

Voodoo™ HPHT Dissolvable Frac Plug

15,000 psi isolation performance at 350°F

Technical Specifications

Benefits

- Less than 7 inch length results in 75% less material than traditional plugs.
- Expandable tubular metal-to-metal sealing technology provides unmatched isolation performance up to 15 kpsi at 350°F.
- <0.75 inch in length dissolvable elastomer designed for sealing in casing ovalities.
- Anti-preset, bottom-set design allows aggressive pump-downs at up to 1500 ft/min with extreme resistance to presets.
- No cast iron, steel, brass or tungsten parts and 0.25 inch powdered steel or ceramic buttons resulting in increased milling bit life and minimal casing damage.
- Ball-in-place capable with a three piece WLAK.



Performance

- Up to 16,000 psi differential pressure rating at 350°F. As differential pressure increases the seal effectiveness and anchoring capability also increases.
- Can be set in Q125 and all softer grades of casing.
- Field proven in HPHT wells (13,000 psi differential at 290°F) in Saudi Arabia Haradh Field.

4.5 inch, 3.35OD, 16.6-21.6 ppf Voodoo™HPHT Dissolvable Frac Plug

Technical Specifications



| | | | |
|------------------------------|------------------|--------------|----------|
| PN: 45FP1621VDB335-AB | | | |
| Plug Specifications | | | |
| OD | 3.350 inch | | |
| ID | 1.100 inch | | |
| Length | 7.000 inch | | |
| Type | Frac | | |
| Pressure Rating | Weight | Top | Bottom |
| | 16.6 ppf | 16 kpsi | 8000 psi |
| | 17.7 ppf | 17 kpsi | 8500 psi |
| | 18.8 ppf | 17 kpsi | 9000 psi |
| 21.6 ppf | 17 kpsi | 9500 psi | |
| | | | |
| Ball Specifications | | | |
| Ball in Place OD | 1.375 inch | | |
| Ball Drop OD | 2.125 inch | | |
| Material | Magnesium 1.4 SG | | |
| Setting Tool | | | |
| Baker 10 | WLAK | B10xGX45-AB | |
| | Sleeve | B10xFPB45-S | |
| | Adapter | B10xFPB45-A | |
| | Mandrel | B10xGXB45-M | |
| | Nut | B10xFPB45-N | |
| Assurity 10 | WLAK | S25xGXB45-AB | |
| | Sleeve | S25xFPB45S-S | |
| | Adapter | S25xFPB45-A | |
| | Mandrel | S25xGXB45-M | |
| | Nut | S25xFPB45-N | |

| Annular Velocities During Free Fall (ft/min) | | | |
|--|-------------------|-------------------|-------------------|
| Line Speed (ft/min) | 4.5 inch 16.6 ppf | 4.5 inch 17.7 ppf | 4.5 inch 18.8 ppf |
| 100 | 290 | 344 | 435 |
| 200 | 581 | 687 | 870 |
| 300 | 871 | 1031 | 1305 |
| 400 | 1162 | 1374 | 1740 |
| 500 | 1452 | 1718 | 2175 |
| 600 | 1743 | 2062 | 2610 |
| 700 | 2033 | 2405 | 3045 |
| 800 | 2324 | 2749 | 3481 |
| 900 | 2614 | 3093 | 3916 |
| 1000 | 2905 | 3436 | 4351 |
| 1100 | 3195 | 3780 | 4786 |
| 1200 | 3486 | 4123 | 5221 |
| 1300 | 3776 | 4467 | 5656 |
| 1400 | 4067 | 4811 | 6091 |
| 1500 | 4357 | 5154 | 6526 |

| Procedures | |
|-------------------------------|------------------------|
| Baker 10 | OP-PRO-3P-FP-GXB-ALL-A |
| Assurity 10 | |
| Screenout and Misrun Recovery | |
| Plug Milling | |

