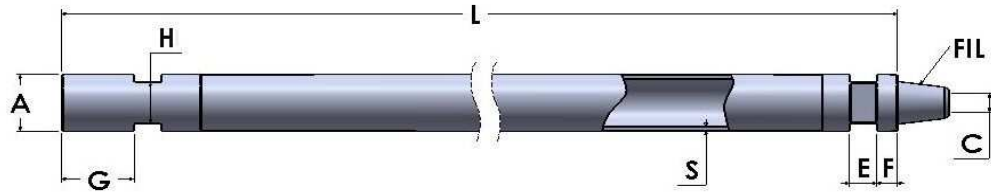


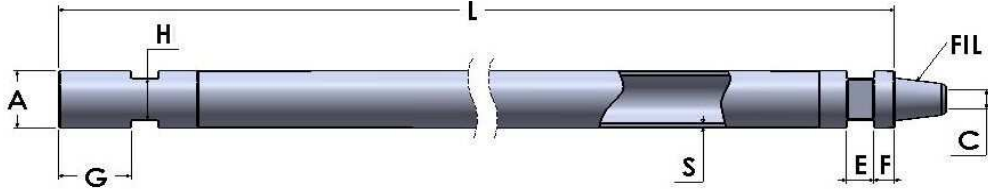
**FRICION DRILL PIPE API THREAD TUBE S135**

| A<br>(mm) | L<br>(mm) | FIL      | C<br>(mm) | S<br>(mm) | H<br>(mm) | E<br>(mm) | F<br>(mm) | G<br>(mm) | WEIGHT<br>(Kg) |      |       | CODE                |
|-----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|----------------|------|-------|---------------------|
|           |           |          |           |           |           |           |           |           | S=6,3          | S=8  | S=8,8 |                     |
| 76        | 1000      | 2 3/8 AR | 30        | 6,3 - 8   | 65        | 40        | 14        | 90        | 15,1           | 19,2 |       | AST B6(S)1000R238WH |
|           | 1500      | 2 3/8 AR | 30        | 6,3 - 8   | 65        | 40        | 14        | 90        | 20,5           | 26,0 |       | AST B6(S)1500R238WH |
|           | 2000      | 2 3/8 AR | 30        | 6,3 - 8   | 65        | 40        | 14        | 90        | 25,9           | 32,9 |       | AST B6(S)2000R238WH |
|           | 3000      | 2 3/8 AR | 30        | 6,3 - 8   | 65        | 40        | 14        | 90        | 36,8           | 46,7 |       | AST B6(S)3000R238WH |
|           | 4000      | 2 3/8 AR | 30        | 6,3 - 8   | 65        | 40        | 14        | 90        | 47,7           | 60,6 |       | AST B6(S)4000R238WH |
|           | 5000      | 2 3/8 AR | 30        | 6,3 - 8   | 65        | 40        | 14        | 90        | 58,6           | 74,4 |       | AST B6(S)5000R238WH |
|           | 6000      | 2 3/8 AR | 30        | 6,3 - 8   | 65        | 40        | 14        | 90        | 69,3           | 88,0 |       | AST B6(S)6000R238WH |



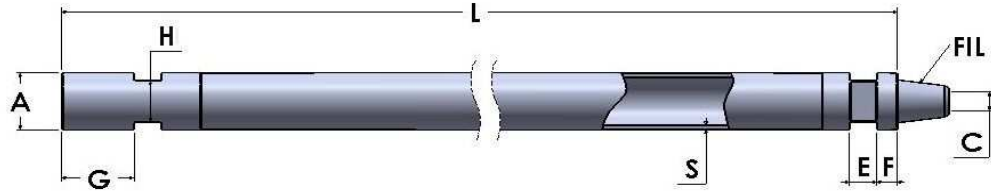
### ASTE DI PERFORAZIONE FRIZIONATE CON FIL API CON TUBO S135

| A<br>(mm) | L<br>(mm) | FIL      | C<br>(mm) | S<br>(mm) | H<br>(mm) | E<br>(mm) | F<br>(mm) | G<br>(mm) | WEIGHT<br>(Kg) |       |       | CODE                |
|-----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|----------------|-------|-------|---------------------|
|           |           |          |           |           |           |           |           |           | S=6,3          | S=8   | S=8,8 |                     |
| 90        | 1000      | 2 3/8 AR | 30        | 6,3 - 8   | 75        | 40        | 22        | 98        | 18,7           | 23,7  |       | AST D0(S)1000R238WH |
|           |           | 2 3/8 IF | 40        |           |           |           | 22        | 98        | 18,7           | 23,7  |       | AST D0(S)1000F238WH |
|           |           | 2 7/8 AR | 30        |           |           |           | 17        | 106       | 18,7           | 23,7  |       | AST D0(S)1000R278WH |
|           | 1500      | 2 3/8 AR | 30        | 6,3 - 8   | 75        | 40        | 22        | 98        | 25,2           | 32,0  |       | AST D0(S)1500R238WH |
|           |           | 2 3/8 IF | 40        |           |           |           | 22        | 98        | 25,2           | 32,0  |       | AST D0(S)1500F238WH |
|           |           | 2 7/8 AR | 30        |           |           |           | 17        | 106       | 25,2           | 32,0  |       | AST D0(S)1500R278WH |
|           | 2000      | 2 3/8 AR | 30        | 6,3 - 8   | 75        | 40        | 22        | 98        | 31,7           | 40,3  |       | AST D0(S)2000R238WH |
|           |           | 2 3/8 IF | 40        |           |           |           | 22        | 98        | 31,7           | 40,3  |       | AST D0(S)2000F238WH |
|           |           | 2 7/8 AR | 30        |           |           |           | 17        | 106       | 31,7           | 40,3  |       | AST D0(S)2000R278WH |
|           | 3000      | 2 3/8 AR | 30        | 6,3 - 8   | 75        | 40        | 22        | 98        | 44,5           | 56,5  |       | AST D0(S)3000R238WH |
|           |           | 2 3/8 IF | 40        |           |           |           | 22        | 98        | 44,5           | 56,5  |       | AST D0(S)3000F238WH |
|           |           | 2 7/8 AR | 30        |           |           |           | 17        | 106       | 44,5           | 56,5  |       | AST D0(S)3000R278WH |
|           | 4000      | 2 3/8 AR | 30        | 6,3 - 8   | 75        | 40        | 22        | 98        | 57,3           | 72,8  |       | AST D0(S)4000R238WH |
|           |           | 2 3/8 IF | 40        |           |           |           | 22        | 98        | 57,3           | 72,8  |       | AST D0(S)4000F238WH |
|           |           | 2 7/8 AR | 30        |           |           |           | 17        | 106       | 57,3           | 72,8  |       | AST D0(S)4000R278WH |
|           | 4500      | 2 3/8 AR | 30        | 6,3 - 8   | 75        | 40        | 22        | 98        | 63,8           | 81,0  |       | AST D0(S)4500R238WH |
|           |           | 2 3/8 IF | 40        |           |           |           | 22        | 98        | 63,8           | 81,0  |       | AST D0(S)4500F238WH |
|           |           | 2 7/8 AR | 30        |           |           |           | 17        | 106       | 63,8           | 81,0  |       | AST D0(S)4500R278WH |
|           | 5000      | 2 3/8 AR | 30        | 6,3 - 8   | 75        | 40        | 22        | 98        | 70,1           | 89,0  |       | AST D0(S)5000R238WH |
|           |           | 2 3/8 IF | 40        |           |           |           | 22        | 98        | 70,1           | 89,0  |       | AST D0(S)5000F238WH |
|           |           | 2 7/8 AR | 30        |           |           |           | 17        | 106       | 70,1           | 89,0  |       | AST D0(S)5000R278WH |
|           | 6000      | 2 3/8 AR | 30        | 6,3 - 8   | 75        | 40        | 22        | 98        | 83             | 105,4 |       | AST D0(S)6000R238WH |
|           |           | 2 3/8 IF | 40        |           |           |           | 22        | 98        | 83             | 105,4 |       | AST D0(S)6000F238WH |
|           |           | 2 7/8 AR | 30        |           |           |           | 17        | 106       | 83             | 105,4 |       | AST D0(S)6000R278WH |



