


| SPECIFICATION |   |         |                                      | ANALYSIS  |          |            |            |           |             |             |           |
|---------------|---|---------|--------------------------------------|-----------|----------|------------|------------|-----------|-------------|-------------|-----------|
| ASTM SPEC.    | TITLE   | GRADE   | DESCRIPTION                          | CARBON    | MANG.    | PHOS. MAX. | SULP. MAX. | SILICON   | NICKEL      | CHR.        | MO.       |
| A 234         | Carbon Steel  | WPB     |                                      | .30 Max.  | .29-1.06 | .050       | .058       | .10 Min   | .40 Max     | .....       | .15 Max   |
| A 420         | Carbon and Alloy Steel Fittings For Low Temperature Service | WPL 6   |                                      | .30 Max.  | .50-1.35 | .035       | .040       | .15-.40   | .40 Max     | .30 Max     | .12 Max   |
| A 234         | Ferretic Alloy Steel Fittings For High Temperature Service  | WP 1    | Carbon Moly                          | .28 Max.  | .30-.90  | .045       | .045       | .10-.50   | .....       | .....       | .44-.65   |
|               |   | WP 5    | 4-6 Chrome 1/2 Moly                  | .15 Max.  | .30-.60  | .040       | .030       | .50 Max   | .....       | 4.00-6.00   | .44-.65   |
|               |   | WP 7    | 6-8 Chrome 1/2 Moly                  | .15 Max.  | .30-.60  | .030       | .030       | .50-1.00  | .....       | 6.00-8.00   | .44-.65   |
|               |   | WP 9    | 9 Chrome 1 Moly                      | .15 Max.  | .30-.60  | .030       | .030       | .25-1.00  | .....       | 8.00-10.00  | .90-1.10  |
|               |   | WP 11   | 1 1/4 Chrome 1/2 Moly                | .20 Max.  | .30-.80  | .040       | .040       | .5-1.00   | .....       | 1.00-1.50   | .44-.65   |
|               |   | WP 12   | 1 Chrome 1 Moly                      | .20 Max.  | .30-.80  | .045       | .045       | .60 Max   | .....       | .80-1.25    | .44-.65   |
|               |   | WP 22   | 2 1/4 Chrome 1 Moly                  | .15 Max.  | .30-.60  | .040       | .040       | .1.00 Max | .....       | 1.90-2.60   | .87-1.13  |
| A 403         | Austenitic Alloy Steel Fittings For Corrosive Service       | WP 304  | Type 304-18-8 Stainless Steel        | .08 Max.  | 2.00 Max | .045       | .030       | .1.00 Max | 8.00-11.00  | 18.0-20.0   | .....     |
|               |   | WP 304L | Type 304 ELC-18-8 Stainless Steel    | .035 Max. | 2.00 Max | .045       | .030       | .1.00 Max | 8.00-13.00  | 18.0-20.0   | .....     |
|               |   | WP 316  | Type 316-18-8 Mo Stainless Steel     | .08 Max.  | 2.00 Max | .045       | .030       | .1.00 Max | 10.00-14.00 | 16.00-18.00 | 2.00-3.00 |
|               |   | WP 316L | Type 316 ELC-18-8 Mo Stainless Steel | .035 Max. | 2.00 Max | .045       | .030       | .1.00 Max | 8.00-11.00  | 16.00-18.00 | 2.00-3.00 |
|               |   | WP 347  | Type 347-18-8 cb Stainless Steel     | .08 Max.  | 2.00 Max | .045       | .030       | .1.00 Max | 9.00-13.00  | 17.00-20.00 | .....     |
|               |   | WP 321  | Type 321-18-8 Ti Stainless Steel     | .08 Max.  | 2.00 Max | .045       | .030       | .1.00 Max | 9.00-13.00  | 17.00-20.00 | .....     |

All Keddco fittings are permanently marked as follows:

|  |   |   |
|--|---|---|
| <b>MARKING</b>   |   | <b>THREADING</b>  |
| All Keddco fittings are permanently marked as follows: |   | NPT in conformance with ANSI B1.20.1<br>Line pipe, tubing and casing are in conformance with API 5B |
| <b>Manufacturer's Symbol</b>                           |    | <b>COATINGS</b>   |
