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REV.
B

MA2050

FEDERAL SUPPLY CLASS
4730

RATIONALE

MA2050B HAS BEEN REAFFIRMED TO COMPLY WITH THE SAE FIVE-YEAR REVIEW POLICY.

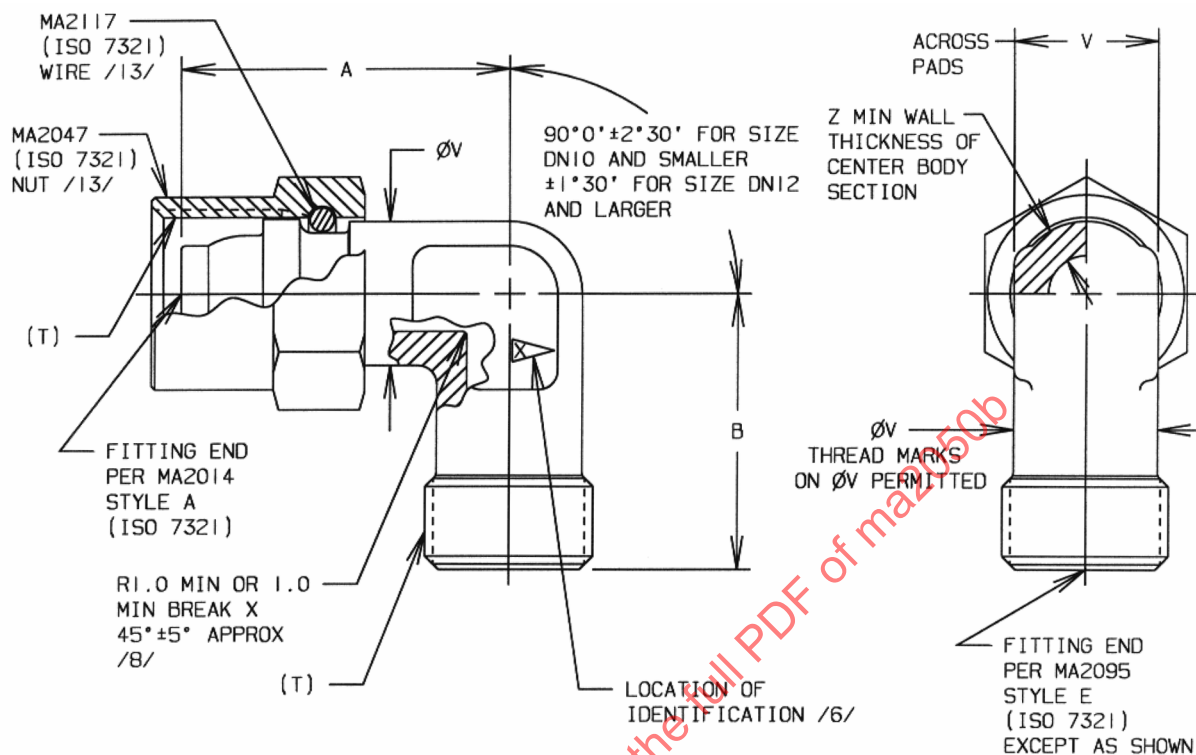


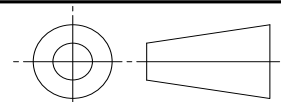
FIGURE 1 - ELBOW, 90°, FLARELESS

TABLE 1 - DIMENSIONS AND WEIGHTS

BASIC NO. MA2050 /19/ SIZE CODE	(NOMINAL TUBE SIZE DN) /1/	T THREAD PER MA-1370 (ISO 5855-3)		A	B	V	Z	Kg/100 APPROX, REF CRES	Kg/100 APPROX, REF TI
		EXT.	INT.						
05	5	MJ 10 X 1	4g6g	23.5	18	7.50-8.06	1.3	2.34	1.34
06	6	MJ 12 X 1.25	4H5H	25.0	20	9.50-10.06	1.8	3.57	2.03
08	8	MJ 14 X 1.5		27.0	23	11.40-12.06	1.8	5.19	2.94
10	10	MJ 16 X 1.5		29.0	25	13.40-14.06	2.0	6.97	3.94
12	12	MJ 18 X 1.5		31.5	26	15.4 -16.1	2.0	9.19	5.22
14	14	MJ 20 X 1.5		32.5	27	17.4 -18.1	2.0	11.2	6.35
16	16	MJ 22 X 1.5		34.5	28	19.4 -20.1	2.0	13.8	7.84
20	20	MJ 27 X 1.5		40.0	32	23.4 -24.1	2.5	21.7	12.3
25	25	MJ 33 X 1.5		44.0	36	29.4 -30.1	2.5	37.4	21.1
32	32	MJ 42 X 2		52.0	42	38.2 -39.2	3.5	61.3	34.4

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on this Technical Report, please visit
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THIRD ANGLE PROJECTION



CUSTODIAN: G-3/G-3B

PROCUREMENT SPECIFICATION: /5/ MA2005 (ISO 7169)



AEROSPACE STANDARD

(R) FITTING ASSEMBLY, ELBOW, 90°,
THIN WALL, RETAINED NUT,
FLARELESS, METRIC

MA2050
SHEET 1 OF 3

REV.
B

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ISSUED 1985-08 REVISED 2005-02 REAFFIRMED 2015-04

NOTES:

/1/ DN = NOMINAL TUBE OUTSIDE DIAMETER.

/2/ MATERIAL:

a. CODE LETTER J -

ELBOW - 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 -

ELBOW - 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 -

ELBOW - 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 -

ELBOW - TYPE 6AL-4V TITANIUM ALLOY PER AMS 4929.

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 -

ELBOW - 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 -

ELBOW - 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	MA2050 SHEET 2 OF 3	REV. B
	(R) FITTING ASSEMBLY, ELBOW, 90°, THIN WALL, RETAINED NUT, FLARELESS, METRIC		