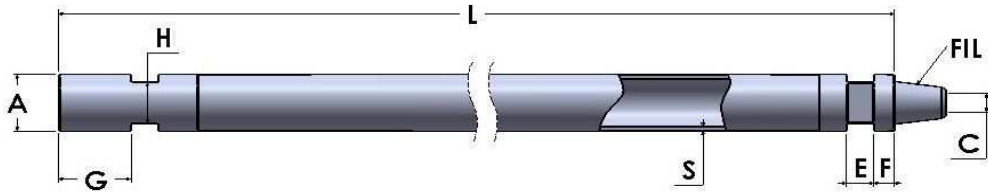
### FRICTION DRILL PIPE API THREAD TUBE S135

| A<br>(mm) | L<br>(mm) | FIL      | C<br>(mm) | S<br>(mm) | H<br>(mm) | E<br>(mm) | F<br>(mm) | G<br>(mm) | WEIGHT<br>(Kg) |       |       | CODE                |
|-----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|----------------|-------|-------|---------------------|
|           |           |          |           |           |           |           |           |           | S=6,3          | S=8   | S=8,8 |                     |
| 101       | 1000      | 2 7/8 AR | 30        | 6,3 - 8,8 | 85        | 40        | 18        | 113       | 23             | 29,2  |       | AST E1(S)1000R278WH |
|           |           | 2 7/8 IF | 50        |           |           |           | 24        |           | 23             | 29,2  |       | AST E1(S)1000F278WH |
|           | 1500      | 2 7/8 AR | 30        | 6,3 - 8,8 | 85        | 40        | 18        | 113       | 29             | 36,8  |       | AST E1(S)1500R278WH |
|           |           | 2 7/8 IF | 50        |           |           |           | 24        |           | 29             | 36,8  |       | AST E1(S)1500F278WH |
|           | 2000      | 2 7/8 AR | 30        | 6,3 - 8,8 | 85        | 40        | 18        | 113       | 36             | 45,7  |       | AST E1(S)2000R278WH |
|           |           | 2 7/8 IF | 50        |           |           |           | 24        |           | 36             | 45,7  |       | AST E1(S)2000F278WH |
|           | 3000      | 2 7/8 AR | 30        | 6,3 - 8,8 | 85        | 40        | 18        | 113       | 51             | 64,8  |       | AST E1(S)3000R278WH |
|           |           | 2 7/8 IF | 50        |           |           |           | 24        |           | 51             | 64,8  |       | AST E1(S)3000F278WH |
|           | 4000      | 2 7/8 AR | 30        | 6,3 - 8,8 | 85        | 40        | 18        | 113       | 65             | 82,5  |       | AST E1(S)4000R278WH |
|           |           | 2 7/8 IF | 50        |           |           |           | 24        |           | 65             | 82,5  |       | AST E1(S)4000F278WH |
|           | 4500      | 2 7/8 AR | 30        | 6,3 - 8,8 | 85        | 40        | 18        | 113       | 73             | 92,7  |       | AST E1(S)4500R278WH |
|           |           | 2 7/8 IF | 50        |           |           |           | 24        |           | 73             | 92,7  |       | AST E1(S)4500F278WH |
|           | 5000      | 2 7/8 AR | 30        | 6,3 - 8,8 | 85        | 40        | 18        | 113       | 81             | 102,9 |       | AST E1(S)5000R278WH |
|           |           | 2 7/8 IF | 50        |           |           |           | 24        |           | 81             | 102,9 |       | AST E1(S)5000F278WH |
|           | 6000      | 2 7/8 AR | 30        | 6,3 - 8,8 | 85        | 40        | 18        | 113       | 95             | 120,6 |       | AST E1(S)6000R278WH |
|           |           | 2 7/8 IF | 50        |           |           |           | 24        |           | 95             | 120,6 |       | AST E1(S)6000F278WH |



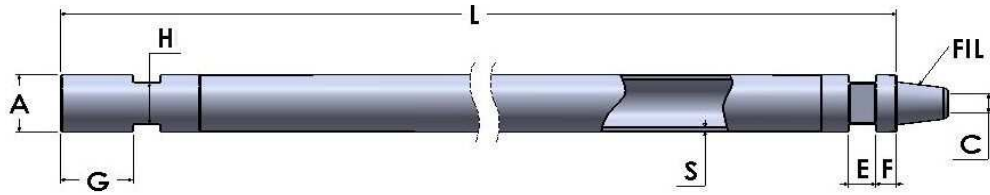
### FRICTION DRILL PIPE API THREAD TUBE S135

