

REPORT N. Rapporto N.	TC-021079-17-0007	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. 21079	Page n./ Pagina n. 2 of 3
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 8136	

DESCRIPTION / DESCRIZIONE						
Test Prova	Item Pos.	Qty Q.tà	Customer code Codice cliente	Material Materiale	Heat Colata	Product Prodotto
ADPR	69	5770	*	A/SA105-14	17/74329	90 DEG. ELBOW S. 3000 SW A/SA105N 1
ADNK	71	2816	*	A/SA105-14	245804	90 DEG. ELBOW S. 3000 SW A/SA105N 2

Test Prova	HEAT TREATMENT DATA Dettagli di trattamento termico	COUNTRY OF MELT Provenienza	RAW AND FORGING MATERIAL CERTIFICATES Certificati di acciaieria/forgia
ADPR	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 880 C COOLED IN STILL AIR.		CERT.FC-010160-17-0073.MEGA/CERT.4240.MEGA
ADNK	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 880 C COOLED IN STILL AIR.		CERT.000531.EVASI*(VACUUM DEGASED STEEL)CERT.454.MEGA

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 Snerv. [Mpa] Min:	Tensile strength Rottura [Mpa] Min:	Elongation Allung. [%] Min:	Red. Of Area Contraz. [%] Min:	Dimens. Dimens. [mm]	T Temp. [°C]	Abs. Energy Energia ass. [J]	Shear A Area d [%]	Lat Exp Esp. Lat. [mm]		
			Shape Forma	A Sez.[mm ²]	Gage Length Lungh.[mm]											
ADPR	T/2	TRANS	Round	122.700	50.000	351.000	520.000	29.000	68.000	10x10x55	-29	49-17-37	--	--	HBW 146-148	
ADNK	T/2	TRANS	Round	58.400	35.000	284.200	487.300	31.500	70.500	10x10x55	-29	90-181-177	50-90-40	1.14-2.01-1.81	HBW 136-138	

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 [%]
ADPR	0.1850	0.2500	1.0000	0.0050	0.0140	0.1900	0.0600	0.0100	0.0220	0.2000	0.0020	0.0270	0.00020	0.0010	0.0096	0.0090	0.0015					0.4093		
ADNK	0.1630	0.2400	0.9700	0.0020	0.0080	0.1900	0.0700	0.0200	0.0020	0.1100	0.0050	0.0390	0.00013	0.0050	0.0057	0.0070	0.0010					0.3796		

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 Ispettore controllo qualità
Additional elements: 'ADPR': Ca 0,0021 'ADNK': As 0,0060	Riccardo Scorsetti

This certificate is issued by a computerized system and it is valid with electronic signature. On the original certificate the trademark M.E.G.A. is printed in green color. Form QC-01-01 Rev. 0 2013-03-15

INSPECTION CERTIFICATE

Certificato d'ispezione



REPORT N. Rapporto N.	TC-021079-17-0007	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. 21079	Page n./ Pagina n. 3 of 3
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 8136	

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 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