| Recommended Run Speeds | | | | | | | | | | | | | | | | | | | | |
|------------------------|-------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| Pump Rate (bpm) | | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 4.5 inch 16.6 ppf | Fluid Speed (ft/min) | 321 | 386 | 450 | 514 | 579 | 643 | 707 | 771 | 836 | 900 | 964 | 1029 | 1093 | 1157 | 1221 | 1286 | 1350 | 1414 | 1479 |
| | Suggested Line Speed (ft/min) | 273 | 328 | 383 | 437 | 492 | 546 | 601 | 656 | 710 | 765 | 820 | 874 | 929 | 984 | 1038 | 1093 | 1148 | 1202 | 1257 |
| 4.5 inch 17.7 ppf | Fluid Speed (ft/min) | 335 | 402 | 469 | 535 | 602 | 669 | 736 | 803 | 870 | 937 | 1004 | 1071 | 1138 | 1205 | 1272 | 1339 | 1406 | 1473 | 1540 |
| | Suggested Line Speed (ft/min) | 284 | 341 | 398 | 455 | 512 | 569 | 626 | 683 | 740 | 797 | 853 | 910 | 967 | 1024 | 1081 | 1138 | 1195 | 1252 | 1309 |
| 4.5 inch 18.8 ppf | Fluid Speed (ft/min) | 351 | 422 | 492 | 562 | 632 | 703 | 773 | 843 | 913 | 984 | 1054 | 1124 | 1195 | 1265 | 1335 | 1405 | 1476 | 1546 | 1616 |
| | Suggested Line Speed (ft/min) | 299 | 358 | 418 | 478 | 538 | 597 | 657 | 717 | 776 | 836 | 896 | 956 | 1015 | 1075 | 1135 | 1195 | 1254 | 1314 | 1374 |

4.5 inch, 3.45OD, 13.5-15.1 ppf Voodoo™HPHT Dissolvable Frac Plug

Technical Specifications



| | | | |
|------------------------------|------------------|--------------|----------|
| PN: 45FP1315VDB345-AB | | | |
| Plug Specifications | | | |
| OD | 3.450 inch | | |
| ID | 1.100 inch | | |
| Length | 7.000 inch | | |
| Type | Frac | | |
| Pressure Rating | Weight | Top | Bottom |
| | 11.6 ppf | 13 kpsi | 7000 psi |
| | 12.6 ppf | 15 kpsi | 8500 psi |
| | 13.5 ppf | 15 kpsi | 9000 psi |
| 15.1 ppf | 16 kpsi | 9000 psi | |
| | | | |
| Ball Specifications | | | |
| Ball in Place OD | 1.375 inch | | |
| Ball Drop OD | 2.125 inch | | |
| Material | Magnesium 1.4 SG | | |
| Setting Tool | | | |
| Baker 10 | WLAK | B10xGX45-AB | |
| | Sleeve | B10xFPB45-S | |
| | Adapter | B10xFPB45-A | |
| | Mandrel | B10xGXB45-M | |
| | Nut | B10xFPB45-N | |
| Assurity 10 | WLAK | S25xGXB45-AB | |
| | Sleeve | S25xFPB45S-S | |
| | Adapter | S25xFPB45-A | |
| | Mandrel | S25xGXB45-M | |
| | Nut | S25xFPB45-N | |

| Annular Velocities During Free Fall (ft/min) | | | |
|--|-------------------|-------------------|-------------------|
| Line Speed (ft/min) | 4.5 inch 11.6 ppf | 4.5 inch 13.5 ppf | 4.5 inch 15.1 ppf |
| 100 | 290 | 344 | 435 |
| 200 | 581 | 687 | 870 |
| 300 | 871 | 1031 | 1305 |
| 400 | 1162 | 1374 | 1740 |
| 500 | 1452 | 1718 | 2175 |
| 600 | 1743 | 2062 | 2610 |
| 700 | 2033 | 2405 | 3045 |
| 800 | 2324 | 2749 | 3481 |
| 900 | 2614 | 3093 | 3916 |
| 1000 | 2905 | 3436 | 4351 |
| 1100 | 3195 | 3780 | 4786 |
| 1200 | 3486 | 4123 | 5221 |
| 1300 | 3776 | 4467 | 5656 |
| 1400 | 4067 | 4811 | 6091 |
| 1500 | 4357 | 5154 | 6526 |