| A<br>(mm) | L<br>(mm) | FIL      | C<br>(mm)     | S<br>(mm)     | H<br>(mm) | E<br>(mm) | F<br>(mm) | G<br>(mm) | WEIGHT<br>(Kg) |       |                     | CODE                |
|-----------|-----------|----------|---------------|---------------|-----------|-----------|-----------|-----------|----------------|-------|---------------------|---------------------|
|           |           |          |               |               |           |           |           |           | S=6,3          | S=8   | S=8,8               |                     |
| 114       | 1000      | 2 7/8 IF | 50            | 6,3 - 8 - 8,8 | 95        | 50        | 14        | 103       | 28,3           | 35,9  | 39,5                | AST F4(S)1000F278WH |
|           |           | 3 1/2 AR | 40            |               |           | 50        | 18        | 103       | 28,3           | 35,9  | 39,5                | AST F4(S)1000R312WH |
|           |           | 3 1/2 IF | 65            | 6,3           |           | 40        | 28        | 130       | 28,3           |       |                     | AST F4(S)1000F312WH |
|           |           | 3 1/2 IF | 60            | 8 - 8,8       |           | 40        | 28        | 130       |                | 35,9  | 39,5                | AST F4(S)1000F312WH |
|           | 1500      | 2 7/8 IF | 50            | 6,3 - 8 - 8,8 | 95        | 50        | 24        | 103       | 37             | 47,0  | 51,7                | AST F4(S)1500F278WH |
|           |           | 3 1/2 AR | 40            |               |           | 50        | 18        | 103       | 37             | 47,0  | 51,7                | AST F4(S)1500R312WH |
|           |           | 3 1/2 IF | 65            | 6,3           |           | 40        | 29        | 130       | 37             |       |                     | AST F4(S)1500F312WH |
|           |           | 3 1/2 IF | 60            | 8 - 8,8       |           | 40        | 29        | 130       |                | 47    | 51,7                | AST F4(S)1500F312WH |
|           | 2000      | 2 7/8 IF | 50            | 6,3 - 8 - 8,8 | 95        | 50        | 24        | 103       | 45,4           | 57,7  | 63,4                | AST F4(S)2000F278WH |
|           |           | 3 1/2 AR | 40            |               |           | 50        | 18        | 103       | 45,4           | 57,7  | 63,4                | AST F4(S)2000R312WH |
|           |           | 3 1/2 IF | 65            | 6,3           |           | 40        | 29        | 130       | 45,4           |       |                     | AST F4(S)2000F312WH |
|           |           | 3 1/2 IF | 60            | 8 - 8,8       |           | 40        | 29        | 130       |                | 57,7  | 63,5                | AST F4(S)2000F312WH |
|           | 2500      | 2 7/8 IF | 50            | 6,3 - 8 - 8,8 | 95        | 50        | 24        | 103       | 60             | 76,2  | 83,8                | AST F4(S)2500F278WH |
|           |           | 3 1/2 AR | 40            |               |           | 50        | 18        | 103       | 60             | 76,2  | 83,8                | AST F4(S)2500R312WH |
|           |           | 3 1/2 IF | 65            | 6,3           |           | 40        | 29        | 130       | 60             |       |                     | AST F4(S)2500F312WH |
|           |           | 3 1/2 IF | 60            | 8 - 8,8       |           | 40        | 29        | 130       |                | 76,2  | 83,8                | AST F4(S)2500F312WH |
|           | 3000      | 2 7/8 IF | 50            | 6,3 - 8 - 8,8 | 95        | 50        | 24        | 103       | 62,2           | 79,0  | 86,9                | AST F4(S)3000F278WH |
|           |           | 3 1/2 AR | 40            |               |           | 50        | 18        | 103       | 62,2           | 79,0  | 86,9                | AST F4(S)3000R312WH |
|           |           | 3 1/2 IF | 65            | 6,3           |           | 40        | 29        | 130       | 62,2           |       |                     | AST F4(S)3000F312WH |
|           |           | 3 1/2 IF | 60            | 8 - 8,8       |           | 40        | 29        | 130       |                | 79    | 86,9                | AST F4(S)3000F312WH |
|           | 4000      | 2 7/8 IF | 50            | 6,3 - 8 - 8,8 | 95        | 50        | 24        | 103       | 79             | 100,3 | 110,3               | AST F4(S)4000F278WH |
|           |           | 3 1/2 AR | 40            |               |           | 50        | 18        | 103       | 79             | 100,3 | 110,3               | AST F4(S)4000R312WH |
|           |           | 3 1/2 IF | 65            | 6,3           |           | 40        | 29        | 130       | 79             |       |                     | AST F4(S)4000F312WH |
|           |           | 3 1/2 IF | 60            | 8 - 8,8       |           | 40        | 29        | 130       |                | 100,3 | 110,3               | AST F4(S)4000F312WH |
|           | 4500      | 2 7/8 IF | 50            | 6,3 - 8 - 8,8 | 95        | 50        | 24        | 103       | 86             | 109,2 | 120,1               | AST F4(S)4500F278WH |
|           |           | 3 1/2 AR | 40            |               |           | 50        | 18        | 103       | 86             | 109,2 | 120,1               | AST F4(S)4500R312WH |
|           |           | 3 1/2 IF | 65            | 6,3           |           | 40        | 29        | 130       | 86             |       |                     | AST F4(S)4500F312WH |
|           |           | 3 1/2 IF | 60            | 8 - 8,8       |           | 40        | 29        | 130       |                | 109,2 | 120,1               | AST F4(S)4500F312WH |
| 5000      | 2 7/8 IF  | 50       | 6,3 - 8 - 8,8 | 95            | 50        | 24        | 103       | 95,8      | 121,7          | 133,8 | AST F4(S)5000F278WH |                     |
|           | 3 1/2 AR  | 40       |               |               | 50        | 18        | 103       | 95,8      | 121,7          | 133,8 | AST F4(S)5000R312WH |                     |
|           | 3 1/2 IF  | 65       | 6,3           |               | 40        | 29        | 130       | 95,8      |                |       | AST F4(S)5000F312WH |                     |
|           | 3 1/2 IF  | 60       | 8 - 8,8       |               | 40        | 29        | 130       |           | 121,7          | 133,9 | AST F4(S)5000F312WH |                     |
| 6000      | 2 7/8 IF  | 50       | 6,3 - 8 - 8,8 | 95            | 50        | 24        | 103       | 112,8     | 143,2          | 157,6 | AST F4(S)6000F278WH |                     |
|           | 3 1/2 AR  | 40       |               |               | 50        | 18        | 103       | 112,8     | 143,2          | 157,6 | AST F4(S)6000R312WH |                     |
|           | 3 1/2 IF  | 65       | 6,3           |               | 40        | 29        | 130       | 112,8     |                |       | AST F4(S)6000F312WH |                     |
|           | 3 1/2 IF  | 60       | 8 - 8,8       |               | 40        | 29        | 130       |           | 143,2          | 157,5 | AST F4(S)6000F312WH |                     |