| <b>Material Specification</b>                          | WPB, WPL6, WP304, WP316 (Alloys) J55, N80, L80, P110, 4130, 4140  |   |
| <b>Raw Material Code</b>                               | Each part is die stamped with a unique heat code identifying the raw material type, details of purchase and steel mill test report. | Zinc Electroplate – ASTM A164<br>Type RS<br>Phosphate – Beveled Ends<br>Hot-Dip Galv – ASTM A123    |
| <b>Heat Treatment</b>                                  | When marked WPB, WPL6, an acceptable heat treatment is understood to have been performed.   | <b>WELD BEVELS</b>  |
| <b>Label Information</b>                               | Size and Wall Thickness.  |   |
|  |   | Weld Bevels are machined as per ASME B-16.9   |

## SWAGE NIPPLES

- Nominal Pipe size range 1/8 NPS / 6 DN – 12 NPS / 200 DN.
- Choice of raw material dependant upon size and reduction.
- Available standard, extra heavy, schedule 160, or double extra heavy.
- End finishes available: current API threads or ANSI, beveled, square cut (for socket-weld), or grooved.
- Available concentric and eccentric.

| SIZE  |     |             |     |                |            |        |     |                 |       |                    |       |                      |       |
|-------|-----|-------------|-----|----------------|------------|--------|-----|-----------------|-------|--------------------|-------|----------------------|-------|
| PIPE  |     | API or O.D. |     | REDUCED TO     |            | LENGTH |     | STANDARD WEIGHT |       | EXTRA HEAVY WEIGHT |       | DBL EX. & 160 WEIGHT |       |
| NPS   | DN  | IN          | MM  | NPS            | DN         | IN     | MM  | LB              | KG    | LB                 | KG    | LB                   | KG    |
| 1/4   | 8   | .540        | 15  | 1/8            | 6          | 2-1/4  | 57  |                 |       |                    |       | .25                  | .11   |
| 3/8   | 10  | .675        | 15  | 1/8            | 6          | 2-1/2  | 63  |                 |       | .25                | .11   | .38                  | .17   |
|       |     |             |     | 1/4            | 8          | 2-1/2  | 63  |                 |       | .25                | .11   | .38                  | .17   |
| 1/2   | 15  | .840        | 20  | 1/8            | 6          | 2-3/4  | 70  |                 |       | .33                | .15   | .50                  | .23   |
|       |     |             |     | 1/4 & 3/8      | 8 & 10     | 2-3/4  | 70  |                 |       | .33                | .15   | .50                  | .23   |
| 3/4   | 20  | 1.050       | 25  | 1/8            | 6          | 3      | 76  |                 |       | .50                | .23   | .75                  | .34   |
|       |     |             |     | 1/4 & 3/8      | 8 & 10     | 3      | 76  |                 |       | .50                | .23   | .75                  | .34   |
|       |     |             |     | 1/2            | 15         | 3      | 76  |                 |       | .50                | .23   | .75                  | .34   |
| 1     | 25  | 1.315       | 33  | 1/8            | 6          | 3-1/2  | 88  |                 |       | .66                | .30   | 1.00                 | .45   |
|       |     |             |     | 1/4 & 3/8      | 8 & 10     | 3-1/2  | 88  |                 |       | .66                | .30   | 1.00                 | .45   |
|       |     |             |     | 1/2 & 3/4      | 15 & 20    | 3-1/2  | 88  |                 |       | .66                | .30   | 1.00                 | .45   |
