

INSPECTION CERTIFICATE

Certificato d'ispezione



REPORT N. Rapporto N.	TC-021659-18-0001	Issued on Revised on	13/03/2018	Customer Cliente	PROVEEDORA DE MATERIALES AN CER SA DE CV, AV ADOLFO LOPEZ MATEOS 150, COL LAGRANGE, SAN NICOLAS DE LOS GARZA, N.L. - 66490, MEXICO	Job n. / Com. n. 21659	Page n. / Pagina n. 1 of 5
Revision Revisione	0	According to In accordo a	EN 10204:2004 UNI EN 10204:2005	Type Tipo	3.1	Purchase order and project/Ordine e progetto 8308	

DESCRIPTION / DESCRIZIONE

Test Prova	Item Pos.	Qty Q.tà	Customer code Codice cliente	Material Materiale	Heat Colata	Product Prodotto
ADIB	6	450		A/SA105-14	17/32052	90 DEG. ELBOW S. 3000 NPT A/SA105N 2
ZRTX	7	1015		A/SA105-14	16/78363	45 DEG. ELBOW S. 3000 NPT A/SA105N 3/4
ZTNX	8	1000		A/SA105-14	16/47588	45 DEG. ELBOW S. 3000 NPT A/SA105N 1
JCUA	13	200		A/SA105-14	16/78362	TEE S. 3000 NPT A/SA105N 3/8
AABV	16	159		A/SA105-14	245695	TEE S. 3000 NPT A/SA105N 1

Test Prova	HEAT TREATMENT DATA Dettagli di trattamento termico	COUNTRY OF MELT Provenienza	RAW AND FORGING MATERIAL CERTIFICATES Certificati di acciaieria/forgia
ADIB	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 880 C COOLED IN STILL AIR.		CERT.3999.METALFAR/CERT.430.MEGA*(VACUUM DEGASED STEEL)
ZRTX	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 880 C COOLED IN STILL AIR.		CERT.FC-005612-16-0111.MEGA/CERT.3133.MEGA
ZTNX	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.		CERT.FC-005612-16-0403.MEGA/CERT.3864.MEGA
JCUA	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 880 C COOLED IN STILL AIR.		CERT.FC-005265-15-0043.MEGA/CERT.3171.MEGA
AABV	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.		CERT.000081.EVASI*(VACUUM DEGASED STEEL)

Test Prova	Test loc. Preso a	Orient. Direz.	TENSILE TEST AT ROOM TEMPERATURE / Trazione a temperatura ambiente							CVN (KV) / Prova di resilienza					Bend [B] Flatt. [F] Piega Schiacc.	Hardness Durezza
			Specimen / Provino			Yield strength	Tensile strength	Elongation	Red. Of Area	Dimens.	T	Abs. Energy	Shear A	Lat Exp		
			Shape Forma	A Sez.[mm ²]	Gage Length Lungh.[mm]	Snerv. [Mpa] Min:	Rottura [Mpa] Min:	Allung. [%] Min:	Contraz. [%] Min:	Dimens. [mm]	Temp. [°C]	Energia ass. [J]	Area d [%]	Esp. Lat. [mm]		
ADIB	T/2	TRANS	Round	59.900	35.000	324.500	511.300	27.600	77.200	10x10x55	-29	170-149-160	85-80-85	1.88-1.53-1.52	HBW 148-150	
ZRTX	T/2	LONG	Round	122.700	50.000	311.800	528.400	33.300	69.400	10x10x55	-11	77-79-76	40-40-40	1.03-1.06-1.01	HBW 154-155	
ZTNX	T/2	TRANS	Round	30.700	25.000	311.700	512.100	38.900	75.100	10x10x55	-29	111-73-50	55-40-30	1.30-0.93-0.72	HBW 153-154	
JCUA	T/2	TRANS	Round	30.700	25.000	320.100	502.700	32.500	70.100	10x10x55	-10	85-78-80	50-50-50	1.14-1.05-1.11	HBW 143-146	
AABV	T/2	TRANS	Round	60.600	35.000	287.400	504.500	29.200	71.900	10x10x55	-29	152-61-84	75-35-45	1.63-0.84-0.98	HBW 146-148	

Test Prova	C [%]	Si [%]	Mn [%]	S [%]	P [%]	Cr [%]	Ni [%]	Mo [%]	Ti [%]	Cu [%]	V [%]	Al [%]	H [%]	Nb [%]	N [%]	Sn [%]	O [%]	B [%]	Fe [%]	Zr [%]	CE ^A [%]	PREN ^B [%]	X fact. ^C [%]	J fact. ^D [%]
ADIB	0.1850	0.2200	0.9500	0.0070	0.0100	0.1100	0.0800	0.0200	0.0190	0.1700	0.0020	0.0310	0.00022	0.0010	0.0083	0.0090	0.0012	0.0030			0.3863			
ZRTX	0.1900	0.2100	1.0500	0.0060	0.0140	0.1400	0.0600	0.0100	0.0220	0.1600	0.0020	0.0200	0.00020	0.0030	0.0100	0.0090	0.0019				0.4100			
ZTNX	0.1700	0.2200	1.0900	0.0040	0.0120	0.1600	0.0600	0.0200	0.0150	0.1500	0.0020	0.0290	0.00024	0.0020	0.0086	0.0120	0.0015	0.0003			0.4020			
JCUA	0.1800	0.2200	1.0500	0.0050	0.0150	0.1600	0.0600	0.0100	0.0210	0.1800	0.0020	0.0250	0.00020	0.0020	0.0100	0.0090	0.0015				0.4054			
AABV	0.1630	0.1860	1.0400	0.0080	0.0080	0.1150	0.1080	0.0180	0.0130	0.1770	0.0040	0.0290	0.00015	0.0010	0.0085	0.0070	0.0016				0.3827			

