)
2000P	Graphite packing with PTFE impregnation
2010	Graphite packing with carbon fiber corners
2030	Graphite packign with (G)PTFE corners
2000M	Graphite packing reinforced with Inconel wire & mesh wrapped
2021I	Inconel reinforced carbon fiber packing with graphite core
	Die-formed graphite ring
2020(K)	Die-formed graphite ring (with corrosion inhibitor)
2020E(K)	Reinforced Die-formed graphite ring (with corrosion inhibitor)
	Carbon fiber
2100	Braided Carbonized fiber packing impregnated with PTFE
2100I	Carbonized fiber packing reinforced with Inconel wire
2100G	Carbonized fiber packing impregnated with graphite
2102	Braided Carbon fiber packing
	Aramid
2200	Aramid fiber packing impregated with PTFE and silicone
2200L	Aramid fiber packing impregated with silicone without PTFE
2220	White PTFE packing with aramid corners
2222	White PTFE & aramid in zebra braided packing
2230	Graphited PTFE packing with aramid corners
2232	Graphited PTFE & aramid in zebra braided packing
2204	Nomex fiber packing
2204SC	Nomex fiber packing with silicon rubber core
	White PTFE
2300(A/B)	Pure PTFE packing free oil (A/B Grade)
2300L	Pure PTFE packing with silicone oil
2302	Pure EPTFE packing
2304(A/B)	Sintered PTFE packing
2304SC	Sintered PTFE packing with silicon rubber core
C O 7106	Expanded PTFE round rope
	Graphited PTFE
2320(A/B)	Graphited PTFE packing
2320C	Graphited PTFE packing with oil
2320GFO	100% GFO packing
2322	Sintered Graphited PTFE packing
	Vegetable fiber
2400/2	Ramie/Flax packing with PTFE & oil
2400SC	Ramie packing with silicon rubber core
2400/2G	Ramie/Flax packing with graphite & oil impregnation
2440W	Cotton packing with grease (White)
2440Y	Cotton packing with grease (Y ellow)



Style	Name & Discription
2440G	Cotton packing with graphite and oil
2440P	Cotton packing with PTFE
	Synthetic fiber
2500	Arcylic fiber packing with PTFE
2500SC	Arcylic fiber packing with silicon rubber core
2500G	Arcylic fiber packing with graphite
2540	Braided Kynol fiber packing impregnated with PTFE and silicone
2542	PTFE packign with Kynol fiber comers
	Glass fiber
2600P	Glass fiber packing with PTFE impregnation
2600G	Glass fiber packing with graphite impregnation
	Asbestos
1000P(PO)	Asbestos Packing with PTFE impregnation (& oil)
1000G	Graphited asbestos packing with oil impregnation
1000IGR	Inconel Reinforced Asbestos packing treated with graphite & rubber
	Injectable Sealants
IJ2000B	Injectable Packing (Black)
IJ2000W	Injectable Packing (White)
IJ2000Y	Injectable Packing (Yellow)

Gaskets

Style	Name & Discription
	Semi-Metallic gasket
	Spiral wound gasket
SW 6000	Spiral wound gasket without inner and outer ring
SW 6000 IR	Spiral wound gasket with inner ring
SW 6000 OR	Spiral wound gasket with outer ring
SW 6000 IOR	Spiral wound gasket with inner and outer ring
SW 6000 H	SWG with bar used in heat exchanger
SW 6000 S	Spiral wound gasket with special shape
	Metal jacketed gasket
MJ 6200 DJ	Double jacket flat gasket
MJ 6200 DC	Double jacket corrugated gasket
MJ 6200 S	Metal jacketed gasket with special shape
G4002/4	Reinforced graph hite gasket
MC 6300	Corrugated metal gasket
	Serrated (Grooved) gasket
SM 6400	Basic type serrated gasket
SM 6400JR	Serrated gasket with outer ring
SM 6400SR	Serrated gasket with loose outer ring
	Metallic Gasket
	Ring joint gasket
MR 6500	Metal flat gasket
MR 6500OV	Oval type metal gasket
MR 6500OC	Octagonal type metal gasket
MR 6500RX	RX type metal gasket
MR 6500BX	BX type metal gasket
MR 6500S	Special type metal gasket
Disk SW	Disk Spring Washer
	Non-metallic Gasket
G+sheet style	Non metallic flat gasket
G4200	PTFE gasket
	PTFE envelope gasket
PE 6600V	V type PTFE envelope gasket
PE 6600S	Square type PTFE envelope gasket
PE 6600U	U type PTFE envelope gasket
TA 7100	Expanded PTFE Joint sealant Tape with self-adhesive
TA 7102L	PTFE Thread Sealing Tape (with/without oil)
G4600	Rubber Gasket
TA 4600SC	Silicon Foam Tape (with self-adhesive)
TU 7004 (IS)	(Reinforced) Braided expanded tube (with self-adhesive)



