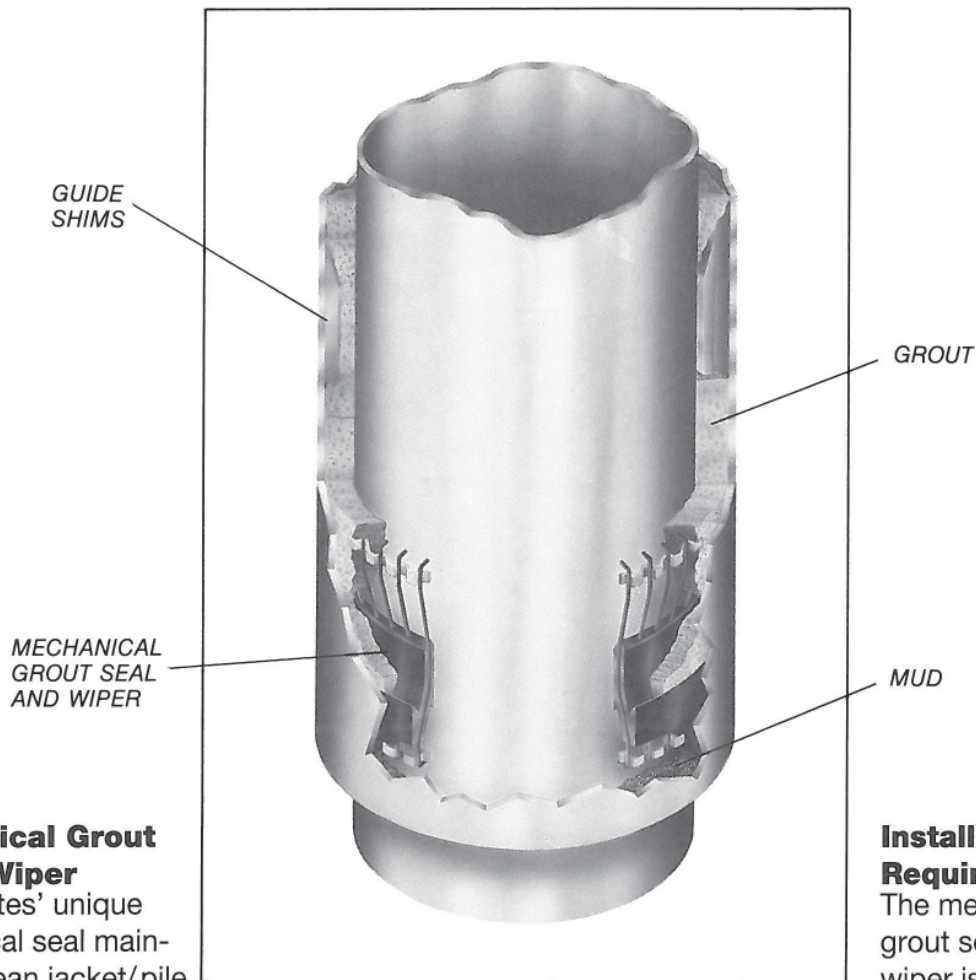




Grouting Wipers and Seals



Mechanical Grout Seal & Wiper

Oil States' unique mechanical seal maintains a clean jacket/pile

annulus and also supports grout columns of up to 100 feet (30 meters). Notably, this seal is more economical than an inflatable grouting packer where allowed by jacket/pile geometry and installation requirements.

When piling is inserted through the unit, spring tension holds the elastomeric wiper snugly against the piling to prevent mud and silt from contaminating the annulus. The seal can tolerate reverse movement of the pile during driving operations.

As a grout seal, opposing elastomer lips are pressure-energized after the piling is installed and grout is injected above the assembly.

