

Kobold engineers durable, high-performing sliding sleeves reducing frac time, project costs and risk. Our sliding sleeve is designed to function predictably and consistently, with enhanced sealing and pressure integrity. Each Sandport sleeve encompasses 360° ports for penetration of the target formation. The internal sleeve features a Surelocate profile, providing positive engagement confirmation with our Sandhawk bottomhole assembly.



## Sandport Reclosable Frac Sleeves

The reclosable sleeves provide a reliable solution during the initial fracture and ongoing wellbore production management. During completions, the Sandport sleeves can be opened once or closed post-frac. This provides the flexibility to optimize well production, or to implement a water flood strategy during the well's life cycle. Closing sleeves after the frac, can also reduce the requirement for post-frac clean-out runs for increased operational savings.

## Sandport Open-Only Sleeves

Kobold's open-only frac sleeves are easy to handle for fast and efficient installation. The Surefrac service opens the Sandport sleeves, leaving the ports locked open. Our open-only sleeve provides confidence in engaging target stages and maximizes efficiency of frac operations.

## Features

- » Torque-through design for quick and easy installation
- » Matches or exceeds parent casing specifications
- » Enhanced internal seal redundancy
- » Multiple ports provide 360° access to the formation
- » Available in a variety of API thread connections

## Benefits

- » The Sandport frac sleeves unique Surelocate profile assures 100% positive engagement
- » Sleeves are lightweight, easy to handle on the rig floor for a safe and fast installation
- » The reclosable sleeves allows you to selectively shut off water production, unwanted gas production, and thief zones
- » Selectively control the influx of wellbore fluid stage-by-stage during the entire life cycle of the well



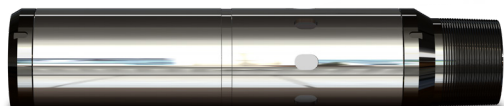
Sandport Reclosable Frac Sleeves 114.3 mm (4.5 in)

| Grade | Weight                    | Collapse                 | Burst                    | Max O.D.           | Min. I.D.           | Sleeve Weight      | Sleeve Length       |
|-------|---------------------------|--------------------------|--------------------------|--------------------|---------------------|--------------------|---------------------|
| L-80  | 17.26 kg/m<br>11.60 lb/ft | 43,800 kPa<br>6,350 psi  | 53,600 kPa<br>7,780 psi  | 139.7 mm<br>5.5 in | 101.6 mm<br>4.00 in | 32.4 kg<br>71.4 lb | 80.44 cm<br>31.7 in |
| L-80  | 20.09 kg/m<br>13.50 lb/ft | 58,900 kPa<br>8,450 psi  | 62,200 kPa<br>9,020 psi  |                    | 99.6 mm<br>3.92 in  | 33.5 kg<br>73.8 lb |                     |
| P-110 | 17.26 kg/m<br>11.60 lb/ft | 52,300 kPa<br>7,580 psi  | 73,700 kPa<br>10,690 psi |                    | 101.6 mm<br>4.00 in | 32.4 kg<br>71.4 lb |                     |
| P-110 | 20.09 kg/m<br>13.50 lb/ft | 73,700 kPa<br>10,690 psi | 85,600 kPa<br>12,410 psi |                    | 99.6 mm<br>3.92 in  | 33.5 kg<br>73.8 lb |                     |



Sandport Reclosable Frac Sleeves 139.7 mm (5.5 in)

| Grade | Weight                    | Collapse                 | Burst                    | Max O.D.            | Min. I.D.           | Sleeve Weight      | Sleeve Length       |
|-------|---------------------------|--------------------------|--------------------------|---------------------|---------------------|--------------------|---------------------|
| P-110 | 25.30 kg/m<br>17.00 lb/ft | 51,600 kPa<br>7,480 psi  | 73,400 kPa<br>10,640 psi | 168.3 mm<br>6.63 in | 124.3 mm<br>4.89 in | 41.5 kg<br>91.5 lb | 74.16 cm<br>29.2 in |
| P-110 | 29.76 kg/m<br>20.00 lb/ft | 76,500 kPa<br>11,100 psi | 87,100 kPa<br>12,640 psi |                     | 121.4 mm<br>4.78 in | 43.7 kg<br>96.3 lb |                     |



Sandport Open-Only Frac Sleeves 114.3 mm (4.5 in)

| Grade | Weight                    | Collapse                | Burst                   | Max O.D.           | Min. I.D.           | Sleeve Weight       | Sleeve Length       |
|-------|---------------------------|-------------------------|-------------------------|--------------------|---------------------|---------------------|---------------------|
| L-80  | 17.26 kg/m<br>11.60 lb/ft | 43,800 kPa<br>6,350 psi | 53,600 kPa<br>7,774 psi | 139.7 mm<br>5.5 in | 101.6 mm<br>4.00 in | 15.89 kg<br>35.0 lb | 46.40 cm<br>18.3 in |