| Procedures | |
|-------------------------------|------------------------|
| Baker 10 | OP-PRO-3P-FP-GXB-ALL-A |
| Assurity 10 | |
| Screenout and Misrun Recovery | |
| Plug Milling | |

| Recommended Run Speeds | | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|------------------------|-------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 4.5 inch 11.6 ppf | Fluid Speed (ft/min) | 321 | 386 | 450 | 514 | 579 | 643 | 707 | 771 | 836 | 900 | 964 | 1029 | 1093 | 1157 | 1221 | 1286 | 1350 | 1414 | 1479 |
| | Suggested Line Speed (ft/min) | 273 | 328 | 383 | 437 | 492 | 546 | 601 | 656 | 710 | 765 | 820 | 874 | 929 | 984 | 1038 | 1093 | 1148 | 1202 | 1257 |
| 4.5 inch 13.5 ppf | Fluid Speed (ft/min) | 335 | 402 | 469 | 535 | 602 | 669 | 736 | 803 | 870 | 937 | 1004 | 1071 | 1138 | 1205 | 1272 | 1339 | 1406 | 1473 | 1540 |
| | Suggested Line Speed (ft/min) | 284 | 341 | 398 | 455 | 512 | 569 | 626 | 683 | 740 | 797 | 853 | 910 | 967 | 1024 | 1081 | 1138 | 1195 | 1252 | 1309 |
| 4.5 inch 15.1 ppf | Fluid Speed (ft/min) | 351 | 422 | 492 | 562 | 632 | 703 | 773 | 843 | 913 | 984 | 1054 | 1124 | 1195 | 1265 | 1335 | 1405 | 1476 | 1546 | 1616 |
| | Suggested Line Speed (ft/min) | 299 | 358 | 418 | 478 | 538 | 597 | 657 | 717 | 776 | 836 | 896 | 956 | 1015 | 1075 | 1135 | 1195 | 1254 | 1314 | 1374 |

4.5 inch, 3.60OD, 11.6-13.5 ppf Voodoo™HPHT Dissolvable Frac Plug

Technical Specifications



| | | | |
|------------------------------|------------------|--------------|----------|
| PN: 45FP1113VDB360-AB | | | |
| Plug Specifications | | | |
| OD | 3.600 inch | | |
| ID | 1.100 inch | | |
| Length | 7.000 inch | | |
| Type | Frac | | |
| Pressure Rating | Weight | Top | Bottom |
| | 5 inch | 13 kpsi | 9500 psi |
| | 24.1 ppf | 13 kpsi | 9500 psi |
| | 11.6 ppf | 13 kpsi | 9500 psi |
| | 12.6 ppf | 14 kpsi | 9900 psi |
| | 13.5 ppf | 14 kpsi | 11 kpsi |
| Ball Specifications | | | |
| Ball in Place OD | 1.375 inch | | |
| Ball Drop OD | 2.125 inch | | |
| Material | Magnesium 1.4 SG | | |
| Setting Tool | | | |
| Baker 10 | WLAK | B10xGX45-AB | |
| | Sleeve | B10xFPB45-S | |
| | Adapter | B10xFPB45-A | |
| | Mandrel | B10xGXB45-M | |
| | Nut | B10xFPB45-N | |
| Assurity 20 | WLAK | S25xGXB45-AB | |
| | Sleeve | S25xFPB45S-S | |
| | Adapter | S25xFPB45-A | |
| | Mandrel | S25xGXB45-M | |
| | Nut | S25xFPB45-N | |

