

REV.  
E

AS1034

FEDERAL SUPPLY CLASS  
4730

# RATIONALE

THIS DOCUMENT HAS BEEN REAFFIRMED TO COMPLY WITH THE SAE 5-YEAR REVIEW POLICY.

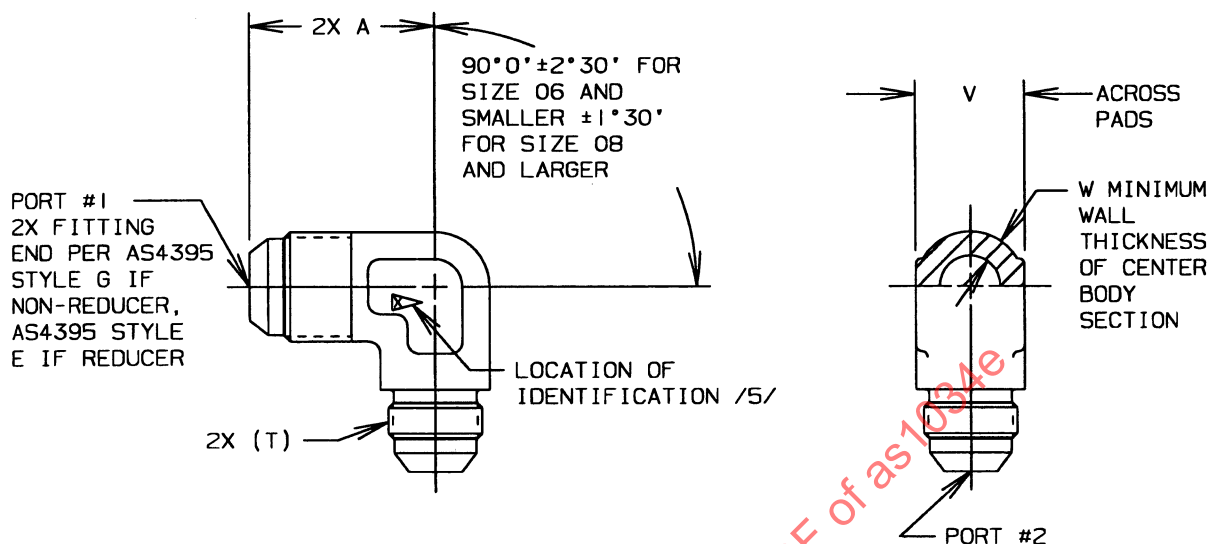


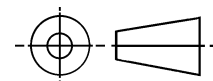
FIGURE 1 - ELBOW, 90°

TABLE 1 - DIMENSIONS AND WEIGHTS /12/

| BASIC NO.<br>AS1034<br>/11/ /19/<br>SIZE CODE | V           | W    | LB/EA<br>APPROX<br>REF<br>ALUM | LB/EA<br>APPROX<br>REF<br>CRES | LB/EA<br>APPROX<br>REF<br>TI |
|-----------------------------------------------|-------------|------|--------------------------------|--------------------------------|------------------------------|
| 02                                            | .297- .314  | .090 | .0101                          | .0291                          | .0161                        |
| 03                                            | .360- .377  | .100 | .0151                          | .0432                          | .0238                        |
| 04                                            | .423- .440  | .110 | .0208                          | .0597                          | .0329                        |
| 05                                            | .485- .502  | .120 | .0274                          | .0787                          | .0434                        |
| 06                                            | .547- .565  | .120 | .0360                          | .103                           | .0570                        |
| 08                                            | .735- .753  | .150 | .0774                          | .222                           | .123                         |
| 10                                            | .860- .878  | .170 | .0965                          | .277                           | .153                         |
| 12                                            | 1.047-1.065 | .185 | .191                           | .548                           | .302                         |
| 16                                            | 1.292-1.317 | .205 | .285                           | .818                           | .451                         |
| 20                                            | 1.605-1.630 | .240 | .485                           | 1.39                           | .769                         |
| 24                                            | 1.855-1.880 | .250 | .671                           | 1.93                           | 1.06                         |
| 32                                            | 2.542-2.572 | .350 | 1.65                           | 4.73                           | 2.61                         |

