FEDERAL SUPPLY CLASS
4730

RATIONALE

AS21904C HAS BEEN REAFFIRMED TO COMPLY WITH THE SAE FIVE-YEAR REVIEW POLICY.

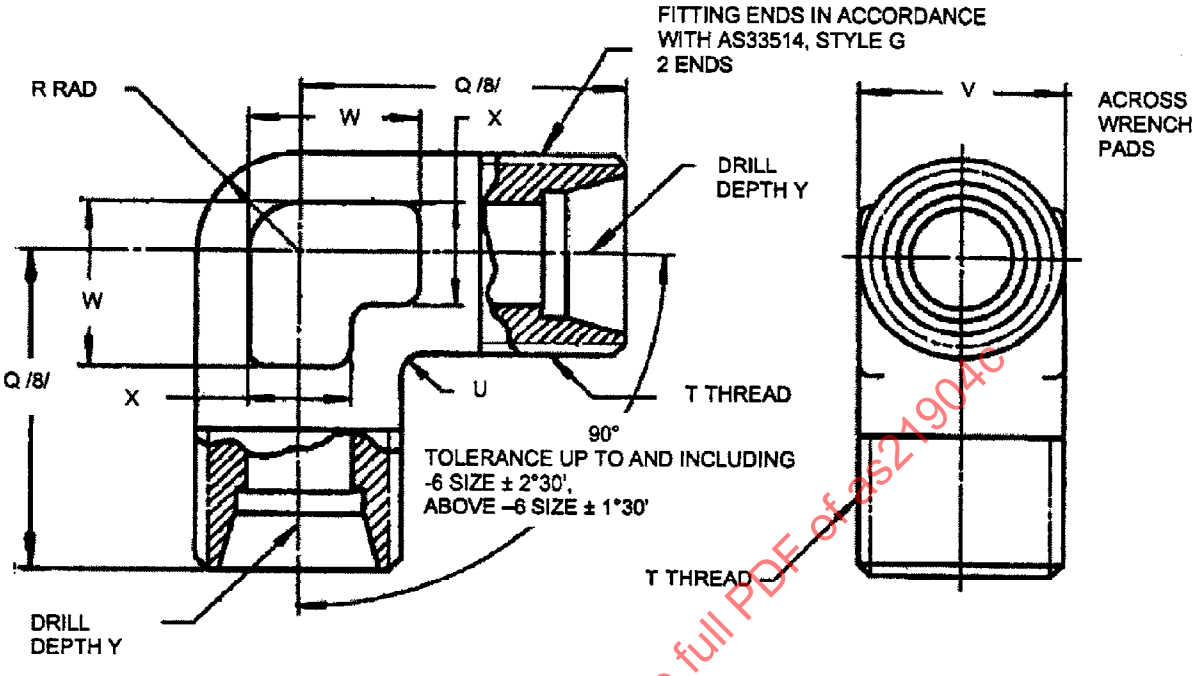
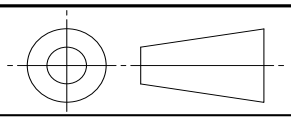


