

SAE Technical Standards Board Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user." SAE reviews each technical report at least every five years at which time it may be revised, reaffirmed, stabilized, or cancelled. SAE invites your written comments and suggestions.

REV. B
MA2051

FEDERAL SUPPLY CLASS
4730

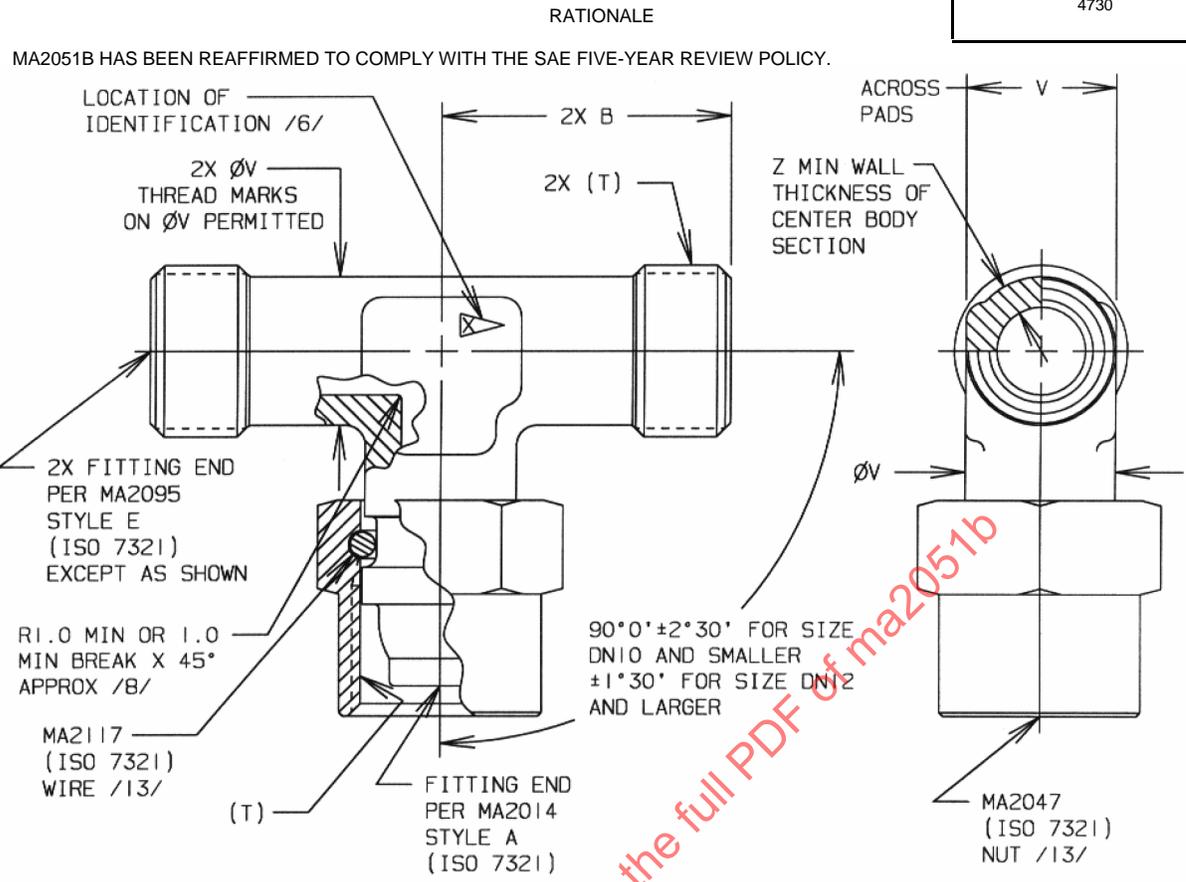
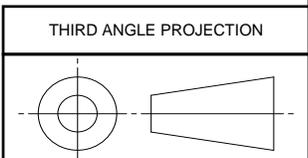


FIGURE 1 - ELBOW, 90°, FLARELESS
TABLE 1 - DIMENSIONS AND WEIGHTS

BASIC NO. MA2051 /19/ SIZE CODE	(NOMINAL TUBE SIZE DN) /1/	T THREAD PER MA1370 (ISO 5855-3)		A	B	V	Z	Kg/100 APPROX, REF CRES	Kg/100 APPROX, REF TI
		4g6g EXT	4H5H INT						
05	5	MJ 10 X 1		23.5	18	7.50-8.06	1.3	2.54	1.45
06	6	MJ 12 X 1.25		25.0	20	9.50-10.06	1.8	3.90	2.21
08	8	MJ 14 X 1.5		27.0	23	11.40-12.06	1.8	5.68	3.21
10	10	MJ 16 X 1.5		29.0	25	13.40-14.06	2.0	7.52	4.24
12	12	MJ 18 X 1.5		31.5	26	15.4 -16.1	2.0	9.80	5.56
14	14	MJ 20 X 1.5		32.5	27	17.4 -18.1	2.0	11.9	6.73
16	16	MJ 22 X 1.5		34.5	28	19.4 -20.1	2.0	14.5	8.23
20	20	MJ 27 X 1.5		40.0	32	23.4 -24.1	2.5	22.8	12.9
25	25	MJ 33 X 1.5		44.0	36	29.4 -30.1	2.5	38.8	21.8
32	32	MJ 42 X 2		52.0	42	38.2 -39.2	3.5	63.5	35.6