REMARKS / Note

1: MATERIAL ACCORDING TO NACE MR0175/ISO 15156-1-2-3 Ed.2015
2: MATERIAL ACCORDING TO ASME Sect. II Part A 2017 Edition.
3: FULLY KILLED STEEL, FINE GRAIN TREATED.

A: CE = C + Mn/6 + (Cr+Mo+V)/5 + (Cu+Ni)/15 | B: PREN = Cr + 3.3Mo + 16N
C: X factor = (10P + 5Sb+4Sn+As)/100 - elements expressed in ppm
D: J factor = ((Mn + Si)(P + Sn)) x 10E4

Quality inspector representative

Riccardo Scorsetti

Ispettore controllo qualità

Additional elements: 'ADIB': Ca 0,0011 | 'JCUA': Ca 0,0015 |

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We hereby certify that all items supplied for the above purchase orders meet all the requirements of the applicable specification of manufacture, the purchase item descriptions, purchase specifications and purchase order requirements. Visual, dimensional and marking check of items supplied has been carried out by our internal inspectors with satisfactory results.

The chemical and mechanical values shown on the EN 10204 certificate are true copy of the mill test certificate issued by the steel mill, or by the laboratory that determined it. All material is certified to be mercury free and free from radioactivity contamination. No weld repair was performed. Marking was performed by low stress stamps in accordance with MSS SP25 Ed. 2008

Manufacturing standards:

- 45° and 90° elbows, tees, crosses, full and half couplings, caps, square, hexagonal and round plugs, hexagonal and flush bushings, welding bosses are manufactured in accordance with ASME B.16.11 Ed. 2016; threads in accordance with ANSI/ASME B1.20.1 Ed. 2013

- Outlet branches are manufactured in accordance with: ASME B.31.1 Ed. 2016, B.31.3 Ed. 2016 and MSS-SP-97 Ed. 2012

- Seamless swage nipples are manufactured in accordance with: BS3799-74 or MSS SP95 Ed. 2014

- Seamless pipe nipples are manufactured in accordance with: B36.10 Ed. 2015 or B36.19 Ed. 2004

- Flanged outlet branches are manufactured in accordance with: ASME B.31.1 Ed. 2016, B.31.3 Ed. 2016 and B.16.5 Ed. 2013

- Unions are manufactured in accordance with: BS 3799-74 or MSS SP-83 Ed. 2014

When the length of flanged nipolet is not specified in the description, it is 150 mm.

The material is according to ASTM and ASME Boiler and Pressure Vessel Code Section II.

When the Edition/Revision of the listed standards is not mentioned, it is assumed to be the latest.

Yield strength detected by 0.2% off-set method

Austenitic and duplex stainless steels have been pickled and passivated. Machined surfaces do not require pickling and passivation.

M.E.G.A. is approved with certificate 75/2002/MUC by T.U.V. (certification Body N.0036) to issue certificate of specific product control in accordance with the Pressure Equipment Directive 2014/68/EU (PED) Annex 1, Section 4.3.

Testing equipment used:

- Tensile test machine Galdabini Quasar 250 serial No. VAOG – Procedure MAC-03 Rev. 3

- Impact test Cermac JB-W500 serial No. 04031 – Procedure MAC-04 Rev. 3

- Brinell and Vickers Hardness test Wolpert Dia Testor 2RC serial No. 8900298/0001 – Procedure MAC-05 Rev. 3 (HBW); MAC-09 Rev.0 (HV10)

- Rockwell Hardness test EMCO Test DJ10 Serial No. 255 - Procedure MAC-06 Rev. 3

- Chemical analysis spectrometer Baird DV4 serial No. P017 (ASTM E415 and E1086) – Procedure QC-07 Rev. 0

Alloy N08020: Material from forgings according to ASTM B462; Material from bars according to ASTM B473; both grades ASTM B462 and ASTM B473 conform also ASTM B366

Alloy N10276: Material from forgings according to ASTM B564; Material from bars according to ASTM B574; both grades ASTM B564 and ASTM B574 conform also ASTM B366

Alloy N06625: material from forgings according to ASTM B564; material from bars according to ASTM B446; material from pipes according to ASTM B444; all grades ASTM B564, ASTM b446 and ASTM B444 conform also ASTM B366

Alloy N08825: Material from forgings according to ASTM B564; Material from bars according to ASTM B425; both grades ASTM B564 and ASTM B425 conform also ASTM B366

The product are manufactured in Italy.

Quality inspector representative

Ispettore controllo qualità

Riccardo Scorsetti

