**Fixed Structures**

**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" (38 mm)
- Guide shim I.D.s not more than 1" (25 mm) 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 1 1/2 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 2 1/2 inches (64mm). The minimum annulus size for the ell wiper/seal is 1 1/2 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.