INACTIVE IN PART - SEE NOTE /20/

THIRD ANGLE PROJECTION



CUSTODIAN: SAE G-3/G-3B

PROCUREMENT SPECIFICATION: /4/ AS4841

**SAE Aerospace**  
An SAE International Group

## AEROSPACE STANDARD

FITTING, ELBOW, 90°,  
STANDARD AND REDUCER,  
FLARED

**AS1034**  
SHEET 1 OF 4

REV.  
E

| FORGING SIZE<br>/11/ | TUBE<br>SIZE OF<br>PORT #1<br>AND #2<br>02 | TUBE<br>SIZE OF<br>PORT #1<br>AND #2<br>03 | TUBE<br>SIZE OF<br>PORT #1<br>AND #2<br>04 | TUBE<br>SIZE OF<br>PORT #1<br>AND #2<br>05 | TUBE<br>SIZE OF<br>PORT #1<br>AND #2<br>06 | TUBE<br>SIZE OF<br>PORT #1<br>AND #2<br>08 | TUBE<br>SIZE OF<br>PORT #1<br>AND #2<br>10 | TUBE<br>SIZE OF<br>PORT #1<br>AND #2<br>12 | TUBE<br>SIZE OF<br>PORT #1<br>AND #2<br>16 | TUBE<br>SIZE OF<br>PORT #1<br>AND #2<br>20 | TUBE<br>SIZE OF<br>PORT #1<br>AND #2<br>24 | TUBE<br>SIZE OF<br>PORT #1<br>AND #2<br>32 |
|----------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|
| 02                   | .788                                       | -                                          | -                                          | -                                          | -                                          | -                                          | -                                          | -                                          | -                                          | -                                          | -                                          | -                                          |
| 03                   | .820                                       | .851                                       | -                                          | -                                          | -                                          | -                                          | -                                          | -                                          | -                                          | -                                          | -                                          | -                                          |
| 04                   | .820                                       | .843                                       | .914                                       | -                                          | -                                          | -                                          | -                                          | -                                          | -                                          | -                                          | -                                          | -                                          |
| 05                   | .874                                       | .905                                       | .976                                       | .976                                       | -                                          | -                                          | -                                          | -                                          | -                                          | -                                          | -                                          | -                                          |
| 06                   | .978                                       | 1.009                                      | 1.080                                      | 1.080                                      | 1.086                                      | -                                          | -                                          | -                                          | -                                          | -                                          | -                                          | -                                          |
| 08                   | 1.064                                      | 1.095                                      | 1.166                                      | 1.166                                      | 1.172                                      | 1.273                                      | -                                          | -                                          | -                                          | -                                          | -                                          | -                                          |
| 10                   | 1.166                                      | 1.197                                      | 1.268                                      | 1.268                                      | 1.274                                      | 1.375                                      | 1.476                                      | -                                          | -                                          | -                                          | -                                          | -                                          |
| 12                   | 1.263                                      | 1.294                                      | 1.365                                      | 1.365                                      | 1.371                                      | 1.472                                      | 1.573                                      | 1.679                                      | -                                          | -                                          | -                                          | -                                          |
| 16                   | 1.373                                      | 1.404                                      | 1.475                                      | 1.475                                      | 1.481                                      | 1.582                                      | 1.683                                      | 1.789                                      | 1.836                                      | -                                          | -                                          | -                                          |
| 20                   | 1.576                                      | 1.607                                      | 1.678                                      | 1.678                                      | 1.684                                      | 1.786                                      | 1.886                                      | 1.992                                      | 2.039                                      | 2.086                                      | -                                          | -                                          |
| 24                   | 1.716                                      | 1.747                                      | 1.818                                      | 1.818                                      | 1.824                                      | 1.925                                      | 2.026                                      | 2.132                                      | 2.179                                      | 2.226                                      | 2.351                                      | -                                          |
| 32                   | 2.201                                      | 2.232                                      | 2.303                                      | 2.303                                      | 2.309                                      | 2.410                                      | 2.511                                      | 2.617                                      | 2.664                                      | 2.711                                      | 2.836                                      | 3.086                                      |

