

Lionpak®

9501

Flax fibre with water compatibility
for marine & general duties

Lionpak® 9501 is a braided packing of tough flax fibre impregnated with James Walker's proprietary PTFE and oil-based dispersion.

Prime features

- Economical packing of tough flax fibre construction.
- Recommended for water duties.
- Resistant to deformation.
- Lubrication package minimises scoring of sleeves and shafts.

Typical applications

This packing is highly compatible with water. It is recommended for duties with stern glands, rudder posts, water wheels, pumps and valves. Suitable for use with river water, sea water, surface water, waste water and sewage.

Chemical properties

Compatible with media in the range pH 5-10.

How supplied

All popular square sections from 4 mm to 50 mm ($\frac{5}{32}$ " to 2") in boxes containing 8 m (26' 3"), or in coil form by the metre/foot or kilogram/pound. Also supplied as split pre-formed rings and sets.



VALVE STEM DUTIES

Maximum Operating Temperature:

+100°C (+212°F)

Minimum Operating Temperature:

-40°C (-40°F)

Maximum System Pressure:

10 MPa/100 bar (1450 psi)



CENTRIFUGAL PUMPS AND ROTARY EQUIPMENT

Maximum Operating Temperature:

+100°C (+212°F)

Minimum Operating Temperature:

-40°C (-40°F)

Maximum Shaft Speed:

3 m/s (591 fpm)

Maximum System Pressure:

1 MPa/10 bar (145 psi)



RECIPROCATING PUMPS AND RAMS

Maximum Operating Temperature:

+100°C (+212°F)

Minimum Operating Temperature:

-40°C (-40°F)

Maximum Rod Speed:

1.0 m/s (197 fpm)

Maximum System Pressure:

10 MPa/100 bar (1450 psi)

James Walker Distributor

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Health warning: If PTFE products are heated to elevated temperatures, fumes will be produced which may give unpleasant effects, if inhaled. Whilst some fumes are emitted below 300°C (572°F) from PTFE, the effect at these temperatures is negligible. Care should be taken to avoid contaminating tobacco with particles of PTFE or PTFE dispersion, which may remain on hands or clothing. Safety Data Sheets (SDS) are available on request.

Information given in this publication is given in good faith and represents the results of specific individual tests carried out by James Walker or third parties in accordance with the methodologies described in this publication, performed in a laboratory. No representation or warranty is given in relation to such information. Values and/or operating limits given in this publication are not an indication that these values and/or operating limits can be applied simultaneously. While such results may comprise useful additional information and are industry standard tests, they are no substitute for conducting (or procuring from James Walker) your own tests and engineering analysis and satisfying yourself as to the suitability of the product you select. Please also note that a product tested in accordance with the published methodology may not perform to such values in application and/or under different test conditions or methodologies for a variety of reasons, including but not limited to the environment in which it is used/tested or which passes through it or otherwise affects the product, or due to the handling, storage or installation, or due to the effect of housing or other parts. Our personnel will be happy to discuss any historical examples we have of a product having been previously used in a particular application.

To ensure you are working with the very latest product specifications, please consult the relevant section of the James Walker website: www.jameswalker.biz.

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Quick reference chart

Product	Valve	Rotary		Reciprocating		Static
	Pressure MPa (psi)	Shaft Speed m/s (fpm)	Pressure MPa (psi)	Rod Speed m/s (fpm)	Pressure MPa (psi)	Pressure MPa (psi)
PTFE-based						
Lionpak® 2100	25 (3626)	4 (787)	1 (145)	0.5 (98)	5 (725)	n/a
Lionpak® 2101	25 (3626)	4 (787)	1 (145)	0.5 (98)	5 (725)	n/a
Lionpak® 2102	25 (3626)	5 (984)	2 (290)	0.5 (98)	15 (2175)	n/a
Lionpak® 2200	15 (2175)	10 (1969)	2.5 (363)	1 (197)	10 (1450)	n/a
Lionpak® 2201	15 (2175)	10 (1969)	2.5 (363)	1 (197)	10 (1450)	n/a
Lionpak® 2202	15 (2175)	12 (2362)	2.5 (363)	1 (197)	15 (2175)	n/a
Lionpak® 2300	8 (1160)	22 (4331)	1 (145)	1 (197)	8 (1160)	n/a
Lionpak® 2302	8 (1160)	22 (4331)	1 (145)	1 (197)	8 (1160)	n/a
Lionpak® 2303	12 (1740)	17.5 (3445)	2 (290)	2 (394)	8 (1160)	n/a
Lionpak® 2500	25 (3626)	20 (3937)	2 (290)	2 (394)	10 (1450)	n/a
Lionpak® 2501	25 (3626)	20 (3937)	2 (290)	2 (394)	10 (1450)	n/a
Lionpak® 2502	25 (3626)	20 (3937)	2 (290)	2 (394)	20 (2900) [‡]	n/a
Lionpak® 2503	25 (3626)	20 (3937)	2 (290)	2 (394)	10 (1450)	n/a
Lionpak® 2504	25 (3626)	20 (3937)	2 (290)	2 (394)	10 (1450)	n/a
Lionpak® 2505	30 (4351)	n/a	n/a	n/a	n/a	n/a
Lionpak® 2506	25 (3626)	22 (4331)	2 (290)	2 (394)	10 (1450)	n/a
Aramid-based						
Lionpak® 3200	15 (2175)	20 (3937)	2.5 (363)	1.5 (295)	15 (2175)	n/a
Lionpak® 3301	15 (2175)	20 (3937)	2.5 (363)	1.5 (295)	15 (2175)	n/a
Lionpak® 3302	15 (2175)	20 (3937)	2.5 (363)	1.5 (295)	10 (1450)	n/a
Graphite/Carbon-based						
Lionpak® 5100	25 (3626)	25 (4921)	2.5 (363)	n/a	n/a	n/a
Lionpak® 5101	10 (1450)	20 (3937)	3.5 (508)	n/a	n/a	n/a
Lionpak® 5200	30 (4351)	n/a	n/a	n/a	n/a	n/a
Lionpak® 5201	30 (4351)	n/a	n/a	n/a	n/a	n/a
Lionpak® 5202	30 (4351)	n/a	n/a	n/a	n/a	n/a
Lionpak® 5300	15 (2175)	n/a	n/a	n/a	n/a	n/a
Lionpak® 5301	20 (2900)	20 (3937)	2 (290)	2 (394)	15 (2175) [‡]	n/a
Lionpak® 5302	25 (3626)	20 (3937)	2 (290)	2 (394)	10 (1450)	n/a
Lionpak® 5303	20 (2900)	20 (3937)	2 (290)	2 (394)	15 (2175) [‡]	n/a
Lionpak® 5304	20 (2900)	20 (3937)	2 (290)	2 (394)	15 (2175) [‡]	n/a
Lionpak® 5501	25 (3626)	Consult	Consult	n/a	n/a	n/a
Lionpak® 5503	25 (3626)	Consult	Consult	n/a	n/a	n/a
Lionpak® 5504	25 (3626)	Consult	Consult	n/a	n/a	n/a
Lionpak® 5505	25 (3626)	n/a	n/a	n/a	n/a	n/a

