

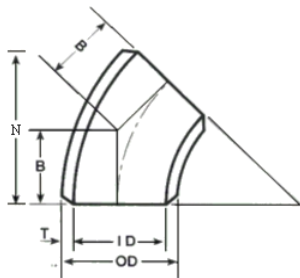


PIPING SYSTEM PTE LTD  
PROFESSIONAL SUPPLIER OF PIPELINE MATERIALS AND EQUIPMENT

DRAWING NO.: ELBOW-DRAWING-AND-DATA-2026-02-27-15-50  
DRAWING DATE: 27-Feb-2026

## ELBOW DRAWING AND DIMENSIONS DATA

|         |          |              |                                                                                                                           |
|---------|----------|--------------|---------------------------------------------------------------------------------------------------------------------------|
| OR No.: | OR999999 | DESCRIPTION: | ELBOW-4INCHES-45DEG-BEVELLED ENDS-SEAMLESS-SCH30(4.78MM)-CARBON STEEL-LONG RADIUS-GR WPB-ASTM A234-ASME B16.9-NACE MR0175 |
| ITEM:   | 52       |              |                                                                                                                           |



ANSI ASME B16.9 / MSS SP-75 (in mm)

MINIMUM EXTERNAL RECTANGULAR PRISM

| ITEM | NAME  | TYPE   | DEGREE | MATERIAL STANDARD      | DN  | OD INCH(ES) | ODMM  | UNIT<br>Volume (m <sup>3</sup> ) | DIMENSIONS(MM) |         |       |
|------|-------|--------|--------|------------------------|-----|-------------|-------|----------------------------------|----------------|---------|-------|
|      |       |        |        |                        |     |             |       |                                  | L=A+½OD        | W=A+½OD | H=OD  |
| 52   | ELBOW | R=1.5D | 45     | ASTM A234/A234M GR WPB | 400 | 16          | 406.4 | 333.1367                         | 812.8          | 812.8   | 406.4 |

MATERIAL STANDARD: ASTM A234/A234M GR WPB Chemical element composition content (%)

| COMPONENT | C   | Si  | Mn   | P    | S     | Cr  | Ni  | Cu  | Mo   | V    |
|-----------|-----|-----|------|------|-------|-----|-----|-----|------|------|
| Max       | —   | —   | 0.29 | —    | —     | —   | —   | —   | —    | —    |
| Min       | 0.3 | 0.1 | 1.06 | 0.05 | 0.058 | 0.4 | 0.4 | 0.4 | 0.15 | 0.08 |

ASTM A234/A234M GR WPB Mechanical Properties

| Condition     | TENSILE STRENGTH<br>$\sigma_b$<br>Mpa | YIELD POINT<br>$\sigma_s$<br>Mpa | ELONGATION OR ELONGATION AT BREAK<br>$\delta$<br>%                                                                                  |
|---------------|---------------------------------------|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| PIPE FITTINGS | ≥415                                  | ≥240                             | Standard round specimen, or small specimen, or strip specimen<br>long. : tr. :<br>L0=4D: ≥22* L0=4D: ≥14*<br>L0=50: ≥30© L0=50: ≥20 |



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