| PORT<br>SIZE | (NOMINAL<br>TUBE<br>SIZE) | T THREAD<br>PER AS8879<br>CLASS 3A |
|--------------|---------------------------|------------------------------------|
| 02           | .125                      | .3125-24 UNJF                      |
| 03           | .188                      | .3750-24 UNJF                      |
| 04           | .250                      | .4375-20 UNJF                      |
| 05           | .312                      | .5000-20 UNJF                      |
| 06           | .375                      | .5625-18 UNJF                      |
| 08           | .500                      | .7500-16 UNJF                      |
| 10           | .625                      | .8750-14 UNJF                      |
| 12           | .750                      | 1.0625-12 UNJ                      |
| 16           | 1.000                     | 1.3125-12 UNJ                      |
| 20           | 1.250                     | 1.6250-12 UNJ                      |
| 24           | 1.500                     | 1.8750-12 UNJ                      |
| 32           | 2.000                     | 2.5000-12 UNJ                      |

|                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                          |                               |                   |
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| REV.<br>E                                                                                                         | NOTES:<br><br>/1/ MATERIAL:<br><br>a. DASH AS CODE LETTER - TYPE 4140 STEEL BAR PER AMS 6349 OR AMS 6382 OR 4130 STEEL FORGING OR BAR PER AMS 6370 OR AMS-S-6758 EXCEPT HEAT TREATMENT PER PROCUREMENT SPECIFICATION.<br>b. CODE LETTER D - TYPE 2014-T6 ALUMINUM ALLOY FORGING PER AMS 4133 OR AMS-QQ-A-367; OR 2024-T6 ALUMINUM ALLOY BAR PER AMS-QQ-A-225/6, OR 2024-T851 ALUMINUM ALLOY BAR PER AMS-QQ-A-225/6. /20/<br>c. CODE LETTER J - TYPE 304 CORROSION RESISTANT STEEL FORGING OR BAR PER AMS 5639 OR AMS-QQ-S-763 EXCEPT HARDNESS PER PROCUREMENT SPECIFICATION.<br>d. CODE LETTER K - TYPE 316 CORROSION RESISTANT STEEL FORGING OR BAR PER AMS 5648 OR AMS-QQ-S-763 EXCEPT HARDNESS PER PROCUREMENT SPECIFICATION.<br>e. CODE LETTER R - TYPE 321 CORROSION RESISTANT STEEL FORGING OR BAR PER AMS 5645 OR AMS-QQ-S-763 EXCEPT HARDNESS PER PROCUREMENT SPECIFICATION.<br>f. CODE LETTER T - 6AL-4V TITANIUM ALLOY FORGING OR BAR PER AMS 4928.<br>g. CODE LETTER W - 7075-T73 ALUMINUM ALLOY FORGING PER AMS 4141 OR AMS-QQ-A-367; OR 7075-T7351 ALUMINUM ALLOY BAR PER AMS 4124; OR 7075-T73 ALUMINUM ALLOY BAR PER AMS-QQ-A-225/9.<br><br>2. HEAT TREATMENT:<br><br>a. DASH AS CODE LETTER - HARDNESS SHALL BE 92 HRB TO 40 HRC PER PROCUREMENT SPECIFICATION.<br>b. OTHER MATERIAL CODES - NONE.