

Cross-Sectional Properties of the Available Sections

| Section ID | Section Name | Area , (cm ²) | Section ID | Section Name | Area , (cm ²) |
|------------|--------------|---------------------------|------------|--------------|---------------------------|
| 1 | PIPE1/2STD | 1.6129 | 20 | PIPE3-1/2XS | 23.7419 |
| 2 | PIPE1/2XS | 2.0645 | 21 | PIPE2-1/2XXS | 25.9999 |
| 3 | PIPE3/4STD | 2.1484 | 22 | PIPE5STD | 27.7419 |
| 4 | PIPE3/4XS | 2.7935 | 23 | PIPE4XS | 28.4516 |
| 5 | PIPE1STD | 3.1871 | 24 | PIPE3XXS | 35.2903 |
| 6 | PIPE1XS | 4.1226 | 25 | PIPE6STD | 35.9999 |
| 7 | PIPE1-1/4STD | 4.3161 | 26 | PIPE5XS | 39.4193 |
| 8 | PIPE1-1/2STD | 5.1548 | 27 | PIPE4XXS | 52.258 |
| 9 | PIPE1-1/4XS | 5.6839 | 28 | PIPE6XS | 54.1934 |
| 10 | PIPE1-1/2XS | 6.9032 | 29 | PIPE8STD | 54.1934 |
| 11 | PIPE2STD | 6.9032 | 30 | PIPE5XXS | 72.9031 |
| 12 | PIPE2XS | 9.5484 | 31 | PIPE10STD | 76.774 |
| 13 | PIPE2-1/2STD | 10.9677 | 32 | PIPE8XS | 82.5805 |
| 14 | PIPE3STD | 14.3871 | 33 | PIPE12STD | 94.1934 |
| 15 | PIPE2-1/2XS | 14.5161 | 34 | PIPE6XXS | 100.645 |
| 16 | PIPE2XXS | 17.1613 | 35 | PIPE10XS | 103.8708 |
| 17 | PIPE3-1/2STD | 17.2903 | 36 | PIPE12XS | 123.8707 |
| 18 | PIPE3XS | 19.4838 | 37 | PIPE8XXS | 137.4191 |
| 19 | PIPE4STD | 20.4516 | | | |