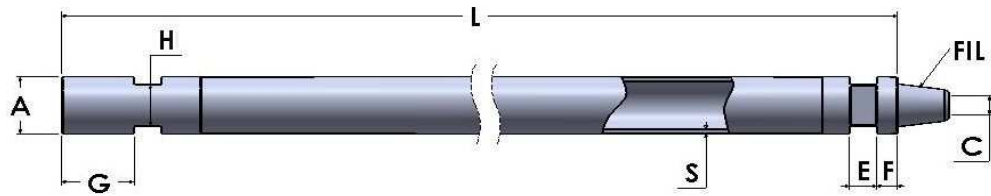
### FRICTION DRILL PIPE API THREAD TUBE S135

| A<br>(mm) | L<br>(mm) | FIL      | C<br>(mm)     | S<br>(mm)     | H<br>(mm) | E<br>(mm) | F<br>(mm) | G<br>(mm) | WEIGHT<br>(Kg) |     |                     | CODE                |
|-----------|-----------|----------|---------------|---------------|-----------|-----------|-----------|-----------|----------------|-----|---------------------|---------------------|
|           |           |          |               |               |           |           |           |           | S=6,3          | S=8 | S=8,8               |                     |
| 127       | 1000      | 3 1/2 AR | 40            | 6,3 - 8 - 8,8 | 105       | 40        | 14        | 109       | 32,3           | 37  | 40,7                | AST G7(S)1000R312WH |
|           |           | 3 1/2 IF | 65            | 6,3           |           |           | 18        | 120       | 32,3           |     |                     | AST G7(S)1000F312WH |
|           |           | 3 1/2 IF | 60            | 8 - 8,8       |           |           | 18        | 120       |                | 37  | 40,7                | AST G7(S)1000F312WH |
|           | 1500      | 3 1/2 AR | 40            | 6,3 - 8 - 8,8 | 105       | 40        | 14        | 109       | 41,6           | 49  | 53                  | AST G7(S)1500R312WH |
|           |           | 3 1/2 IF | 65            | 6,3           |           |           | 18        | 120       | 41,6           |     |                     | AST G7(S)1500F312WH |
|           |           | 3 1/2 IF | 60            | 8 - 8,8       |           |           | 18        | 120       |                | 49  | 53                  | AST G7(S)1500F312WH |
|           | 2000      | 3 1/2 AR | 40            | 6,3 - 8 - 8,8 | 105       | 40        | 14        | 109       | 50,9           | 61  | 67,1                | AST G7(S)2000R312WH |
|           |           | 3 1/2 IF | 65            | 6,3           |           |           | 18        | 120       | 50,9           |     |                     | AST G7(S)2000F312WH |
|           |           | 3 1/2 IF | 60            | 8 - 8,8       |           |           | 18        | 120       |                | 61  | 67,1                | AST G7(S)2000F312WH |
|           | 2500      | 3 1/2 AR | 40            | 6,3 - 8 - 8,8 | 105       | 40        | 14        | 109       | 60,2           | 73  | 80,3                | AST G7(S)2500R312WH |
|           |           | 3 1/2 IF | 65            | 6,3           |           |           | 18        | 120       | 60,2           |     |                     | AST G7(S)2500F312WH |
|           |           | 3 1/2 IF | 60            | 8 - 8,8       |           |           | 18        | 120       |                | 73  | 80,3                | AST G7(S)2500F312WH |
|           | 3000      | 3 1/2 AR | 40            | 6,3 - 8 - 8,8 | 105       | 40        | 14        | 109       | 69,7           | 85  | 92                  | AST G7(S)3000R312WH |
|           |           | 3 1/2 IF | 65            | 6,3           |           |           | 18        | 120       | 69,7           |     |                     | AST G7(S)3000F312WH |
|           |           | 3 1/2 IF | 60            | 8 - 8,8       |           |           | 18        | 120       |                | 85  | 92                  | AST G7(S)3000F312WH |
|           | 4000      | 3 1/2 AR | 40            | 6,3 - 8 - 8,8 | 105       | 40        | 14        | 109       | 88,5           | 107 | 117                 | AST G7(S)4000R312WH |
|           |           | 3 1/2 IF | 65            | 6,3           |           |           | 18        | 120       | 88,5           |     |                     | AST G7(S)4000F312WH |
|           |           | 3 1/2 IF | 60            | 8 - 8,8       |           |           | 18        | 120       |                | 107 | 117                 | AST G7(S)4000F312WH |
|           | 4500      | 3 1/2 AR | 40            | 6,3 - 8 - 8,8 | 105       | 40        | 14        | 109       | 98             | 121 | 132                 | AST G7(S)4500R312WH |
|           |           | 3 1/2 IF | 65            | 6,3           |           |           | 18        | 120       | 98             |     |                     | AST G7(S)4500F312WH |
|           |           | 3 1/2 IF | 60            | 8 - 8,8       |           |           | 18        | 120       |                | 121 | 132                 | AST G7(S)4500F312WH |
|           | 5000      | 3 1/2 AR | 40            | 6,3 - 8 - 8,8 | 105       | 40        | 14        | 109       | 107,3          | 130 | 142                 | AST G7(S)5000R312WH |
|           |           | 3 1/2 IF | 65            | 6,3           |           |           | 18        | 120       | 107,3          |     |                     | AST G7(S)5000F312WH |
|           |           | 3 1/2 IF | 60            | 8 - 8,8       |           |           | 18        | 120       |                | 130 | 142                 | AST G7(S)5000F312WH |
| 6000      | 3 1/2 AR  | 40       | 6,3 - 8 - 8,8 | 105           | 40        | 14        | 109       | 126       | 154            | 168 | AST G7(S)6000R312WH |                     |
|           | 3 1/2 IF  | 65       | 6,3           |               |           | 18        | 120       | 126       |                |     | AST G7(S)6000F312WH |                     |
|           | 3 1/2 IF  | 60       | 8 - 8,8       |               |           | 18        | 120       |           | 154            | 168 | AST G7(S)6000F312WH |                     |



