


REPORT N. Rapporto N.	TC-023146-19-0001	Issued on Revised on	21/01/2019	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.	23146	Page n. / Pagina n.	4 of 7
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 9478			

DESCRIPTION / DESCRIZIONE						
Test	Item	Qty	Customer code	Material	Heat	Product
Prova	Pos.	Q.tà	Codice cliente	Materiale	Colata	Prodotto
ABKP	21	104		ASTM A105-18	240258	45 DEG. ELBOW S. 3000 SW A/SA105N 2
JFUL	25	393		ASTM A105-18	58340/01.3	UNION S. 3000 SW A/SA105N 3/8 male
JFUL	25	393		ASTM A105-18	58340/01.3	UNION S. 3000 SW A/SA105N 3/8 female
JFUN	25	393		ASTM A105-18	55957/01.3	UNION S. 3000 SW A/SA105N 3/8 nut
RBXC	25	27		ASTM A105-18	58340013L	UNION S. 3000 SW A/SA105N 3/8 male

Test	HEAT TREATMENT DATA				COUNTRY OF MELT	RAW AND FORGING MATERIAL CERTIFICATES
Prova	Dettagli di trattamento termico				Provenienza	Certificati di acciaieria/forgia
ABKP	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.				IT	CERT.000299.EVASI*(VACUUM DEGASED STEEL)
JFUL	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.				IT	CERT.2014/0010155.FEAT
JFUL	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.				IT	CERT.2014/0010154.FEAT
JFUN	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.				IT	CERT.2014/0010156.FEAT
RBXC	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.				IT	CERT.2007/0010027.FEAT

Test	Test loc.	Orient.	TENSILE TEST AT ROOM TEMPERATURE / Trazione a temperatura ambiente							CVN (KV) / Prova di resilienza					Bend [B] Flatt. [F] Piega Schiacc.	Hardness Durezza [HBW _{2,5/187,5}]	Grain Size Dimens. grano
			Specimen / Provino			Yield strength	Tensile strength	Elongation	Red. Of Area	Dimens.	T	Abs. Energy	Shear A	Lat Exp			
			Shape	A	Gage Length	Snerv. [Mpa]	Rottura [Mpa]	Allung. [%]	Contraz. [%]	Dimens.	Temp.	Energia ass.	Area d	Esp. Lat.			
			Forma	Sez.[mm ²]	Lungh.[mm]	Min:	Min:	Min:	Min:	[mm]	[°C]	[J]	[%]	[mm]			
ABKP	T/2	TRANS	Round	60.800	35.000	291.800	502.500	31.400	70.400	10x10x55	-29	65-90-61	40-50-35	0.89-1.10-0.83		149-150	
JFUL	T/2	TRANS	Round	30.600	25.000	312.000	532.000	28.200	66.300	10x10x55	0	52-62-64	--	--		156-163	
JFUL	T/2	TRANS	Round	30.600	25.000	312.000	532.000	28.200	66.300	10x10x55	0	52-62-64	--	--		156-163	
JFUN	T/2	TRANS	Round	30.600	25.000	331.000	540.000	27.100	62.300	10x10x55	0	58-68-70	--	--		167-170	
RBXC	T/2	LONG	Round	30.600	25.000	380.000	560.000	30.000	64.000	10x10x55	0	54-52-50	--	--		154-159	

Test	C	Si	Mn	S	P	Cr	Ni	Mo	Ti	Cu	V	Al	H	Nb	N	Sn	O	B	Fe	Zr	CE ^A	PREN ^B	CEs ^E	J fact. ^D
Prova	[%]	[%]	[%]	[%]	[%]	[%]	[%]	[%]	[%]	[%]	[%]	[%]	[%]	[%]	[%]	[%]	[%]	[%]	[%]	[%]	[%]	[%]	[%]	[%]
ABKP	0.1750	0.2200	0.9500	0.0030	0.0100	0.1800	0.0900	0.0300	0.0020	0.1400	0.0050	0.0240	0.00011	0.0010	0.0062	0.0070	0.0013				0.3916		0.3333	
JFUL	0.1900	0.2300	0.9800	0.0050	0.0120	0.1300	0.0700	0.0300	0.0200	0.1100	0.0010	0.0180		0.0010	0.0056	0.0070					0.3975		0.3533	
JFUL	0.1900	0.2300	0.9800	0.0050	0.0120	0.1300	0.0700	0.0300	0.0200	0.1100	0.0010	0.0180		0.0010	0.0056	0.0070					0.3975		0.3533	
JFUN	0.2100	0.2300	0.9800	0.0080	0.0150	0.1600	0.1000	0.0310	0.0150	0.1000	0.0010	0.0140		0.0010	0.0089						0.4250		0.3733	
RBXC	0.1900	0.2300	0.9800	0.0050	0.0120	0.1300	0.0700	0.0300	0.0200	0.1100	0.0010	0.0180		0.0010	0.0060						0.3975		0.3533	

REMARKS / Note																							
1: MATERIAL ACCORDING TO NACE MR0175/ISO 15156-1-2-3 Ed.2015												A: CE = C + Mn/6 + (Cr+Mo+V)/5 + (Cu+Ni)/15 B: PREN = Cr + 3.3Mo + 16N											
2: MATERIAL ACCORDING TO ASME Sect. II Part A 2017 Edition.												C: X factor = (10P + 5Sb+4Sn+As)/100 - elements expressed in ppm											
3: FULLY KILLED STEEL, FINE GRAIN TREATED.												D: J factor = ((Mn + Si) (P + Sn)) x 10E4 E: CE _s = C + Mn/6											
Additional elements: 'ABKP': Co 0.0080 As 0.0050 Sb 0.0010 'JFUL': As 0.0010 'JFUN': As 0.0010 'RBXC': As 0.0010												Quality inspector representative						Riccardo Scarsetti					
												Ispettore controllo qualità											

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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: 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

Riccardo Scarsetti