| Annular Velocities During Free Fall (ft/min) | | | |
|--|-------------------|-------------------|-------------------|
| Line Speed (ft/min) | 4.5 inch 11.6 ppf | 4.5 inch 13.5 ppf | 4.5 inch 15.1 ppf |
| 100 | 290 | 344 | 435 |
| 200 | 581 | 687 | 870 |
| 300 | 871 | 1031 | 1305 |
| 400 | 1162 | 1374 | 1740 |
| 500 | 1452 | 1718 | 2175 |
| 600 | 1743 | 2062 | 2610 |
| 700 | 2033 | 2405 | 3045 |
| 800 | 2324 | 2749 | 3481 |
| 900 | 2614 | 3093 | 3916 |
| 1000 | 2905 | 3436 | 4351 |
| 1100 | 3195 | 3780 | 4786 |
| 1200 | 3486 | 4123 | 5221 |
| 1300 | 3776 | 4467 | 5656 |
| 1400 | 4067 | 4811 | 6091 |
| 1500 | 4357 | 5154 | 6526 |

| Procedures | |
|-------------------------------|------------------------|
| Baker 20 | OP-PRO-3P-FP-GXB-ALL-A |
| 2.500 Shorty | |
| Screenout and Misrun Recovery | |
| Plug Milling | |

| Recommended Run Speeds | | | | | | | | | | | | | | | | | | | | | |
|------------------------|-------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|--|
| Pump Rate (bpm) | | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | |
| 4.5 inch 11.6 ppf | Fluid Speed (ft/min) | 321 | 386 | 450 | 514 | 579 | 643 | 707 | 771 | 836 | 900 | 964 | 1029 | 1093 | 1157 | 1221 | 1286 | 1350 | 1414 | 1479 | |
| | Suggested Line Speed (ft/min) | 273 | 328 | 383 | 437 | 492 | 546 | 601 | 656 | 710 | 765 | 820 | 874 | 929 | 984 | 1038 | 1093 | 1148 | 1202 | 1257 | |
| 4.5 inch 13.5 ppf | Fluid Speed (ft/min) | 335 | 402 | 469 | 535 | 602 | 669 | 736 | 803 | 870 | 937 | 1004 | 1071 | 1138 | 1205 | 1272 | 1339 | 1406 | 1473 | 1540 | |
| | Suggested Line Speed (ft/min) | 284 | 341 | 398 | 455 | 512 | 569 | 626 | 683 | 740 | 797 | 853 | 910 | 967 | 1024 | 1081 | 1138 | 1195 | 1252 | 1309 | |
| 4.5 inch 15.1 ppf | Fluid Speed (ft/min) | 351 | 422 | 492 | 562 | 632 | 703 | 773 | 843 | 913 | 984 | 1054 | 1124 | 1195 | 1265 | 1335 | 1405 | 1476 | 1546 | 1616 | |
| | Suggested Line Speed (ft/min) | 299 | 358 | 418 | 478 | 538 | 597 | 657 | 717 | 776 | 836 | 896 | 956 | 1015 | 1075 | 1135 | 1195 | 1254 | 1314 | 1374 | |

5.5 inch, 4.25OD, 20-26 ppf Voodoo™HPHT Dissolvable Plug

Technical Specifications



| | | | |
|------------------------------|------------------|--------------|----------|
| PN: 55FP2026VDB425-AB | | | |
| Plug Specifications | | | |
| OD | 4.250 inch | | |
| ID | 1.400 inch | | |
| Length | 7.950 inch | | |
| Type | Frac | | |
| Pressure Rating | Weight | Top | Bottom |
| | 17 ppf | 14 kpsi | 7000 psi |
| | 20 ppf | 14 kpsi | 8000 psi |
| | 23 ppf | 15 kpsi | 9500 psi |
| 26 ppf | 15 kpsi | 9500 psi | |
| Ball Specifications | | | |
| Ball in Place OD | 1.625 inch | | |
| Ball Drop OD | 2.125 inch | | |
| Material | Magnesium 1.4 SG | | |
| Setting Tool | | | |
| Baker 20 | WLAK | B20xGXB55-AB | |
| | Sleeve | B20xFPB55-S | |
| | Adapter | B20xFPB55-A | |
| | Mandrel | BK20xGXB55-M | |
| | Nut | B20xFPB55-N | |
| Assurity 20 | WLAK | S35xGXB55-AB | |
| | Sleeve | S35xFPB55-S | |
| | Adapter | S35xFPB55-A | |
| | Mandrel | S35xGXB55-M | |
| | Nut | S35xFPB55-N | |