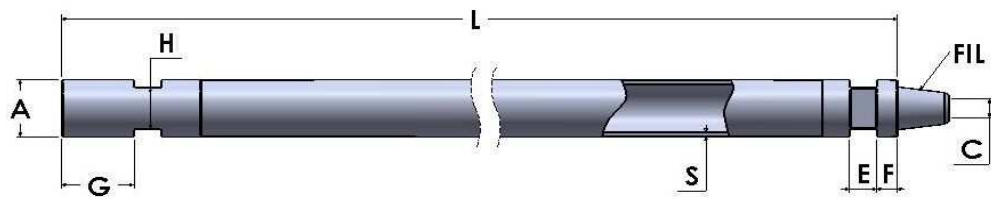
### FRICTION DRILL PIPE API THREAD TUBE S135

| A<br>(mm) | L<br>(mm) | FIL      | C<br>(mm)     | S<br>(mm)     | H<br>(mm) | E<br>(mm) | F<br>(mm) | G<br>(mm) | WEIGHT<br>(Kg) |       |                     | CODE                |
|-----------|-----------|----------|---------------|---------------|-----------|-----------|-----------|-----------|----------------|-------|---------------------|---------------------|
|           |           |          |               |               |           |           |           |           | S=6,3          | S=8   | S=8,8               |                     |
| 140       | 1000      | 4 1/2 AR | 60            | 6,3 - 8 - 8,8 | 120       | 40        | 18        | 126       | 38,6           | 45    | 49,5                | AST I0(S)1000R412WH |
|           |           | 3 1/2 AR | 40            |               |           |           | 31        |           | 38,6           | 45    | 49,5                | AST I0(S)1000R312WH |
|           |           | 3 1/2 IF | 65            | 6,3           | 120       | 40        | 21        | 126       | 38,6           |       |                     | AST I0(S)1000F312WH |
|           |           | 3 1/2 IF | 60            | 8 - 8,8       | 120       | 40        | 21        | 126       |                | 45    | 49,5                | AST I0(S)1000F312WH |
|           |           | 4 IF     | 80            | 6,3 - 8 - 8,8 | 120       | 40        | 25        | 140       | 44,4           | 51,7  | 56,9                | AST I0(S)1000F004WH |
|           | 1500      | 4 1/2 AR | 60            | 6,3 - 8 - 8,8 | 120       | 40        | 18        | 126       | 49             | 59    | 64,9                | AST I0(S)1500R412WH |
|           |           | 3 1/2 AR | 40            |               |           |           | 31        |           | 49             | 59    | 64,9                | AST I0(S)1500R312WH |
|           |           | 3 1/2 IF | 65            | 6,3           | 120       | 40        | 21        | 126       | 49             |       |                     | AST I0(S)1500F312WH |
|           |           | 3 1/2 IF | 60            | 8 - 8,8       | 120       | 40        | 21        | 126       |                | 59    | 64,9                | AST I0(S)1500F312WH |
|           |           | 4 IF     | 80            | 6,3 - 8 - 8,8 | 120       | 40        | 25        | 140       | 56,3           | 67,8  | 74,6                | AST I0(S)1500F004WH |
|           | 2000      | 4 1/2 AR | 60            | 6,3 - 8 - 8,8 | 120       | 40        | 18        | 126       | 59,4           | 73    | 80,3                | AST I0(S)2000R412WH |
|           |           | 3 1/2 AR | 40            |               |           |           | 31        |           | 59,4           | 73    | 80,3                | AST I0(S)2000R312WH |
|           |           | 3 1/2 IF | 65            | 6,3           | 120       | 40        | 21        | 126       | 59,4           |       |                     | AST I0(S)2000F312WH |
|           |           | 3 1/2 IF | 60            | 8 - 8,8       | 120       | 40        | 21        | 126       |                | 73    | 80,3                | AST I0(S)2000F312WH |
|           |           | 4 IF     | 80            | 6,3 - 8 - 8,8 | 120       | 40        | 25        | 140       | 68,3           | 83,9  | 92,3                | AST I0(S)2000F004WH |
|           | 2500      | 4 1/2 AR | 60            | 6,3 - 8 - 8,8 | 120       | 40        | 18        | 126       | 69,8           | 87    | 95,7                | AST I0(S)2500R412WH |
|           |           | 3 1/2 AR | 40            |               |           |           | 31        |           | 69,8           | 87    | 95,7                | AST I0(S)2500R312WH |
|           |           | 3 1/2 IF | 65            | 6,3           | 120       | 40        | 21        | 126       | 69,8           |       |                     | AST I0(S)2500F312WH |
|           |           | 3 1/2 IF | 60            | 8 - 8,8       | 120       | 40        | 21        | 126       |                | 87    | 95,7                | AST I0(S)2500F312WH |
|           |           | 4 IF     | 80            | 6,3 - 8 - 8,8 | 120       | 40        | 25        | 140       | 80,2           | 100,0 | 110,0               | AST I0(S)2500F004WH |
|           | 3000      | 4 1/2 AR | 60            | 6,3 - 8 - 8,8 | 120       | 40        | 18        | 126       | 80,1           | 100   | 110,0               | AST I0(S)3000R412WH |
|           |           | 3 1/2 AR | 40            |               |           |           | 31        |           | 80,1           | 100   | 110,0               | AST I0(S)3000R312WH |
|           |           | 3 1/2 IF | 65            | 6,3           | 120       | 40        | 21        | 126       | 80,1           |       |                     | AST I0(S)3000F312WH |
|           |           | 3 1/2 IF | 60            | 8 - 8,8       | 120       | 40        | 21        | 126       |                | 100   | 110,0               | AST I0(S)3000F312WH |
|           |           | 4 IF     | 80            | 6,3 - 8 - 8,8 | 120       | 40        | 25        | 140       | 92,1           | 114,9 | 126,4               | AST I0(S)3000F004WH |
|           | 4000      | 4 1/2 AR | 60            | 6,3 - 8 - 8,8 | 120       | 40        | 18        | 126       | 100,8          | 128   | 140,8               | AST I0(S)4000R412WH |
|           |           | 3 1/2 AR | 40            |               |           |           | 31        |           | 100,8          | 128   | 140,8               | AST I0(S)4000R312WH |
|           |           | 3 1/2 IF | 65            | 6,3           | 120       | 40        | 21        | 126       | 100,8          |       |                     | AST I0(S)4000F312WH |
| 3 1/2 IF  |           | 60       | 8 - 8,8       | 120           | 40        | 21        | 126       |           | 128            | 140,8 | AST I0(S)4000F312WH |                     |
| 4 IF      |           | 80       | 6,3 - 8 - 8,8 | 120           | 40        | 25        | 140       | 115,9     | 147,1          | 161,8 | AST I0(S)4000F004WH |                     |
| 4500      | 4 1/2 AR  | 60       | 6,3 - 8 - 8,8 | 120           | 40        | 18        | 126       | 111       | 140            | 154,0 | AST I0(S)4500R412WH |                     |
|           | 3 1/2 AR  | 40       |               |               |           | 31        |           | 111       | 140            | 154,0 | AST I0(S)4500R312WH |                     |
|           | 3 1/2 IF  | 65       | 6,3           | 120           | 40        | 21        | 126       | 111       |                |       | AST I0(S)4500F312WH |                     |
|           | 3 1/2 IF  | 60       | 8 - 8,8       | 120           | 40        | 21        | 126       |           | 140            | 154,0 | AST I0(S)4500F312WH |                     |
|           | 4 IF      | 80       | 6,3 - 8 - 8,8 | 120           | 40        | 25        | 140       |           |                |       | AST I0(S)4500F004WH |                     |
| 5000      | 4 1/2 AR  | 60       | 6,3 - 8 - 8,8 | 120           | 40        | 18        | 126       | 121,5     | 156            | 171,6 | AST I0(S)5000R412WH |                     |
|           | 3 1/2 AR  | 40       |               |               |           | 31        |           | 121,5     | 156            | 171,6 | AST I0(S)5000R312WH |                     |
|           | 3 1/2 IF  | 65       | 6,3           | 120           | 40        | 21        | 126       | 121,5     |                |       | AST I0(S)5000F312WH |                     |
|           | 3 1/2 IF  | 60       | 8 - 8,8       | 120           | 40        | 21        | 126       |           | 156            | 171,6 | AST I0(S)5000F312WH |                     |
|           | 4 IF      | 80       | 6,3 - 8 - 8,8 | 120           | 40        | 25        | 140       | 139,7     | 179,3          | 197,2 | AST I0(S)5000F004WH |                     |
| 6000      | 4 1/2 AR  | 60       | 6,3 - 8 - 8,8 | 120           | 40        | 18        | 126       | 142,2     | 185            | 203,5 | AST I0(S)6000R412WH |                     |
|           | 3 1/2 AR  | 40       |               |               |           | 31        |           | 142,2     | 185            | 203,5 | AST I0(S)6000R312WH |                     |
|           | 3 1/2 IF  | 65       | 6,3           | 120           | 40        | 21        | 126       | 142,2     |                |       | AST I0(S)6000F312WH |                     |
|           | 3 1/2 IF  | 60       | 8 - 8,8       | 120           | 40        | 21        | 126       |           | 185            | 203,5 | AST I0(S)6000F312WH |                     |
|           | 4 IF      | 80       | 6,3 - 8 - 8,8 | 120           | 40        | 25        | 140       | 163,4     | 212,6          | 233,9 | AST I0(S)6000F004WH |                     |