Gasket Sheets

Style	Name & Description
	Graphite
4000/R	Expanded graphite sheet/roll
4002	Graphite sheet reinforced with smooth metal
4004	Graphite sheet reinforced with tanged metal
4006	Graphite sheet reinforced with metal mesh
	Non-asbestos
4100	Non-asbestos sheet(200)
4102	Non-asbestos sheet(300)
4104	Non-asbestos sheet(400)
4110	Oil-resisting non-asbestos sheet(200)
4112	Oil-resisting non-asbestos sheet(300)
4114	Oil-resisting non-asbestos sheet(350)
4120	Non-asbestos beater sheet
4120V	Vulcanized non-asbestos Beater sheet
4120I	Non-asbestos gasket sheet reinforced with tanged carbon steel
4120DI	Non-asbestos Exhaust Gasket sheet with double-face tanged CS
	PTFE
4200M	PTFE Resin Moulded Sheet
4200S	PTFE skived sheet
4200F	PTFE sheet with filler
4202	Expanded PTFE sheet
TU 7108	Virgin PTFE Tube
TO 7110	Virgin PTFE Rod
TA7104	PTFE Skived Film
	Mica
4300	Soft grade mica sheet
4300I	Soft grade mica sheet reinforced with tanged metal
4320	Soft white mica sheet
4322	Hard white mica sheet
	Ceramic fiber
4400	Ceramic fiber Paper
4402	Ceramic fiber board
4404	Ceramic fiber Blanket
	Mineral Wool
4422	Mineral wool board
4424	Mineral wool blanket
	Glass fiber
4500 (R)	Glass fiber sheet(roll)
4502	Glass fiber board

Style	Name & Description
4504	Glass fiber felt
	Rubber
4600BR	Black rubber sheet
4600RC	Black rubber sheet with cloth insert
4600NBR	Nitrile rubber sheet
4600SBR	Styrene butadiene rubber sheet
4600CR	Neoprene rubber sheet
4600EPDM	Ethylene propylenediene rubber Sheet
4600MUQ	Silicone rubber sheet
4600FPM	Fluorine rubber Sheet
4600RO	Oilproof rubber sheet
4600RCH	Coldproof & heatproof rubber sheet
4600RAA	Acidproof & alkaliproof rubber sheet
4600RI	Insulating rubber sheet
4600RFI	Fire-resistance rubber sheet
4600FR	Food grade rubber sheet
	Cork
4800 (R)	Cork sheet/roll
4820	Rubber Cork Sheet
	Asbestos
3000	Asbestos beater paper
3000V	Vulcanized asbestos Beater sheet
3000I	Asbestos composite sheet reinforced with tanged metal
3000DJ	Asbestos composite sheet reinforced with double-face tanged CS
	Asbestos-Rubber sheet
3015	Asbestos-Rubber sheet(150)
3030	Asbestos-Rubber sheet(300)
3035	Asbestos-Rubber sheet(350)
3040	Asbestos-Rubber sheet(400)
3045	Asbestos-Rubber sheet(450)
3050IG	Wire mesh reinforced Asbestos-Rubber sheet with graphite coating
	Oil-resisting asbestos-rubber sheet
3115	Oil-resisting asbestos-rubber sheet(150)
3125	Oil-resisting asbestos-rubber sheet(250)
3130	Oil-resisting asbestos-rubber sheet(300)
3140	Oil-resisting asbestos-rubber sheet(400)