| 1-1/4 | 32  | 1.660       | 42  | 1/4 & 3/8      | 8 & 10     | 4      | 102 |                 |       | 1.00               | .45   | 1.50                 | .68   |
|       |     |             |     | 1/2 & 3/4      | 15 & 20    | 4      | 102 |                 |       | 1.00               | .45   | 1.50                 | .68   |
|       |     |             |     | 1              | 25         | 4      | 102 |                 |       | 1.00               | .45   | 1.50                 | .68   |
| 1-1/2 | 40  | 1.900       | 48  | 1/4 & 3/8      | 8 & 10     | 4-1/2  | 114 |                 |       | 1.17               | .53   | 2.00                 | .91   |
|       |     |             |     | 1/2 & 3/4      | 15 & 20    | 4-1/2  | 114 |                 |       | 1.17               | .53   | 2.00                 | .91   |
|       |     |             |     | 1              | 25         | 4-1/2  | 114 |                 |       | 1.17               | .53   | 2.00                 | .91   |
|       |     |             |     | 1-1/4          | 32         | 4-1/2  | 114 |                 |       | 1.17               | .53   | 2.00                 | .91   |
| 2     | 50  | 2-3/8       | 60  | 1/4 & 3/8      | 8 & 10     | 6-1/2  | 165 |                 |       | 3.00               | 1.36  | 4.25                 | 1.93  |
|       |     |             |     | 1/2 & 3/4      | 15 & 20    | 6-1/2  | 165 |                 |       | 3.00               | 1.36  | 4.25                 | 1.93  |
|       |     |             |     | 1              | 25         | 6-1/2  | 165 | 2.00            | .90   | 2.33               | 1.06  | 4.25                 | 1.93  |
|       |     |             |     | 1-1/4          | 32         | 6-1/2  | 165 | 2.00            | .90   | 2.33               | 1.06  | 4.25                 | 1.93  |
|       |     |             |     | 1-1/2          | 40         | 6-1/2  | 165 | 2.00            | .90   | 2.33               | 1.06  | 4.25                 | 1.93  |
| 2-1/2 | 65  | 2-7/8       | 73  | 1/2 & 3/4      | 15 & 20    | 7      | 178 |                 |       | 3.50               | 1.60  | 8.00                 | 3.64  |
|       |     |             |     | 1              | 25         | 7      | 178 | 3.00            | 1.36  | 3.50               | 1.60  | 8.00                 | 3.64  |
|       |     |             |     | 1-1/4          | 32         | 7      | 178 | 3.00            | 1.36  | 3.50               | 1.60  | 8.00                 | 3.64  |
|       |     |             |     | 1-1/2          | 40         | 7      | 178 | 3.00            | 1.36  | 3.50               | 1.60  | 8.00                 | 3.64  |
|       |     |             |     | 2              | 50         | 7      | 178 | 3.00            | 1.36  | 3.50               | 1.60  | 8.00                 | 3.64  |
| 3     | 80  | 3-1/2       | 88  | 1/2 & 3/4      | 15 & 20    | 8      | 203 |                 |       | 6.00               | 2.73  | 11.00                | 5.00  |
|       |     |             |     | 1              | 25         | 8      | 203 | 4.50            | 2.00  | 6.00               | 2.73  | 11.00                | 5.00  |
|       |     |             |     | 1-1/4          | 32         | 8      | 203 | 4.50            | 2.00  | 6.00               | 2.73  | 11.00                | 5.00  |
|       |     |             |     | 1-1/2          | 40         | 8      | 203 | 4.50            | 2.00  | 6.00               | 2.73  | 11.00                | 5.00  |
|       |     |             |     | 2 & 2-1/2      | 50 & 65    | 8      | 203 | 4.50            | 2.00  | 6.00               | 2.73  | 11.00                | 5.00  |
