Downhole Sealing Guide

Sealing solutions for the Oil & Gas industry
- Innovative technology offering safety, performance and reliability
- Global customer service and product support
Sealing products & accessories for downhole duties

**Actuators**
- Custom Chevron® (Shallex®) packings
- Custom plastic seals
- ‘O’ rings
- Solosele® G-AE
- Engineered plastics components
- RotaBolt® tension control fasteners
- Teesele®
- Wear rings
- Wiper rings

**BOPs**
- BOP seals
- Custom mouldings
- ‘O’ rings
- RotaBolt® tension control fasteners
- Shear blade seals
- Springsele®
- Teesele®

**Compressors**
- ‘O’ rings
- Engineered plastics components
- Springsele®

**Connectors**
- D seals
- EF seals
- ‘O’ rings
- RotaBolt® tension control fasteners
- Solosele® G
- Springsele®

**Directional drilling**
- Custom mouldings
- D seals
- ‘O’ rings
- Springsele®

**Drill bits**
- Custom mouldings
- Grease compensator diaphragms
- Grease pressure vent diaphragms
- Tricone seals

**Filters**
- ‘O’ rings
- Solosele® G
- Springsele®

**Manifolds**
- Moorside® API ring joints with inserts
- ‘O’ rings
- RotaBolt® tension control fasteners
- Springsele®
- Flange isolation and protection

**Mud pumps**
- Automatic packings
- Chevron® (Shallex®) mud pump packing
- Cup seals
- Length form packings
- U rings

**MWDs**
- Custom mouldings
- Composite seals (Lionsele® P or G)
- Engineered plastics components
- ‘O’ rings

**Perforation**
- D seals
- ‘O’ rings
- Springsele®

**Pipelines**
- Enclosure door seals
- Moorside® API ring joints
- Pipe repair seals
- RotaBolt® tension control fasteners
- Pipe in pipe centralisers
- Flowline bundle spacers

**Platform modules**
- Comflex® turbine inlet/exhaust bellows
- RotaBolt® tension control fasteners
- Tico® anti-vibration mounts
- Tico® pipe support products

**Production safety valves**
- Moorside® API ring joints
- ‘O’ rings
- RotaBolt® tension control fasteners
- Springsele®
- Teesele®
- Wear/bearing rings

**Pumps**
- Chevron® (Shallex®) packings
- Length form packings
- ‘O’ rings
- Pump bladders
- RotaBolt® tension control fasteners
- Teesele®

**Risers**
- Wear/bearing rings
- EF seals
- ‘O’ rings
- RotaBolt® tension control fasteners
- Solosele® G
- Springsele®
- Riser clamps and centralisers
- Umbilical and piggyback clamps
- Tubing hanger centralisers
- Stress / keel joint guides

**Sampling**
- Wear/bearing rings
- ‘O’ rings
- Scraper/wiper rings
- Teesele®

**Slew rings**
- Composite seals
- Lotork – special low-friction seal for high pressure swivel applications
- ‘O’ rings
- RotaBolt® tension control fasteners
- Solosele® G
- Engineered plastics components

**Swivels**
- Composite seals
- Moorside® API ring joints
- ‘O’ rings
- Devlon® V-API valve seats
- Valve seat carriers
- Springsele®
- Teesele®
- U rings

**Valves**
- Compression packings – including TA-Luft certified for emission control
- D seals
- Moorside® API ring joints
- ‘O’ rings
- Devlon® V-API valve seats
- Valve seat carriers
- Springsele®
- Teesele®
- U rings

**Wellheads**
- Casing & tubing hanger packing
- Custom mouldings
- EF seals
- FS Casing & Tubing Seals
- Metaflex® spiral wound gaskets
- Metal end cap seals
- Metal-metal seals
- Moorside® API ring joints
- ‘O’ rings
- ‘P’ seals
- RotaBolt® tension control fasteners
- Springsele®
- Teesele®
- Tie down & lock down screw packings
- Devlon® thermal barrier
Some of our most popular products for exploration & production applications

**Chevron® mud pump packings**
- Double V-ring packing that outperforms many traditional mud pump packings.
- Designed for highly abrasive media containing solids, oils and water.
- Low friction — low wear.
- Materials: rings of solid NBR, aramid reinforced NBR, and UHMWPE. Spacers of brass.
- Also known as Shalex® in some regions.

**Moorside® API ring joints**
- Metal ring joint gaskets for high pressure oilfield duties.
- Precision manufactured in the UK under API licence.
- Supplied to API or ASME standards.
- Stocked ranges of standard sections and sizes. Custom designs manufactured.

**Solosele® G & G-AE**
- Compact rod/gland and single acting piston seal.
- Saves housing space without compromising sealing integrity.
- Excellent response to both high and low pressure fluids.
- G-AE has base ring of low friction engineering plastic.

**Comflex® expansion joints**
- Expansion joints for turbine inlet and exhaust ducts.
- Composite construction using non-asbestos materials.
- Very durable: better flex fatigue life than comparable systems.
- Exhaust grades to 1000°C.
- Inlet grades with excellent sound attenuation and particulate free inner surface.
- Also Multi-Layer Fabric Wrap for emergency applications.

**'O' rings**
- Highly versatile seals for static and dynamic duties.
- Precision moulded in over 100 elastomer grades, including NBR, HNBR, FKM.
- Large stocks held of RGD resistant 'O' rings.
- Supplied in all metric and inch sizes: SAE AS568, BS1806, BS 4518, plus DIN and Japanese specifications.
- Custom designs moulded.

