

# SandIQ™

Optimized Perforating for Diversion

WITH CONVENTIONAL PERFORATING,  
WHAT MAKES YOU THINK THAT  
**PROPPANT AND FLUID**  
TRAVEL TOGETHER TO ALL CLUSTERS?



**GEO**Dynamics®  
Engineered Perforating Solutions

# SandIQ™

Optimized Perforating for Diversion

## PARTICLE TRANSFER AT HIGH FLUID VELOCITY IS COMPLEX

### FEATURES

- Provides an “off ramp” for more efficient diversion of proppant
- Perforating tunnels are tilted in direction of fluid flow
  - Additional angles are available
- Angled holes are engineered to create a physical diversion on toe side of casing for proppant to naturally flow into the formation
- Shaped charge technology engineered to produce precision holes in casing size, weights, and grades which are used in unconventional wells
- Customized entry hole selection on request

### BENEFITS

- Constant entry hole size in eccentered conditions
- Allows the operator to accurately determine the number of open perforations via step rate testing
- More uniform placement of proppant in all perf clusters within the stage
- Subsequent stages and wells can then be further optimized for limited entry fracture stimulation

### APPLICATIONS

- Limited entry perforating design
- Unconventional reservoirs
- Conveyable on wireline, slickline, and tubing

| CARRIER O.D. | PRODUCT NAME | 3 1/8" CARRIER OPTIONS<br>2, 4, 6, OR 8 SHOTS/CLUSTER           | PART NUMBER    | EXPLOSIVE |      | CASING ENTRY HOLE at 45 deg. | ROCK PENETRATION | API 19B TARGETED PIPE | EHD VARIATION DECENTRALIZED at 45 deg. |
|--------------|--------------|---|----------------|-----------|------|------------------------------|------------------|-----------------------|--|
|              |              |   |                | grams     | load | inches                       | inches           |                       |  |
| 3-1/8        | SandIQ™ D    | GT31-45-J002A<br>GT31-45-B004A<br>GT31-45-A006A<br>GT31-45-A008 | EC2-33A1672-SD | 16        | HMX  | 0.35                         | 6.0              | 5-1/2" O.D. 23# P-110 | 1.7%                                   |
| 3-1/8        | SandIQ™ E    |   | EC2-33A2072-SE | 20        | HMX  | 0.41                         | 6.0              | 5-1/2" O.D. 23# P-110 | 4.8%                                   |
| 3-1/8        | SandIQ™ F    |   | EC2-33A2372-SF | 23        | HMX  | 0.43                         | 6.0              | 5-1/2" O.D. 23# P-110 | 6.0%                                   |
| 3-1/8        | SandIQ™ D    | GT31-45-J002A<br>GT31-45-B004A<br>GT31-45-A006A<br>GT31-45-A008 | EC2-33A1671-SD | 16        | RDX  | 0.38                         | 6.0              | 5-1/2" O.D. 23# P-110 | 2.6%                                   |
| 3-1/8        | SandIQ™ E    |   | EC2-33A2071-SE | 20        | RDX  | 0.42                         | 6.0              | 5-1/2" O.D. 23# P-110 | 4.7%                                   |
| 3-1/8        | SandIQ™ F    |   | EC2-33A2371-SF | 23        | RDX  | 0.44                         | 6.0              | 5-1/2" O.D. 23# P-110 | 5.1%                                   |

\* 3-1/8" Charge performance is compatible in 4-1/2" 11.6-15.1# and the 5-1/2" 17-23# P-110 casing

\* Patents: US7044225, US9038521, US9562421, US9725993 and Other Patents Pending

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