| Annular Velocities During Free Fall (ft/min) | | | |
|--|-----------------|-----------------|-----------------|
| Line Speed (ft/min) | 5.5 inch 17 ppf | 5.5 inch 20 ppf | 5.5 inch 23 ppf |
| 100 | 378 | 484 | 656 |
| 200 | 756 | 969 | 1311 |
| 300 | 1133 | 1453 | 1967 |
| 400 | 1511 | 1937 | 2622 |
| 500 | 1889 | 2422 | 3278 |
| 600 | 2267 | 2906 | 3933 |
| 700 | 2644 | 3390 | 4589 |
| 800 | 3022 | 3875 | 5245 |
| 900 | 3400 | 4359 | 5900 |
| 1000 | 3778 | 4843 | 6556 |
| 1100 | 4155 | 5328 | 7211 |
| 1200 | 4533 | 5812 | 7867 |
| 1300 | 4911 | 6297 | 8522 |
| 1400 | 5289 | 6781 | 9178 |
| 1500 | 5666 | 7265 | 9834 |

| Procedures | |
|-------------------------------|------------------------|
| Baker 20 | OP-PRO-3P-FP-GXB-ALL-A |
| Assurity 20 | |
| Screenout and Misrun Recovery | |
| Plug Milling | |

| Recommended Run Speeds | | | | | | | | | | | | | | | | | | | | |
|------------------------|-------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| Pump Rate (bpm) | | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 21 |
| 5.5 inch 17 ppf | Fluid Speed (ft/min) | 215 | 258 | 301 | 344 | 387 | 430 | 473 | 516 | 559 | 602 | 645 | 688 | 731 | 774 | 817 | 860 | 903 | 946 | 989 |
| | Suggested Line Speed (ft/min) | 107 | 129 | 150 | 172 | 193 | 215 | 236 | 258 | 279 | 301 | 322 | 344 | 365 | 387 | 408 | 430 | 451 | 473 | 494 |
| 5.5 inch 20 ppf | Fluid Speed (ft/min) | 225 | 270 | 315 | 360 | 405 | 451 | 496 | 541 | 586 | 631 | 676 | 721 | 766 | 811 | 856 | 901 | 946 | 991 | 1036 |
| | Suggested Line Speed (ft/min) | 191 | 230 | 268 | 306 | 345 | 383 | 421 | 460 | 498 | 536 | 574 | 613 | 651 | 689 | 728 | 766 | 804 | 843 | 881 |
| 5.5 inch 23 ppf | Fluid Speed (ft/min) | 236 | 283 | 330 | 377 | 424 | 472 | 519 | 566 | 613 | 660 | 707 | 755 | 802 | 849 | 896 | 943 | 990 | 1038 | 1085 |
| | Suggested Line Speed (ft/min) | 200 | 241 | 281 | 321 | 361 | 401 | 441 | 481 | 521 | 561 | 601 | 641 | 682 | 722 | 762 | 802 | 842 | 882 | 922 |