### FRICTION DRILL PIPE API THREAD TUBE N80

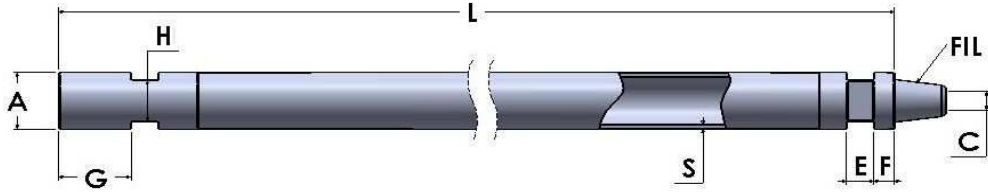
| A<br>(mm) | L<br>(mm) | FIL      | C<br>(mm) | S<br>(mm) | H<br>(mm) | E<br>(mm) | F<br>(mm) | G<br>(mm) | WEIGHT<br>(Kg) |     |       | CODE               |
|-----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|----------------|-----|-------|--------------------|
|           |           |          |           |           |           |           |           |           | S=6,3          | S=8 | S=8,8 |                    |
| 152       | 1500      | 4 IF     | 80        | 8,8       | 130       | 50        | 25        | 140       |                |     | 81    | AST J2881500F004WZ |
|           |           | 4 1/2 AR | 60        |           |           |           | 32        | 138       |                |     | 81    | AST J2881500R412WZ |
|           |           | 4 1/2 IF | 89        |           |           |           | 25        | 138       |                |     | 81    | AST J2881500F412WZ |
|           | 2000      | 4 IF     | 80        | 8,8       | 130       | 50        | 25        | 140       |                |     | 98    | AST J2882000F312WZ |
|           |           | 4 1/2 AR | 60        |           |           |           | 32        | 138       |                |     | 98    | AST J2882000R412WZ |
|           |           | 4 1/2 IF | 89        |           |           |           | 25        | 138       |                |     | 98    | AST J2882000F412WZ |
|           | 3000      | 4 IF     | 80        | 8,8       | 130       | 50        | 25        | 140       |                |     | 130   | AST J2883000F004WZ |
|           |           | 4 1/2 AR | 60        |           |           |           | 32        | 138       |                |     | 130   | AST J2883000R412WZ |
|           |           | 4 1/2 IF | 89        |           |           |           | 25        | 138       |                |     | 130   | AST J2883000F412WZ |
|           | 4000      | 4 IF     | 80        | 8,8       | 130       | 50        | 25        | 140       |                |     | 165   | AST J2884000F004WZ |
|           |           | 4 1/2 AR | 60        |           |           |           | 32        | 138       |                |     | 165   | AST J2884000R412WZ |
|           |           | 4 1/2 IF | 89        |           |           |           | 25        | 138       |                |     | 165   | AST J2884000F412WZ |
|           | 4500      | 4 IF     | 80        | 8,8       | 130       | 50        | 25        | 140       |                |     | 180   | AST J2884500F004WZ |
|           |           | 4 1/2 AR | 60        |           |           |           | 32        | 138       |                |     | 180   | AST J2884500R412WZ |
|           |           | 4 1/2 IF | 89        |           |           |           | 25        | 138       |                |     | 180   | AST J2884500F412WZ |
|           | 5000      | 4 IF     | 80        | 8,8       | 130       | 50        | 25        | 140       |                |     | 196   | AST J2885000F004WZ |
|           |           | 4 1/2 AR | 60        |           |           |           | 32        | 138       |                |     | 196   | AST J2885000R412WZ |
|           |           | 4 1/2 IF | 89        |           |           |           | 25        | 138       |                |     | 196   | AST J2885000F412WZ |
|           | 6000      | 4 IF     | 80        | 8,8       | 130       | 50        | 25        | 140       |                |     | 226   | AST J2886000F004WZ |
|           |           | 4 1/2 AR | 60        |           |           |           | 32        | 138       |                |     | 226   | AST J2886000R412WZ |
|           |           | 4 1/2 IF | 89        |           |           |           | 25        | 138       |                |     | 226   | AST J2886000F412WZ |