Installation Requirements

The mechanical grout seal and wiper is available

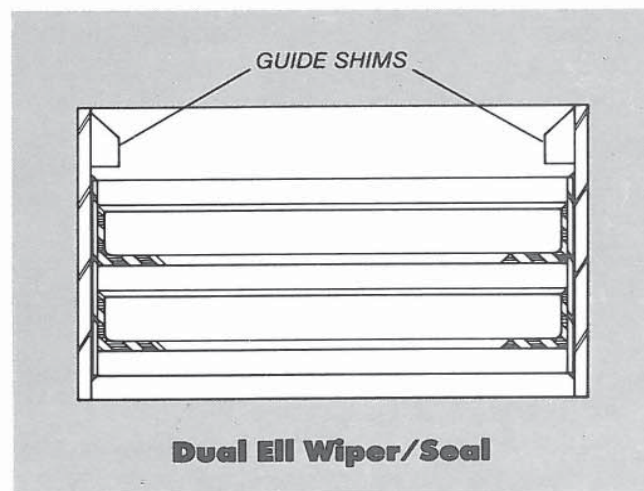
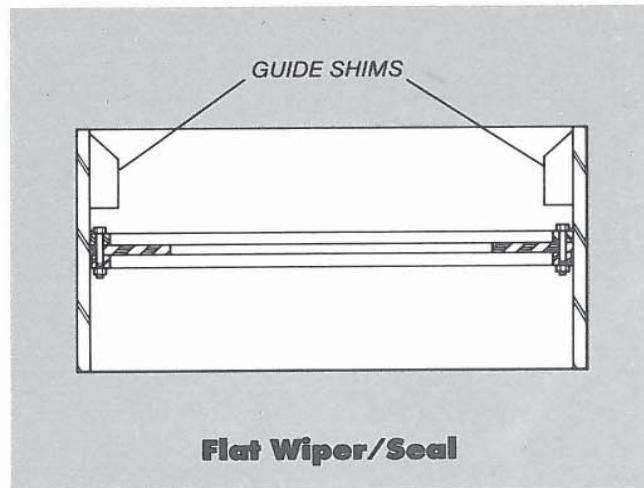
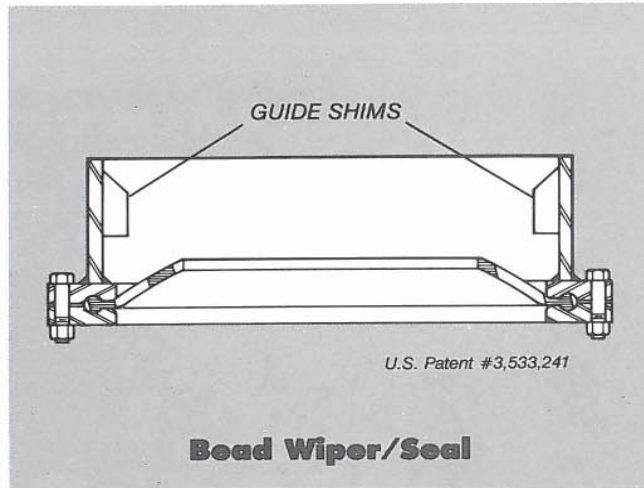
either mounted in a cylinder or as a kit for installation in a leg or pile sleeve. As an option, a diaphragm closure can be supplied welded to the cylinder. The use of the mechanical grout seal and wiper requires:

- Annuli of 1 1/2" (38mm)
- Guide shim I.D.s not more than 1" (25mm) larger than the pile O.D.
- Guide shims located no more than 2 feet (610 mm) above the seal.
- Pile tips have a small radius ground on the O.D.
- Piles be lowered through the seal.
- Smooth pile surfaces without weld beads or rebar.





Grouting Wipers and Seals



Pile Wiper/Seals

Oil States offers three types of pile wiper/seals for supporting a three to ten foot (1 to 3 meter) grout plug and/or for preventing mud and silt from contaminating the jacket/pile annulus. The difference lies primarily in their installation configuration. Various uses include backup seals to inflatable grouting packers and stand-alone seals in single or dual arrangements. During pile driving operations, Oil States' wiper/seals tolerate reverse movement of the piling.

Bead Wiper/Seal

The bead wiper/seal is constructed of nylon-reinforced rubber, similar to Oil States' diaphragm closures. This wiper/seal requires a minimum jacket/pile annulus of 1½ inches (38mm).

Flat and Ell Wiper/Seals

Flat and ell pile wiper/seals are made of cast elastomer. The flat wiper/seal is generally used as a backup seal for an inflatable grouting packer since it requires a minimum, nominal jacket/pile annulus of 2½ inches (64mm). The minimum annulus size for the ell wiper/seal is 1½ inches (38mm). Flat and ell wiper/seals may be easily installed as single or dual units.

All Oil States pile wiper/seals are available for any diameter pile and sleeve.

When ordering Grouting Wiper/Seals, furnish the type of seal, O.D. and I.D. of jacket leg, and pile O.D. Oil States will then provide a detailed drawing of the proposed installation.



www.oilstates.com

OIL STATES SHIP CHANNEL

Sales, Engineering & Manufacturing

16730 Jacintoport Blvd.
Houston, Texas 77015 USA
Ph +1 (281) 247 7400
Fx +1 (281) 247 7487
houston@oilstates.com

WORLDWIDE SALES OFFICES:

Oil States Industries, Inc.

1155 Dairy Ashford, Ste. 700
Houston, Texas 77079 USA
Ph +1 (713) 510 2200
Fx +1 (713) 510 2307

Oil States Industries, (UK) Ltd.

Blackness Road
Altens Industrial Estate
Aberdeen AB12 3LH
Scotland, UK
Ph +44 (0)1224 896190
Fx +44 (0)1224 896199

Oil States Industries, Inc.

36, Bd des Océans
13275 Marseille, Cedex 9
France
Ph +33 491 40 89 35
Fx +33 491 40 14 82

Oil States Industries, Inc.

Lokkeveien 103
4007 Stavanger, Norway
Ph +47 400 03 707
Fx +47 515 09 640

Oil States Industries, (Nigeria) Ltd.

No. 50C Glover Road
Ikoyi, Lagos, Nigeria
Ph +234 1 2718363
Fx +234 1 2718364

Oil States Industries, Inc.

102 Bis/M Le Lai Street
District 1
Ho Chi Minh City, Vietnam
Ph +84 8 3925 3545
Fx +84 8 3925 0123

Oil States Industries, Inc.

Suite 5, 1 F Amirov Street
AZ1000 Baku, Azerbaijan
Ph +994 12 5 981 125
Fx +994 12 4 379 125