SAE values your input. To provide feedback on this Technical Report, please visit <http://www.sae.org/technical/standards/MA2051B>



CUSTODIAN: G-3/G-3B PROCUREMENT SPECIFICATION: /5/ MA2051 (ISO 7169)

	AEROSPACE STANDARD	MA2051 SHEET 1 OF 3	REV. B
	(R) FITTING ASSEMBLY, TEE, THIN WALL, RETAINED NUT ON SIDE, FLARELESS, METRIC		

ISSUED 1995-08 REVISED 2005-02 REAFFIRMED 2015-04

NOTES:

- /1/ DN = NOMINAL TUBE OUTSIDE DIAMETER.
- /2/ MATERIAL:
- a. CODE LETTER J -
 - TEE - TYPE 304 CORROSION RESISTANT STEEL PER AMS 5639 OR AMS-QQ-S-763.
 - NUT - CODE LETTER J OF MA2047 REFERENCE (TYPE 304 CORROSION RESISTANT STEEL).
 - WIRE - PER MA2117 REFERENCE (TYPE 302 OR 305 CORROSION RESISTANT STEEL).
 - b. CODE LETTER K -
 - TEE - TYPE 316 CORROSION RESISTANT STEEL PER AMS 5648 OR AMS-QQ-S-763.
 - NUT - CODE LETTER K OF MA2047 REFERENCE (TYPE 316 CORROSION RESISTANT STEEL).
 - WIRE - PER MA2117 REFERENCE (TYPE 302 OR 305 CORROSION RESISTANT STEEL).
 - c. CODE LETTER R -
 - TEE - TYPE 321 CORROSION RESISTANT STEEL PER AMS 5645 OR AMS-QQ-S-763.
 - NUT - CODE LETTER R OF MA2047 REFERENCE (TYPE 321 CORROSION RESISTANT STEEL).
 - WIRE - PER MA2117 REFERENCE (TYPE 302 OR 305 CORROSION RESISTANT STEEL).
 - d. CODE LETTER T -
 - TEE - TYPE 6AL-4V TITANIUM ALLOY PER AMS 4928.
 - NUT - CODE LETTER T OF MA2047 REFERENCE (TYPE 6AL-4V TITANIUM ALLOY).
 - WIRE - PER MA2117 REFERENCE (TYPE 302 OR 305 CORROSION RESISTANT STEEL).
3. HEAT TREATMENT: NONE.
4. FINISH:
- a. MATERIAL CODE LETTERS J, K OR R -
 - TEE - PASSIVATE PER AMS-QQ-P-35, TYPE VI OR VII.
 - NUT - MATERIAL CODE LETTERS J, K OR R OF MA2047 REFERENCE (PASSIVATE).
 - WIRE - PER MA2117 REFERENCE (PASSIVATE AND COAT WITH SOLID FILM LUBRICANT).
 - b. MATERIAL CODE LETTER T -
 - TEE - FLUORIDE PHOSPHATE CONVERSION COAT PER AMS 2486.
 - NUT - MATERIAL CODE LETTER T OF MA2047 REFERENCE (FLUORIDE PHOSPHATE CONVERSION COAT).
 - WIRE - PER MA2117 REFERENCE (PASSIVATE AND COAT WITH SOLID FILM LUBRICANT).
- /5/ PROCUREMENT SPECIFICATION: MA2005 (ISO 7169) EXCEPT AS SPECIFIED ON THIS STANDARD. THIS PART SHALL BE QUALIFIED TO THE PROCUREMENT SPECIFICATION AS APPLICABLE IN A COMPLETE ASSEMBLY. USERS OF THIS STANDARD ARE ADVISED TO CONTROL SOURCE APPROVAL BY STANDARD PAGE SUPPLEMENT SHEETS OR SIMILAR MEANS.
- /6/ IDENTIFICATION AT LOCATION SHOWN: MARK PER AS478 CLASS C OR METHOD 7A3, 15A3, OR 15B.
- a. FOR SIZES DN10 AND SMALLER: MANUFACTURER'S NAME, CAGE CODE OR TRADEMARK AND MATERIAL CODE LETTER.
 - b. FOR SIZES DN12 AND LARGER: MANUFACTURER'S NAME, CAGE CODE OR TRADEMARK, BASIC PART NUMBER AND MATERIAL CODE LETTER.
7. THIS PART IS DESIGNED FOR USE IN SYSTEMS AT TYPE II TEMPERATURE (-55° TO 135°C) WITH OPERATING PRESSURE AS FOLLOWS:
- a. SIZES DN05 THROUGH DN25 AT 28,000 kPa.
 - b. SIZE DN32 AT 14,000 kPa.
- /8/ RADIUS OR BREAK APPLICABLE FOR TITANIUM PARTS ONLY.

	AEROSPACE STANDARD	MA2051 SHEET 2 OF 3	REV. B
	(R) FITTING ASSEMBLY, TEE, THIN WALL, RETAINED NUT ON SIDE, FLARELESS, METRIC		