### FRICTION DRILL PIPE API THREAD TUBE N80

| A<br>(mm) | L<br>(mm) | FIL      | C<br>(mm) | S<br>(mm) | H<br>(mm) | E<br>(mm) | F<br>(mm) | G<br>(mm) | WEIGHT<br>(Kg) |     |                    | CODE               |
|-----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|----------------|-----|--------------------|--------------------|
|           |           |          |           |           |           |           |           |           | S=6,3          | S=8 | S=8,8              |                    |
| 168       | 1500      | 4 1/2 AR | 60        | 8,8       | 145       | 50        | 30        | 138       |                |     | 92                 | AST K8881500R412WZ |
|           |           | 4 1/2 IF | 89        |           |           |           |           |           |                | 92  | AST K8881500F412WZ |                    |
|           | 2000      | 4 1/2 AR | 60        | 8,8       | 145       | 50        | 30        | 138       |                |     | 107                | AST K8882000R412WZ |
|           |           | 4 1/2 IF | 89        |           |           |           |           |           |                | 107 | AST K8882000F412WZ |                    |
|           | 3000      | 4 1/2 AR | 60        | 8,8       | 145       | 50        | 30        | 138       |                |     | 140                | AST K8883000R412WZ |
|           |           | 4 1/2 IF | 89        |           |           |           |           |           |                | 140 | AST K8883000F412WZ |                    |
|           | 4000      | 4 1/2 AR | 60        | 8,8       | 145       | 50        | 30        | 138       |                |     | 172                | AST K8884000R412WZ |
|           |           | 4 1/2 IF | 89        |           |           |           |           |           |                | 172 | AST K8884000F412WZ |                    |
|           | 4500      | 4 1/2 AR | 60        | 8,8       | 145       | 50        | 30        | 138       |                |     | 188                | AST K8884500R412WZ |
|           |           | 4 1/2 IF | 89        |           |           |           |           |           |                | 188 | AST K8884500F412WZ |                    |
|           | 5000      | 4 1/2 AR | 60        | 8,8       | 145       | 50        | 30        | 138       |                |     | 203                | AST K8885000R412WZ |
|           |           | 4 1/2 IF | 89        |           |           |           |           |           |                | 203 | AST K8885000F412WZ |                    |
|           | 6000      | 4 1/2 AR | 60        | 8,8       | 145       | 50        | 30        | 138       |                |     | 235                | AST K8886000R412WZ |
|           |           | 4 1/2 IF | 89        |           |           |           |           |           |                | 235 | AST K8886000F412WZ |                    |



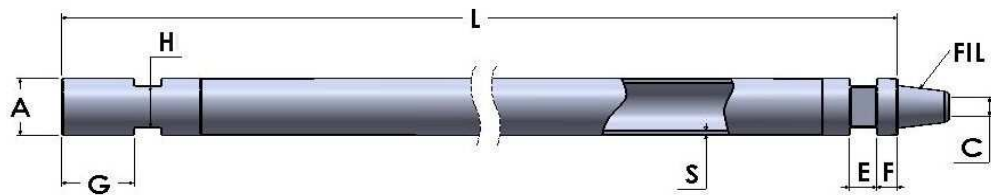


### FRICTION DRILL PIPE API THREAD TUBE N80

| A<br>(mm) | L<br>(mm) | FIL      | C<br>(mm) | S<br>(mm) | H<br>(mm) | E<br>(mm) | F<br>(mm) | G<br>(mm) | WEIGHT<br>(Kg) |     |                    | CODE               |
|-----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|----------------|-----|--------------------|--------------------|
|           |           |          |           |           |           |           |           |           | S=6,3          | S=8 | S=8,8              |                    |
| 180       | 1500      | 6 5/8 AR | 100       | 8,8       | 160       | 50        | 31        | 158       |                |     | 98                 | AST M0881500R658WZ |
|           |           | 4 1/2 IF | 89        |           |           |           |           |           |                | 98  | AST M0881500F412WZ |                    |
|           | 2000      | 6 5/8 AR | 100       | 8,8       | 160       | 50        | 31        | 158       |                |     | 115                | AST M0882000R658WZ |
|           |           | 4 1/2 IF | 89        |           |           |           |           |           |                | 115 | AST M0882000F412WZ |                    |
|           | 3000      | 6 5/8 AR | 100       | 8,8       | 160       | 50        | 31        | 158       |                |     | 150                | AST M0883000R658WZ |
|           |           | 4 1/2 IF | 89        |           |           |           |           |           |                | 150 | AST M0883000F412WZ |                    |
|           | 4000      | 6 5/8 AR | 100       | 8,8       | 160       | 50        | 31        | 158       |                |     | 182                | AST M0884000R658WZ |
|           |           | 4 1/2 IF | 89        |           |           |           |           |           |                | 182 | AST M0884000F412WZ |                    |
|           | 5000      | 6 5/8 AR | 100       | 8,8       | 160       | 50        | 31        | 158       |                |     | 216                | AST M0885000R658WZ |
|           |           | 4 1/2 IF | 89        |           |           |           |           |           |                | 216 | AST M0885000F412WZ |                    |
|           | 6000      | 6 5/8 AR | 100       | 8,8       | 160       | 50        | 31        | 158       |                |     | 252                | AST M0886000R658WZ |
|           |           | 4 1/2 IF | 89        |           |           |           |           |           |                | 252 | AST M0886000F412WZ |                    |

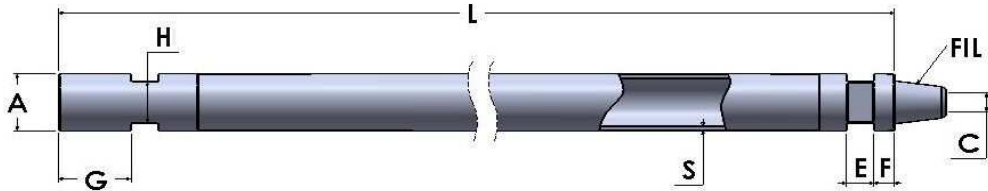
### FRICTION DRILL PIPE API THREAD TUBE N80