FIGURE 1 - ELBOW, FLARELESS TUBE, 90°

ISSUED 1998-03 REVISED 2008-06 REAFFIRMED 2015-04

THIRD ANGLE PROJECTION



CUSTODIAN: G-3/G-3B

PROCUREMENT SPECIFICATION: /11/ AS18280

SAE INTERNATIONAL

AEROSPACE STANDARD

ELBOW, FLARELESS TUBE, 90°

AS21904
SHEET 1 OF 4

REV. C

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TABLE 1A - DIMENSIONS G-V

DASH NO. /5/	NOMINAL TUBE SIZE	T THREAD AS8879	Q /8/ +.047 -.000	R RAD	U RAD	V
-2	.125	.3125-24 UNJF-3A	.750	.156	.063	.313
-3	.188	.3750-24 UNJF-3A	.813	.188	.063	.375
-4	.250	.4375-20 UNJF-3A	.875	.219	.063	.438
-5	.313	.5000-20 UNJF-3A	.938	.250	.063	.500
-6	.375	.5625-18 UNJF-3A	1.031	.281	.094	.563
-8	.500	.7500-16 UNJF-3A	1.250	.375	.094	.750
-10	.625	.8750-14 UNJF-3A	1.406	.438	.094	.875
-12	.750	1.0625-12 UNJ-3A	1.563	.531	.094	1.063
-16	1.000	1.3125-12 UNJ-3A	1.719	.656	.125	1.313
-20	1.250	1.6250-12 UNJ-3A	1.875	.813	.125	1.625
-24	1.500	1.8750-12 UNJ-3A	2.000	.938	.125	1.875
-32	2.000	2.5000-12 UNJ-3A	2.438	1.250	.250	2.563

TABLE 1B - DIMENSIONS W-Y

DASH NO. /5/	W APPROX	X APPROX	Y +.047 -.000	WEIGHT, LB/EA, APPROX, REF. STEEL	AL ALLOY	TI ALLOY
-2	.313	.188	.781	.040	.014	.023
-3	.313	.250	.844	.056	.020	.032
-4	.375	.250	.922	.062	.022	.035
-5	.500	.313	.984	.086	.031	.049
-6	.500	.313	1.063	.104	.037	.060
-8	.625	.438	1.313	.191	.064	.110
-10	.750	.438	1.469	.258	.087	.148
-12	.875	.500	1.625	.402	.135	.231
-16	1.063	.625	1.844	.535	.200	.308
-20	1.250	.750	2.000	.792	.265	.456
-24	1.438	.875	2.313	1.262	.463	.728
-32	2.000	1.188	2.688	3.062	1.125	1.766

NOTES:

NOTICE

THIS DOCUMENT REFERENCES A PART WHICH CONTAINS CADMIUM AS A PLATING MATERIAL. CONSULT LOCAL OFFICIALS IF YOU HAVE QUESTIONS CONCERNING CADMIUM'S USE.

1. MATERIAL:

   SEE PROCUREMENT SPECIFICATION.
   ALLOY STEEL
   ALUMINUM ALLOY
   CORROSION RESISTANT STEEL
   TITANIUM ALLOY

2. FINISH: SEE PROCUREMENT SPECIFICATION

3. BREAK EDGES .003 TO .015 UNLESS OTHERWISE SPECIFIED.

4. DIMENSIONS ARE IN INCHES. UNLESS OTHERWISE SPECIFIED, TOLERANCES: DECIMALS ±.016, ANGLES ±0°30'.

/5/ PART NUMBERS:

DASH "-" IN PART NUMBER FOR 4130 ALLOY STEEL IS CANCELLED AND REPLACED, SEE TABLE 2 /A/
ADD "V(SIZE)P" IN PLACE OF DASH FOR CORROSION RESISTANT STEEL (15-5PH), CADMIUM PLATED
ADD "V" IN PLACE OF DASH FOR CORROSION RESISTANT STEEL (15-5PH), NOT CADMIUM PLATED
ADD "D" IN PLACE OF DASH FOR ALUMINUM ALLOY (2014): CANCELLED AND REPLACED, SEE TABLE 2 /C/
ADD "W" IN PLACE OF DASH FOR ALUMINUM ALLOY (7075)
ADD "J" IN PLACE OF DASH FOR CORROSION RESISTANT STEEL (TYPE 304)
ADD "K" IN PLACE OF DASH FOR CORROSION RESISTANT STEEL (TYPE 316)
ADD "R" AFTER DASH NUMBER FOR CORROSION RESISTANT STEEL (TYPE 321)
ADD "S" AFTER DASH NUMBER FOR CORROSION RESISTANT STEEL (TYPE 347): CANCELLED, SEE TABLE 2 /D/
ADD "T" AFTER DASH NUMBER FOR TITANIUM ALLOY (6AL-4V)