5.5 inch, 4.35OD, 17-23 ppf Voodoo™ HPHT Dissolvable Plug

Technical Specifications



| | | | |
|------------------------------|------------------|--------------|----------|
| PN: 55FP1723VDB435-AB | | | |
| Plug Specifications | | | |
| OD | 4.350 inch | | |
| ID | 1.400 inch | | |
| Length | 7.950 inch | | |
| Type | Frac | | |
| Pressure Rating | Weight | Top | Bottom |
| | 17 ppf | 14 kpsi | 7000 psi |
| | 20 ppf | 14 kpsi | 8000 psi |
| | 23 ppf | 15 kpsi | 9500 psi |
| 26 ppf | 15 kpsi | 9500 psi | |
| Ball Specifications | | | |
| Ball in Place OD | 1.625 inch | | |
| Ball Drop OD | 2.125 inch | | |
| Material | Magnesium 1.4 SG | | |
| Setting Tool | | | |
| Baker 20 | WLAK | B20xGXB55-AB | |
| | Sleeve | B20xFPB55-S | |
| | Adapter | B20xFPB55-A | |
| | Mandrel | BK20xGXB55-M | |
| | Nut | B20xFPB55-N | |
| Assurity 20 | WLAK | S35xGXB55-AB | |
| | Sleeve | S35xFPB55-S | |
| | Adapter | S35xFPB55-A | |
| | Mandrel | S35xGXB55-M | |
| | Nut | S35xFPB55-N | |

| Annular Velocities During Free Fall (ft/min) | | | |
|--|-----------------|-----------------|-----------------|
| Line Speed (ft/min) | 5.5 inch 17 ppf | 5.5 inch 20 ppf | 5.5 inch 23 ppf |
| 100 | 378 | 484 | 656 |
| 200 | 756 | 969 | 1311 |
| 300 | 1133 | 1453 | 1967 |
| 400 | 1511 | 1937 | 2622 |
| 500 | 1889 | 2422 | 3278 |
| 600 | 2267 | 2906 | 3933 |
| 700 | 2644 | 3390 | 4589 |
| 800 | 3022 | 3875 | 5245 |
| 900 | 3400 | 4359 | 5900 |
| 1000 | 3778 | 4843 | 6556 |
| 1100 | 4155 | 5328 | 7211 |
| 1200 | 4533 | 5812 | 7867 |
| 1300 | 4911 | 6297 | 8522 |
| 1400 | 5289 | 6781 | 9178 |
| 1500 | 5666 | 7265 | 9834 |

| Procedures | |
|-------------------------------|------------------------|
| Baker 20 | OP-PRO-3P-FP-GXB-ALL-A |
| Assurity 20 | |
| Screenout and Misrun Recovery | |
| Plug Milling | |

| Recommended Run Speeds | | | | | | | | | | | | | | | | | | | | |
|------------------------|-------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| Pump Rate (bpm) | | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 21 | |
| 5.5 inch 17 ppf | Fluid Speed (ft/min) | 215 | 258 | 301 | 344 | 387 | 430 | 473 | 516 | 559 | 602 | 645 | 688 | 731 | 774 | 817 | 860 | 903 | 946 | 989 |
| | Suggested Line Speed (ft/min) | 107 | 129 | 150 | 172 | 193 | 215 | 236 | 258 | 279 | 301 | 322 | 344 | 365 | 387 | 408 | 430 | 451 | 473 | 494 |
| 5.5 inch 20 ppf | Fluid Speed (ft/min) | 225 | 270 | 315 | 360 | 405 | 451 | 496 | 541 | 586 | 631 | 676 | 721 | 766 | 811 | 856 | 901 | 946 | 991 | 1036 |
| | Suggested Line Speed (ft/min) | 191 | 230 | 268 | 306 | 345 | 383 | 421 | 460 | 498 | 536 | 574 | 613 | 651 | 689 | 728 | 766 | 804 | 843 | 881 |
| 5.5 inch 23 ppf | Fluid Speed (ft/min) | 236 | 283 | 330 | 377 | 424 | 472 | 519 | 566 | 613 | 660 | 707 | 755 | 802 | 849 | 896 | 943 | 990 | 1038 | 1085 |
| | Suggested Line Speed (ft/min) | 200 | 241 | 281 | 321 | 361 | 401 | 441 | 481 | 521 | 561 | 601 | 641 | 682 | 722 | 762 | 802 | 842 | 882 | 922 |

