


REPORT N. Rapporto N.		TC-021659-18-0006		Issued on Revised on	24/07/2018		Customer Cliente	PROVEEDORA DE MATERIALES ANCR 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 4													
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																			
AAWG	5	1810			ASTM A105N/14		16/79776		90 DEG. ELBOW S. 3000 NPT A/SA105N 1.1/2																			
ZUDB	9	2010			ASTM A105/14		15/77180		45 DEG. ELBOW S. 3000 NPT A/SA105N 1.1/4																			
AEAJ	14	1100			ASTM A105/14		250303		TEE S. 3000 NPT A/SA105N 1/2																			
YRXC	20	4000			ASTM A105/14		15/75960		UNION S. 3000 NPT A/SA105N 1/2 male																			
YRXC	20	4000			ASTM A105/14		15/75960		UNION S. 3000 NPT A/SA105N 1/2 female																			
Test Prova	HEAT TREATMENT DATA Dettagli di trattamento termico						COUNTRY OF MELT Provenienza		RAW AND FORGING MATERIAL CERTIFICATES Certificati di acciaieria/forgia																			
AAWG	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.								CERT.FC-010160-17-0122.MEGA/CERT.590.SOLIVERI																			
ZUDB	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 880 C COOLED IN STILL AIR.						IT		CERT.FC-005612-16-0349.MEGA/CERT.3711.MEGA*H=0.00020																			
AEAJ	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.						IT		CERT.48.EVASI*(VACUUM DEGASED STEEL)																			
YRXC	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.						IT		CERT.2016/0010271+10270+10269.FEAT*H=0.00018																			
YRXC	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.						IT		CERT.2016/0010271+10270+10269.FEAT*H=0.00018																			
Test Prova	Test loc. Preso a	Orient. Direz.	TENSILE TEST AT ROOM TEMPERATURE / Trazione a temperatura ambiente						CVN (KV) / Prova di resilienza																			
			Specimen / Provino		Yield strength Mpa]		Tensile strength Mpa]		Elongation Allung. [%]		Red. Of Area Contraz. [%]		Dimens. Dimens. [mm]		T Temp. [°C]		Abs. Energy Energia ass. [J]		Shear A Area d [%]		Lat Exp Esp. Lat. [mm]		Bend [B] Flatt. [F] Piega Schiacc.		Hardness Durezza [HBW _{2,5/182,5}]		Grain Size Dimens. grano	
AAWG	T/2	TRANS	Round	59.200	35.000	297.800	502.500	28.600	63.300	10X10X55	-29	30-28-32	20-20-20	0.68-0.50-0.48	144-145													
ZUDB	T/2	TRANS	Round	30.800	25.000	315.400	521.900	32.500	67.700	10X10X55	-29	47-42-44	30-25-30	0.74-0.70-0.72	147-148													
AEAJ	T/2	TRANS	Round	30.500	25.000	334.000	520.100	36.400	71.600	10x10x55	-29	141-161-189	75-85-95	1.39-1.78-1.93	144-147													
YRXC	T/2	LONG	Round	60.100	35.000	350.500	528.200	35.500	71.400	10X10X55	-10	207-207-154	100-100-75	2.03-2.00-1.68	163-164													
YRXC	T/2	LONG	Round	60.100	35.000	350.500	528.200	35.500	71.400	10X10X55	-10	207-207-154	100-100-75	2.03-2.00-1.68	163-164													
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				
AAWG	0.1850	0.2500	1.0500	0.0100	0.0150	0.1200	0.0700	0.0200	0.0210	0.1600	0.0030	0.0260	0.0002	0.0030	0.0096	0.0090	0.0019					0.4039						
ZUDB	0.1900	0.2200	1.0400	0.0050	0.0150	0.1200	0.0700	0.0200	0.0160	0.1900	0.0030	0.0250		0.0010	0.0080	0.0090	0.0014					0.4092						
AEAJ	0.1660	0.2040	1.0140	0.0020	0.0090	0.1310	0.1130	0.0270	0.0120	0.1520	0.0040	0.0240	0.0001	0.0040	0.0102	0.0070	0.0015	0.0001				0.3850						
YRXC	0.1900	0.2300	1.0100	0.0030	0.0140	0.1700	0.0600	0.0100	0.0180	0.1700	0.0010	0.0250		0.0020	0.0095	0.0110	0.0017					0.4098						
YRXC	0.1900	0.2300	1.0100	0.0030	0.0140	0.1700	0.0600	0.0100	0.0180	0.1700	0.0010	0.0250		0.0020	0.0095	0.0110	0.0017					0.4098						
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																	
Additional elements: 'AEAJ': Ca 0,0006											Quality inspector representative Ispettore controllo qualità					Emmanuel Centemeri 												

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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			

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 ASMEB.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 nipple 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: Test results are relevant only to the specimens belonging to the indicated heat, batch and material.

- Tensile test machine Galdabini Quasar 250 serial No. VAOG – Procedure MAC-03 Rev. 3 – ASTM A370 paragraph 6. Elongation determined after fracture, Yield strength determined using the offset method
- Impact test machine Cermac JB-W500 serial No. 04031 – Procedure MAC-04 Rev. 3 – ASTM A370 Paragraph 20 / ASTM E23
- Brinell and Vickers Hardness test machine Wolpert Dia Testor 2RC serial No. 8900298/0001 – Procedure MAC-05 Rev. 3 – ASTM E10 (HBW); MAC-09 Rev.0 – ASTM E92 (HV10)
- Rockwell Hardness test machine EMCO Test DJ10 Serial No. 255 - Procedure MAC-06 Rev. 3 – ASTM E18
- Chemical analysis spectrometer Baird DV4 serial No. P017 (ASTM E415 and E1086) – Procedure QC-07 Rev. 0
- Grain size determined according to ASTM E112

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

Emmanuel Centemeri