Key	
1	+450°C (+930°F) oxidising conditions, +550°C (+1202°F) steam, +850°C (+1562°F) non-oxidising
2	+450°C (+842°F) oxidising conditions, +550°C (+1022°F) steam
3	+500°C (+930°F) oxidising conditions, +650°C (+1202°F) steam, +1000°C (+1832°F) non-oxidising
4	+1000°C (+1832°F) constant, +1100°C (+2012°F) intermittent
5	+450°C (+930°F) oxidising conditions, +650°C (+1202°F) steam, +1000°C (+1832°F) non-oxidising

Temperatures		pH	Media									
Min °C (°F)	Max °C (°F)		pH Range	Steam	Gases	Process Water	Potable Water	Strong Acids	Caustic Alkalis	Oils	Solvents	Oxygen
PTFE-based												
-100 (-148)	+250 (+482)	0-14	✓	✓	✓	✓	✓	✓	✓	✓	X	X
-100 (-148)	+250 (+482)	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	X
-200 (-328)	+280 (+536)	0-14	✓	✓	✓	✓	✓	✓	✓	✓	X	✓
-100 (-148)	+250 (+482)	0-14	X	✓	✓	X	✓	✓	✓	✓	X	X
-100 (-148)	+250 (+482)	0-14	X	✓	✓	X	✓	✓	✓	✓	X	X
-100 (-148)	+280 (+536)	0-14	X	✓	✓	✓	✓	✓	✓	✓	X	✓
-100 (-148)	+260 (+500)	0-14	✓	✓	✓	✓	✓	✓	✓	✓	X	X
-100 (-148)	+250 (+482)	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	X
-100 (-148)	+260 (+500)	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	X
-50 (-58)	+260 (+500)	2-13	✓	✓	✓	✓	X	X	✓	✓	X	X
-50 (-58)	+250 (+482)	1-13	✓	✓	✓	X	X	X	✓	✓	X	X
-50 (-58)	+250 (+482)	1-13	✓	✓	✓	X	X	X	✓	✓	X	X
-50 (-58)	+250 (+482)	1-13	✓	✓	✓	X	X	X	✓	✓	X	X
-100 (-148)	+250 (+482)	3-14	X	✓	✓	X	✓	✓	✓	✓	X	X
-200 (-328)	+260 (+500)	0-14	X	✓	✓	X	✓	✓	✓	✓	X	X
-100 (-148)	+260 (+500)	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	X
Aramid-based												
-50 (-58)	+250 (+482)	2-13	✓	✓	✓	✓	X	X	✓	✓	X	X
-50 (-58)	+250 (+482)	1-13	✓	✓	✓	X	X	X	✓	✓	X	X
-50 (-58)	+285 (+545)	0-13	✓	✓	✓	X	X	X	✓	✓	X	X
Graphite/Carbon-based												
-200 (-328)	+450 (+842) ¹	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	X
-200 (-328)	+450 (+842) ²	1-14	✓	✓	✓	X	✓	✓	✓	✓	X	X
-200 (-328)	+450 (+842) ⁵	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	X
-200 (-328)	+450 (+842) ²	1-14	✓	✓	✓	X	✓	✓	✓	✓	X	X
-200 (-328)	+450 (+842) ²	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	X
-50 (-58)	+550 (+1022)	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	X
-50 (-58)	+450 (+842)	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	X
-50 (-58)	+450 (+842)	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	X
-50 (-58)	+350 (+662)	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	X
-100 (-148)	+260 (+500)	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	X
-200 (-328)	+500 (+932) ³	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	X
-200 (-328)	+500 (+932) ³	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	X
-200 (-328)	+500 (+932) ³	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	X
-200 (-328)	+350 (+662)	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	X

Key	
‡	May be suitable for higher pressures on certain reciprocating duties: please consult James Walker
Consult	Dependent on application; consult James Walker
n/a	Not applicable
✓	Suitable for application
X	Not suitable for application

Operating limits quoted in this publication are not an indication that these values can be applied simultaneously, particularly when operating near to the extreme limits. Please contact James Walker if you need further guidance on the suitability of any product for your specific application.

This brochure is supported by further detailed product data sheets and product fitting instructions which are available to download from the James Walker website at www.jameswalker.biz