| A<br>(mm) | L<br>(mm) | FIL      | C<br>(mm) | S<br>(mm) | H<br>(mm) | E<br>(mm) | F<br>(mm) | G<br>(mm) | WEIGHT<br>(Kg) |     |                    | CODE               |
|-----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|----------------|-----|--------------------|--------------------|
|           |           |          |           |           |           |           |           |           | S=6,3          | S=8 | S=8,8              |                    |
| 194       | 1500      | 4 1/2 AR | 60        | 8,8       | 170       | 50        | 30        | 138       |                |     | 125                | AST N4881500R412WZ |
|           |           | 6 5/8 AR | 100       |           |           |           |           |           |                | 125 | AST N4881500R658WZ |                    |
|           | 2000      | 4 1/2 AR | 60        | 8,8       | 170       | 50        | 30        | 138       |                |     | 150                | AST N4882000R412WZ |
|           |           | 6 5/8 AR | 100       |           |           |           |           |           |                | 150 | AST N4882000R658WZ |                    |
|           | 3000      | 4 1/2 AR | 60        | 8,8       | 170       | 50        | 30        | 138       |                |     | 180                | AST N4883000R412WZ |
|           |           | 6 5/8 AR | 100       |           |           |           |           |           |                | 180 | AST N4883000R658WZ |                    |
|           | 4000      | 4 1/2 AR | 60        | 8,8       | 170       | 50        | 30        | 138       |                |     | 220                | AST N4884000R412WZ |
|           |           | 6 5/8 AR | 100       |           |           |           |           |           |                | 220 | AST N4884000R658WZ |                    |
|           | 5000      | 4 1/2 AR | 60        | 8,8       | 170       | 50        | 30        | 138       |                |     | 260                | AST N4885000R412WZ |
|           |           | 6 5/8 AR | 100       |           |           |           |           |           |                | 260 | AST N4885000R658WZ |                    |
|           | 6000      | 4 1/2 AR | 60        | 8,8       | 170       | 50        | 30        | 138       |                |     | 300                | AST N4886000R412WZ |
|           |           | 6 5/8 AR | 100       |           |           |           |           |           |                | 300 | AST N4886000R658WZ |                    |



### FRICTION DRILL PIPE API THREAD TUBE N80

| A<br>(mm) | L<br>(mm) | FIL      | C<br>(mm) | S<br>(mm) | H<br>(mm) | E<br>(mm) | F<br>(mm) | G<br>(mm) | WEIGHT<br>(Kg) |     |       | CODE               |
|-----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|----------------|-----|-------|--------------------|
|           |           |          |           |           |           |           |           |           | S=6,3          | S=8 | S=8,8 |                    |
| 203       | 1500      | 6 5/8 AR | 100       | 8,8       | 180       | 50        | 31        | 158       |                |     | 132   | AST O3881500R658WZ |
|           |           | 7 5/8 AR | 110       |           |           |           |           |           |                |     | 130   | AST O3881500R758WZ |
|           | 2000      | 6 5/8 AR | 100       | 8,8       | 180       | 50        | 31        | 158       |                |     | 160   | AST O3882000R658WZ |
|           |           | 7 5/8 AR | 110       |           |           |           |           |           |                |     | 158   | AST O3882000R758WZ |
|           | 3000      | 6 5/8 AR | 100       | 8,8       | 180       | 50        | 31        | 158       |                |     | 195   | AST O3883000R658WZ |
|           |           | 7 5/8 AR | 110       |           |           |           |           |           |                |     | 193   | AST O3883000R758WZ |
|           | 4000      | 6 5/8 AR | 100       | 8,8       | 180       | 50        | 31        | 158       |                |     | 238   | AST O3884000R658WZ |
|           |           | 7 5/8 AR | 110       |           |           |           |           |           |                |     | 236   | AST O3884000R758WZ |
|           | 5000      | 6 5/8 AR | 100       | 8,8       | 180       | 50        | 31        | 158       |                |     | 287   | AST O3885000R658WZ |
|           |           | 7 5/8 AR | 110       |           |           |           |           |           |                |     | 285   | AST O3885000R758WZ |
|           | 6000      | 6 5/8 AR | 100       | 8,8       | 180       | 50        | 31        | 158       |                |     | 329   | AST O3886000R658WZ |
|           |           | 7 5/8 AR | 110       |           |           |           |           |           |                |     | 327   | AST O3886000R758WZ |



### FRICTION DRILL PIPE API THREAD TUBE N80

| A<br>(mm) | L<br>(mm) | FIL      | C<br>(mm) | S<br>(mm) | H<br>(mm) | E<br>(mm) | F<br>(mm) | G<br>(mm) | WEIGHT<br>(Kg) |     |       | CODE               |
|-----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|----------------|-----|-------|--------------------|
|           |           |          |           |           |           |           |           |           | S=6,3          | S=8 | S=8,8 |                    |
| 220       | 1500      | 6 5/8 AR | 100       | 8,8       | 190       | 50        | 30        | 157       |                |     | 140   | AST Q0881500R658WZ |
|           |           | 7 5/8 AR | 110       |           |           |           | 31        | 164       |                |     | 140   | AST Q0881500R758WZ |
|           |           | 8 5/8 AR |           |           |           |           | 30        | 167       |                |     | 140   | AST Q0881500R858WZ |
|           | 2000      | 6 5/8 AR | 100       | 8,8       | 190       | 50        | 30        | 157       |                |     | 160   | AST Q0882000R658WZ |
|           |           | 7 5/8 AR | 110       |           |           |           | 31        | 164       |                |     | 160   | AST Q0882000R758WZ |
|           |           | 8 5/8 AR |           |           |           |           | 30        | 167       |                |     | 160   | AST Q0882000R858WZ |
|           | 3000      | 6 5/8 AR | 100       | 8,8       | 190       | 50        | 30        | 157       |                |     | 208   | AST Q0883000R658WZ |
|           |           | 7 5/8 AR | 110       |           |           |           | 31        | 164       |                |     | 208   | AST Q0883000R758WZ |
|           |           | 8 5/8 AR |           |           |           |           | 30        | 167       |                |     | 208   | AST Q0883000R858WZ |
|           | 4000      | 6 5/8 AR | 100       | 8,8       | 190       | 50        | 30        | 157       |                |     | 253   | AST Q0884000R658WZ |
|           |           | 7 5/8 AR | 110       |           |           |           | 31        | 164       |                |     | 253   | AST Q0884000R758WZ |
|           |           | 8 5/8 AR |           |           |           |           | 30        | 167       |                |     | 253   | AST Q0884000R858WZ |
|           | 5000      | 6 5/8 AR | 100       | 8,8       | 190       | 50        | 30        | 157       |                |     | 299   | AST Q0885000R658WZ |
|           |           | 7 5/8 AR | 110       |           |           |           | 31        | 164       |                |     | 299   | AST Q0885000R758WZ |
|           |           | 8 5/8 AR |           |           |           |           | 30        | 167       |                |     | 299   | AST Q0885000R858WZ |
|           | 6000      | 6 5/8 AR | 100       | 8,8       | 190       | 50        | 30        | 157       |                |     | 344   | AST Q0886000R658WZ |
|           |           | 7 5/8 AR | 110       |           |           |           | 31        | 164       |                |     | 344   | AST Q0886000R758WZ |
|           |           | 8 5/8 AR |           |           |           |           | 30        | 167       |                |     | 344   | AST Q0886000R858WZ |