EXAMPLES OF PART NUMBERS:

MS21904-4	ELBOW, .250 TUBING, 4130 ALLOY STEEL IS CANCELLED AND REPLACED, SEE TABLE 2 /A/
MS21904V4P	ELBOW, .250 TUBING, CORROSION RESISTANT STEEL (15-5PH), CADMIUM PLATED
MS21904V4	ELBOW, .250 TUBING, CORROSION RESISTANT STEEL (15-5PH), NOT CADMIUM PLATED
MS21904D4	ELBOW, .250 TUBING, ALUMINUM ALLOY (2014) IS CANCELLED AND REPLACED, SEE TABLE 2 /C/
MS21904W4	ELBOW, .250 TUBING, ALUMINUM ALLOY (7075)
MS21904J4	ELBOW, .250 TUBING, CORROSION RESISTANT STEEL (TYPE 304)
MS21904K4	ELBOW, .250 TUBING, CORROSION RESISTANT STEEL (TYPE 316)
MS21904-4R	ELBOW, .250 TUBING, CORROSION RESISTANT STEEL (TYPE 321)
MS21904-4S	ELBOW, .250 TUBING, CORROSION RESISTANT STEEL (TYPE 347) IS CANCELLED, SEE TABLE 2 /D/
MS21904-4T	ELBOW, .250 TUBING, TITANIUM ALLOY (6AL-4V)

6. TITANIUM SHALL NOT BE USED FOR OXYGEN SYSTEMS.

7. SEE TABLE 2 FOR CANCELLED AND SUPERSEDED DOCUMENT AND PART NUMBERS.

/8/ AT THE OPTION OF THE MANUFACTURER, BASIC DIMENSION Q MAY BE .016 LESS THAN THE DIMENSIONS SPECIFIED, WITH THE PROVISION THAT BASIC DIMENSION Y IS ALSO MADE .016 LESS THAN THE DIMENSION SPECIFIED.

9. REFERENCED DOCUMENTS SHALL BE OF THE ISSUE IN EFFECT ON DATE OF INVITATIONS FOR BID.

10. IN THE EVENT OF A CONFLICT BETWEEN THE TEXT OF THIS STANDARD AND THE REFERENCES CITED HEREIN, THE TEXT OF THIS STANDARD SHALL TAKE PRECEDENCE.

11. PRODUCT SUPPLIED TO THIS SPECIFICATION SHALL BE MANUFACTURED BY AN ACCREDITED MANUFACTURER AS LISTED IN THE PERFORMANCE REVIEW INSTITUTE (PRI) QUALIFIED PRODUCTS LIST PRI-QPL-AS18280 FOR THIS STANDARD. SEE http://www.eauditnet.com FOR CURRENT QPL ONLINE.

12. SURFACE TEXTURE: SYMBOLS PER ASME Y14.36M; REQUIREMENTS PER ASME B46.1; UNLESS OTHERWIE SPECIFIED MACHINED SURFACES SHALL BE 125 Ra.

13. A CHANGE BAR (I) LOCATED IN THE LEFT MARGIN IS FOR THE CONVENIENCE OF THE USER IN LOCATING AREAS WHERE TECHNICAL REVISIONS, NOT EDITORIAL CHANGES, HAVE BEEN MADE TO THE PREVIOUS ISSUE OF THIS DOCUMENT. AN (R) SYMBOL TO THE LEFT OF THE DOCUMENT TITLE INDICATES A COMPLETE REVISION OF THE DOCUMENT, INCLUDING TECHNICAL REVISIONS. CHANGE BARS AND (R) ARE NOT USED IN ORIGINAL PUBLICATIONS, NOR IN DOCUMENTS THAT CONTAIN EDITORIAL CHANGES ONLY.

14. INTERPRETATION OF DRAWING PER ARP4296.

15. FLUID PASSAGE, HOLE CONTOUR: ARP4266 (OPTIONAL)