**Springsele® & Teesele®**
- Extrusion-resistant double acting seals for arduous sealing applications.
- Springsele® for static and stab-in duties.
- Teesele® for dynamic and static duties.
- Materials: HNBR or FKM — RGD resistant elastomers.
- Validated to API 6A.

**FS Casing & Tubing Seals**
- For arduous duties where there are large clearances between mating surfaces.
- Materials: HNBR elastomers with RGD resistance.
- Stainless steel antiextrusion toroidal springs.
- Standard API diameters from 4 inch to 30 inch.
- DNV witnessed to API 6A.

**RotaBolt®**
- Bolts and studs with accurate tension control indicators.
- For bolted joints where precise tensioning is critical.
- Finger feel or visual device indicates when tension has dropped below specified limit.
- Suitable for subsea and land based applications.
- Wide range of materials to suit corrosive environments.
- Standard sizes M12 to M125.

**Tico® anti-vibration products**
- Tico® Pipe Grips — support pipework, accommodate thermal movement and help prevent electrolytic corrosion.
- Tico® Clip Strips — for highest level of shock and vibration isolation between pipework and hanger.
- Tico® Mounting Pads — scientifically designed to isolate noise and vibration at high or low frequencies.

**Metalflex® spiral wound gaskets**
- For flange sealing with high pressures, temperatures, flow rates or vibration.
- V-section stainless steel or nickel alloy strip, combined with graphite or PTFE filler.
- ASME, BS and DIN standards.
- TA-Luft emission control certified.
- Shapes: circular, oval, obround, square, diamond.
- Standard sizes up to 3550mm OD.

**Specialist machined components**
- Metal seals and H4 gaskets.
- Thinvall machining.
- Casing and tubing hangers.
- Metal - elastomer bonded composite components.
- Precision machining capability.
- Large range of exotic alloys.
- Full materials traceability.

**Devol thermoplastic engineering**
- Re-engineering of metal components in a wide range of engineering thermoplastics.
- Corrosion resistance and weight reduction benefits.
- 3D and FEA design capability plus rapid prototyping.
- Flexible manufacturing from 1 to 1,000’s.
- Production capability from a few millimetres to 2m diameter.
- Ball valve seats and insert materials.
The Oil & Gas industry

James Walker has long been committed to the provision of sealing solutions for the exploration and production of oil and gas.

Our capabilities in high performance materials science are relied upon worldwide by customers who need top quality materials that are validated and proven to operate:

• At extremes of pressure
• In chemically aggressive and physically abrasive environments
• Under rapid gas decompression (RGD) conditions
• In naturally occurring chemical / sour gas environments
• With large clearances and / or poor surface conditions
• To the highest performance specifications laid down by international industry
• With temperature cycling regimes
• At extremes of temperature
• Where failure could have significant health & safety, environmental or financial risk

The correct selection and specification of sealing materials and products is a prerequisite to the safe and effective operation of plant and the prevention of expensive downtime.

Please see the relevant James Walker guide for comprehensive product descriptions.

To get your copy, see the contact details on the rear cover, or visit our website www.jameswalker.biz.
James Walker Worldwide Oilfield Support

Aberdeen (UK)
Tel: +44 (0)1270 536140
Fax: +44 (0)1270 536065
Email: oilandgas@jameswalker.biz

Hamburg (Germany)
Tel: +49 (0)40 386 0810
Fax: +49 (0)40 389 3230
Email: sales.de@jameswalker.biz

Milan (Italy)
Tel: +39 02 257 8308
Fax: +39 02 263 00487
Email: sales.it@jameswalker.biz

Bergen (Norway)
Tel: +47 5 5112950
Fax: +47 5 5138005
Email: sales.no@jameswalker.biz

Lyon (France)
Tel: +33 (0)47 349 480
Fax: +33 (0)47 497 483
Email: sales.fr@jameswalker.biz

Perth (Australia)
Tel: +61 8 9457 9666
Fax: +61 8 9354 2675
Email: jwperth@jameswalker.com.au

New hub open from September 2010
James Walker do Brasil Tecnologia em Vedações Industriais Ltda,
Av. Robert Kennedy, 2086 - São Bernardo do Campo, São Paulo, 09860-122, Brazil,
Tel: +55 11 4392 7360 Fax: +55 11 4392 5976 Email: sales.br@jameswalker.biz

James Walker & Co Ltd
Oil and Gas Team
1 Millennium Gate, Westmere Drive
Crewe, Cheshire CW1 6AY, UK
Tel: +44 (0)1270 536140
Fax: +44 (0)1270 536065
Email: oilandgas@jameswalker.biz

James Walker Oil & Gas Co
16619 W. Hardy Road
Houston
TX 77060, USA
Tel: +1 281 875 0002
Fax: +1 281 875 0188
Email: oilandgas@jameswalker.biz

James Walker Singapore Pte Ltd
192 Pandan Loop #05-11/12
Pantech Industrial Complex
Singapore 128381
Tel: +65 6777 9896
Fax: +65 6777 6102
Email: sales.sg@jameswalker.biz

www.jameswalker.biz

Registered Office: Lion House, Oriental Road, Woking, Surrey GU22 8AP, UK. Reg. No. 2432592 England

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