<br><br>3. FINISH:<br><br>a. DASH AS CODE LETTER - CADMIUM PLATE PER QQ-P-416, TYPE II, CLASS 2, DYE BLACK.<br>b. MATERIAL CODE LETTER J - PASSIVATE PER AMS-QQ-P-35, TYPE VI OR VII.<br>c. MATERIAL CODE LETTER K - PASSIVATE PER AMS-QQ-P-35, TYPE VI OR VII.<br>d. MATERIAL CODE LETTER R - PASSIVATE PER AMS-QQ-P-35, TYPE VI OR VII.<br>e. MATERIAL CODE LETTER T - FLUORIDE PHOSPHATE CONVERSION COAT PER AMS 2486 OR ANODIZE PER AMS 2488, TYPE 2.<br>f. MATERIAL CODE LETTER W:<br><br>1. ANODIZE PER AMS 2472 OR MIL-A-8625, TYPE II, CLASS 2, DYE BROWN, DUPLEX SEAL PER PROCUREMENT SPECIFICATION.<br>2. W CODE PARTS TO BE COATED WITH HIGH PURITY ALUMINUM ONLY WILL HAVE THE FINISH CODE LETTER "V" AFTER THE SIZE CODE IN THE PART NUMBER. THE FINISH WILL BE: COAT WITH HIGH PURITY ALUMINUM PER MIL-DTL-83488, CLASS 3, TYPE II WITH MAXIMUM COATING THICKNESS OF .0005. GLASS BEAD PEEN PRESSURE SHALL BE 25 psi MAXIMUM.<br><br>/4/ PROCUREMENT SPECIFICATION: AS4841 EXCEPT AS SPECIFIED ON THIS STANDARD. USERS OF THIS STANDARD SHALL PROCURE THIS PRODUCT FROM ACCREDITED MANUFACTURER(S) OR ACCREDITED DISTRIBUTOR(S) AS LISTED IN THE PERFORMANCE REVIEW INSTITUTE (PRI) QUALIFIED MANUFACTURERS LIST (QML) FOR THIS TYPE PRODUCT.<br><br>/5/ IDENTIFICATION AT LOCATION SHOWN: MARK PER AS478 CLASS C OR D OR METHOD 7A3, 15A3, OR 15B.<br><br>a. FOR SIZE 06 AND SMALLER: MANUFACTURER'S NAME, CAGE CODE OR TRADEMARK, LETTERS "AS", AND MATERIAL CODE LETTER FOR CORROSION RESISTANT STEEL, TITANIUM AND ALUMINUM AND NO MATERIAL CODE LETTER FOR LOW ALLOY STEEL.<br>b. FOR SIZE 08 AND LARGER: MANUFACTURER'S NAME, CAGE CODE OR TRADEMARK, BASIC PART NUMBER, AND MATERIAL CODE LETTER FOR CORROSION RESISTANT STEEL, TITANIUM AND ALUMINUM AND NO MATERIAL CODE LETTER FOR LOW ALLOY STEEL.<br><br>6. INVENTORIED PARTS CONFORMING TO THE PREVIOUS ISSUE MAY BE USED TO DEPLETION.<br>7. INTENDED USE: THIS PART IS DESIGNED FOR USE IN TUBING CONNECTION SYSTEMS WITH MAXIMUM OPERATING PRESSURE AS FOLLOWS:<br><br>a. SIZES 02 THROUGH 16 IN LOW ALLOY STEEL, CORROSION RESISTANT STEEL AND TITANIUM ALLOY AT 3000 psi.<br>b. SIZES 02 THROUGH 12 IN ALUMINUM ALLOY AT 3000 psi.<br>c. SIZE 16 IN ALUMINUM ALLOY AND SIZES 20 THROUGH 32 IN ALL MATERIALS AT 1500 psi.<br><br>8. FOR REDUCER CONFIGURATIONS, THE PRESSURE RATING IS DETERMINED BY THE LARGEST PORT. |                                                                                          |                               |                   |
| AS1034                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                          |                               |                   |
| <br>An SAE International Group |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>AEROSPACE STANDARD</b><br><br>FITTING, ELBOW, 90°,<br>STANDARD AND REDUCER,<br>FLARED | <b>AS1034</b><br>SHEET 3 OF 4 | <b>REV.<br/>E</b> |