| 3-1/2 | 90  | 4           | 100 | 1/2 thru 1-1/2 | 15 thru 40 | 8      | 203 | 5.50            | 2.50  | 7.50               | 3.40  | 13.50                | 6.14  |
|       |     |             |     | 2 thru 3       | 50 thru 80 | 8      | 203 | 5.50            | 2.50  | 7.50               | 3.40  | 13.50                | 6.14  |
| 4     | 100 | 4-1/2       | 114 | 1/2 & 3/4      | 15 & 20    | 9      | 229 |                 |       | 10.00              | 4.50  | 18.00                | 8.20  |
|       |     |             |     | 1              | 25         | 9      | 229 | 7.50            | 3.40  | 10.00              | 4.50  | 18.00                | 8.20  |
|       |     |             |     | 1-1/4 & 1-1/2  | 32 & 40    | 9      | 229 | 7.50            | 3.40  | 10.00              | 4.50  | 18.00                | 8.20  |
|       |     |             |     | 2              | 50         | 9      | 229 | 7.50            | 3.40  | 10.00              | 4.50  | 18.00                | 8.20  |
|       |     |             |     | 2-1/2          | 65         | 9      | 229 | 7.50            | 3.40  | 10.00              | 4.50  | 18.00                | 8.20  |
|       |     |             |     | 3 & 3-1/2      | 80 & 90    | 9      | 229 | 7.50            | 3.40  | 10.00              | 4.50  | 18.00                | 8.20  |
| 5     | 125 | 5-9/16      | 140 | 1 thru 1-1/2   | 25 thru 40 | 11     | 279 | 11.50           | 5.23  | 17.00              | 7.73  | 33.00                | 15.00 |
|       |     |             |     | 2 & 2-1/2      | 50 & 65    | 11     | 279 | 11.50           | 5.23  | 17.00              | 7.73  | 33.00                | 15.00 |
|       |     |             |     | 3 & 3-1/2      | 80 & 90    | 11     | 279 | 11.50           | 5.23  | 17.00              | 7.73  | 33.00                | 15.00 |
|       |     |             |     | 4              | 100        | 11     | 279 | 11.50           | 5.23  | 17.00              | 7.73  | 33.00                | 15.00 |
| 6     | 150 | 6-5/8       | 168 | 1 thru 1-1/2   | 25 thru 40 | 12     | 305 | 17.00           | 7.73  | 25.00              | 11.40 | 46.00                | 21.00 |
|       |     |             |     | 2 & 2-1/2      | 50 & 65    | 12     | 305 | 17.00           | 7.73  | 25.00              | 11.40 | 46.00                | 21.00 |
|       |     |             |     | 3 & 3-1/2      | 80 & 90    | 12     | 305 | 17.00           | 7.73  | 25.00              | 11.40 | 46.00                | 21.00 |
|       |     |             |     | 4              | 100        | 12     | 305 | 17.00           | 7.73  | 25.00              | 11.40 | 46.00                | 21.00 |
|       |     |             |     | 5              | 125        | 12     | 305 | 17.00           | 7.73  | 25.00              | 11.40 | 46.00                | 21.00 |
| 8     | 200 | 8-5/8       | 219 | 2 thru 3       | 50 thru 80 | 13     | 330 | 29.00           | 13.20 | 44.00              | 20.00 | 78.00                | 36.00 |
|       |     |             |     | 4 & 5          | 100 & 125  | 13     | 330 | 29.00           | 13.20 | 44.00              | 20.00 | 78.00                | 36.00 |
|       |     |             |     | 6              | 150        | 13     | 330 | 29.00           | 13.20 | 44.00              | 20.00 | 78.00                | 36.00 |
| 10    | 250 | 10-3/4      | 273 |                |            | 15     | 381 | 48.00           | 22.00 | 66.00              | 30.00 | 130.00               | 59.00 |
| 12    | 300 | 12-3/4      | 324 |                |            | 18     | 457 | 75.00           | 34.00 | 98.00              | 45.00 | 180.00               | 85.00 |