Tools & Machines

Style	Name & Discription
	Asbestos
Y1000	Dust free A sbestos Yarn
PK1000	Asbestos Square rope (Dust free)
PK1002	Twisted Asbestos Rope (Dust free)
PK1004	Asbestos Round Braided rope (Dust free)
PK1006	Braided asbestos lagging rope (Dust free)
TA1000	Braided asbestos Tape (Dust free)
TA1000AL	Braided asbestos Tape with Aluminium (Dust free)
CO1002	Braided asbestos Cloth (Dust free)
CO1002AL	Braided asbestos Cloth with Aluminium (Dust free)
	Dusted Asbestos
Y1000D	Dusted A sbestos Yarn
PK1000D	Dusted asbestos Square rope
PK1002D	Twisted Dusted Asbestos Rope
PK1004D	Dusted A sbestos Round Braided rope
PK1006D	Dusted asbestos lagging rope
TA1000D	Dusted asbestos Tape
TA1000DAL	Dusted asbestos Tape with Aluminium
CO1002D	Dusted asbestos Cloth
CO1002DAL	Dusted asbestos Cloth with Aluminium
	Glassfiber
Y2600E/C	E/C-Glassfiber yarn
PK2600(I)	Braided Glass fiber rope (with S.S.wire)
PK2602	Twisted Glass fiber rope
PK2604	Round braided Glass fiber rope
PK2606	Braided Glass fiber lagging rope
TA2600	Braided Glass fiber Tape
TA7200AL/SC	Braided Glass fiber Tape with Aluminium/Silicone rubber coating
TA7200M	Braided Glass fiber mesh Tape
TA7200TD	Braided Glass fiber Tadpole Tape
TA7200LD	Braided Glass fiber Ladder Tape
TA7202	Braided Glass fiber Cloth
TA7202AL/SC	Braided Glass fiber Cloth with Aluminium/Silicone rubber coating
TA7202M	Braided Glass fiber mesh Cloth
TA7202P	Braided Glass fiber Plaid Cloth
TU7204	Braided Glass fiber Slewing (with silicone rubber coating)
4500	Glassfiber Chopped Strand Mat
4502	Glassfiber B oard
4504	Glassfiber B lanket

Style	Name & Description
	Ceramic fiber
Y2700	Ceramic fiber yarn (with S.S. wire)
2700	Braided Ceramic fiber square Rope
2700I	Ceramic fiber square Rope reinforced with Inconel wire
2702	Twisted braided ceramic fiber rope
2704	Round braided ceramic fiber rope
2706	Braided ceramic fiber lagging rope
TA7300(AL)	Braided ceramic fiber tape (with Aluminium)
CO7302(AL)	Braided ceramic fiber cloth (with Aluminium)
CO7302I	Braided Ceramic fiber cloth reinforced with Inconel wire
TU7304	Braided Ceramic Sleeve
F4400	Ceramic fiber
4400	Ceramic fiber paper
4402	Ceramic fiber board
4404	Ceramic fiber blanket
F4440	High-temperature Crystal fiber
4442	High-temperature Crystal fiber board
4444	High-temperature Crystal fiber blanket
	Mineral Wool
4420	Mineral wool product
TU4424	Mineral wool tube
4422	Mineral wool board
4424	Mineral wool blanket
4424M	Mineral wool blanket with galvanized hexagonal wire mesh in one side
4424AL	Mineral wool blanket with Aluminium
	Carbon fiber
TA7400(AL)	Braided Carbon fiber Tape (with Aluminium)
CO7402(AL)	Braided Carbon fiber Cloth (with Aluminium)
	Graphite
TA7006	Braided graphite Tape
TA7008	Braided graphite Cloth
	Rubber-PE Anticorrosion Materials
AAT	Anticorrosion Tape
APT	Protective Tape
AJT	Joint Wrap Tape
APP	Paint Priming