7.0 inch, 5.72OD, 32-38 ppf Voodoo™HPHT Dissolvable Plug

Technical Specifications



| | | | |
|------------------------------|------------------|--------------|----------|
| PN: 70FP3238VDB572-AB | | | |
| Plug Specifications | | | |
| OD | 5.720 inch | | |
| ID | 1.400 inch | | |
| Length | 8.950 inch | | |
| Type | Frac | | |
| Pressure Rating | Weight | Top | Bottom |
| | 32 ppf | 13 kpsi | 6000 psi |
| | 35 ppf | 13 kpsi | 7000 psi |
| | 38 ppf | 14 kpsi | 7500 psi |
| Ball Specifications | | | |
| Ball in Place OD | 1.625 inch | | |
| Ball Drop OD | 2.125 inch | | |
| Material | Magnesium 1.4 SG | | |
| Setting Tool | | | |
| Assurity 20 | WLAK | S35xGXB70-AB | |
| | Sleeve | S35xFPB70-S | |
| | Adapter | S35xFPB70-A | |
| | Mandrel | S35xGXB70-M | |
| | Nut | S35xFPB70-N | |

| Annular Velocities During Free Fall (ft/min) | | | |
|--|-----------------|-----------------|-----------------|
| Line Speed (ft/min) | 7.0 inch 32 ppf | 7.0 inch 35 ppf | 7.0 inch 38 ppf |
| 100 | 378 | 484 | 656 |
| 200 | 756 | 969 | 1311 |
| 300 | 1133 | 1453 | 1967 |
| 400 | 1511 | 1937 | 2622 |
| 500 | 1889 | 2422 | 3278 |
| 600 | 2267 | 2906 | 3933 |
| 700 | 2644 | 3390 | 4589 |
| 800 | 3022 | 3875 | 5245 |
| 900 | 3400 | 4359 | 5900 |
| 1000 | 3778 | 4843 | 6556 |
| 1100 | 4155 | 5328 | 7211 |
| 1200 | 4533 | 5812 | 7867 |
| 1300 | 4911 | 6297 | 8522 |
| 1400 | 5289 | 6781 | 9178 |
| 1500 | 5666 | 7265 | 9834 |

| Procedures | |
|-------------------------------|------------------------|
| Assurity 20 | OP-PRO-3P-FP-GXB-ALL-A |
| Screenout and Misrun Recovery | |
| Plug Milling | |

| Recommended Run Speeds | | | | | | | | | | | | | | | | | | | | |
|------------------------|-------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| Pump Rate (bpm) | | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 21 |
| 7.0 inch 32 ppf | Fluid Speed (ft/min) | 215 | 258 | 301 | 344 | 387 | 430 | 473 | 516 | 559 | 602 | 645 | 688 | 731 | 774 | 817 | 860 | 903 | 946 | 989 |
| | Suggested Line Speed (ft/min) | 107 | 129 | 150 | 172 | 193 | 215 | 236 | 258 | 279 | 301 | 322 | 344 | 365 | 387 | 408 | 430 | 451 | 473 | 494 |
| 7.0 inch 35 ppf | Fluid Speed (ft/min) | 225 | 270 | 315 | 360 | 405 | 451 | 496 | 541 | 586 | 631 | 676 | 721 | 766 | 811 | 856 | 901 | 946 | 991 | 1036 |
| | Suggested Line Speed (ft/min) | 191 | 230 | 268 | 306 | 345 | 383 | 421 | 460 | 498 | 536 | 574 | 613 | 651 | 689 | 728 | 766 | 804 | 843 | 881 |
| 7.0 inch 38 ppf | Fluid Speed (ft/min) | 236 | 283 | 330 | 377 | 424 | 472 | 519 | 566 | 613 | 660 | 707 | 755 | 802 | 849 | 896 | 943 | 990 | 1038 | 1085 |
| | Suggested Line Speed (ft/min) | 200 | 241 | 281 | 321 | 361 | 401 | 441 | 481 | 521 | 561 | 601 | 641 | 682 | 722 | 762 | 802 | 842 | 882 | 922 |