

<b>REPORT N.</b> Rapporto N.	<b>TC-019212-16-0004</b>	<b>Issued on</b> Revised on	<b>20/04/2017</b>	<b>Customer</b> Cliente	PROVEEDORA DE MATERIALES ANKER SA DE CV, AV ADOLFO LOPEZ MATEOS 150, COL LAGRANGE, SAN NICOLAS DE LOS GARZA, N.L. - 66490, MEXICO	<b>Job n. / Com. n.</b>	<b>19212</b>	<b>Page n. / Pagina n.</b>	<b>1 of 5</b>
<b>Revision</b> Revisione	<b>0</b>	<b>According to</b> In accordo a	<b>EN 10204:2004</b> <b>UNI EN 10204:2005</b>	<b>Type</b> Tipo	<b>3.1</b>	<b>Purchase order and project/Ordine e progetto</b> <b>7902</b>			

DESCRIPTION / DESCRIZIONE						
Test Prova	Item Pos.	Qty Q.tà	Customer code Codice cliente	Material Materiale	Heat Colata	Product Prodotto
SRLR	9	20		A/SA105-14	14/79163	45 DEG. ELBOW S. 3000 NPT A/SA105N 2.1/2
YRXF	19	2000		A/SA105-14	15/77527	UNION S. 3000 NPT A/SA105N 1 male
YRXF	19	2000		A/SA105-14	15/77527	UNION S. 3000 NPT A/SA105N 1 female
YRXF	19	2000		A/SA105-14	15/77527	UNION S. 3000 NPT A/SA105N 1 nut
SBLF	31	600		A/SA105-14	AK2674	BUSHING M/F NPT A/SA105N 1/2x1/4

Test Prova	HEAT TREATMENT DATA Dettagli di trattamento termico				COUNTRY OF MELT Provenienza	RAW AND FORGING MATERIAL CERTIFICATES Certificati di acciaieria/forgia
SRLR	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 880 C COOLED IN STILL AIR.					CERT.FC-004987-14-0017.MEGA/CERT.1504.MEGA*
YRXF	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.					CERT.2016/0010264.FEAT*
YRXF	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.					CERT.2016/0010265.FEAT*
YRXF	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.					CERT.2016/0010266.FEAT*
SBLF	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.					CERT.065650.RODACCIAI*

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 <sup>2</sup> ]	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]		
SRLR	T/2	LONG	Round	59.200	35.000	312.600	502.200	42.200	64.100	10x10x55	0	75-67-79	--	--	HBW 140-145	
YRXF	T/2	LONG	Round	122.700	50.000	369.900	524.400	34.000	67.700	10x10x55	-10	115-146-105	55-70-50	1.33-1.61-1.26	HBW 155-158	
YRXF	T/2	LONG	Round	122.700	50.000	369.900	524.400	34.000	67.700	10x10x55	-10	115-146-105	55-70-50	1.33-1.61-1.26	HBW 155-158	
YRXF	T/2	LONG	Round	122.700	50.000	369.900	524.400	34.000	67.700	10x10x55	-10	115-146-105	55-70-50	1.33-1.61-1.26	HBW 155-158	
SBLF	T/2	LONG	Round	122.600	50.000	312.400	523.300	34.200	66.000	10x10x55	0	84-94-112	--	--	HBW 152-158	

Test Prova	C [%]	Si [%]	Mn [%]	S [%]	P [%]	Cr [%]	Ni [%]	Mo [%]	Ti [%]	Cu [%]	V [%]	Al [%]	H [%]	Nb [%]	N [%]	Sn [%]	O [%]	B [%]	Fe [%]	Zr [%]	CE <sup>A</sup> [%]	PREN <sup>B</sup> [%]	X fact. <sup>C</sup> [%]	J fact. <sup>D</sup> [%]
SRLR	0.1900	0.2300	0.9400	0.0100	0.0150	0.1300	0.0600	0.0100	0.0210	0.1800	0.0020	0.0300	0.00020	0.0020	0.0093	0.0090	0.0018					0.3910		
YRXF	0.1800	0.1800	0.9500	0.0060	0.0100	0.1000	0.0400	0.0100	0.0170	0.1000	0.0020	0.0250	0.00018		0.0098	0.0060	0.0014					0.3700		
YRXF	0.1800	0.1800	0.9500	0.0060	0.0100	0.1000	0.0400	0.0100	0.0170	0.1000	0.0020	0.0250	0.00018		0.0098	0.0060	0.0014					0.3700		
YRXF	0.1800	0.1800	0.9500	0.0060	0.0100	0.1000	0.0400	0.0100	0.0170	0.1000	0.0020	0.0250	0.00018		0.0098	0.0060	0.0014					0.3700		
SBLF	0.1800	0.2700	1.0000	0.0200	0.0070	0.1400	0.0900	0.0400		0.1000	0.0020	0.0240										0.3957		

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 2015 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											
<b>Additional elements:</b> 'YRXF': Ca 0,0009												<b>Quality inspector representative</b>						Riccardo Scorsetti					
												Ispettore controllo qualità											

<b>REPORT N.</b> Rapporto N.	<b>TC-019212-16-0004</b>	<b>Issued on</b> Revised on	<b>20/04/2017</b>	<b>Customer</b> Cliente	PROVEEDORA DE MATERIALES ANKER SA DE CV, AV ADOLFO LOPEZ MATEOS 150, COL LAGRANGE, SAN NICOLAS DE LOS GARZA, N.L. - 66490, MEXICO	<b>Job n. / Com. n.</b>	<b>19212</b>	<b>Page n./ Pagina n.</b>	<b>2 of 5</b>
<b>Revision</b> Revisione	<b>0</b>	<b>According to</b> In accordo a	<b>EN 10204:2004</b> <b>UNI EN 10204:2005</b>	<b>Type</b> Tipo	<b>3.1</b>	<b>Purchase order and project/Ordine e progetto</b> <b>7902</b>			

DESCRIPTION / DESCRIZIONE						
Test Prova	Item Pos.	Qty Q.tà	Customer code Codice cliente	Material Materiale	Heat Colata	Product Prodotto
AAKW	34	1000		A/SA105-14	BB6766	BUSHING M/F NPT A/SA105N 1x1/2
ZNAC	37	1000		A/SA105-14	241542	BUSHING M/F NPT A/SA105N 1.1/4x1
ZNCA	40	1000		A/SA105-14	236691	BUSHING M/F NPT A/SA105N 2x1
JLNF	48	5000		A/SA105-14	09/79743	HEX. HEAD PLUG NPT A/SA105N 1/2
YUFS	56	5025		A/SA105-14	241542	90 DEG. ELBOW S. 3000 SW A/SA105N 1/2

Test Prova	HEAT TREATMENT DATA Dettagli di trattamento termico	COUNTRY OF MELT Provenienza	RAW AND FORGING MATERIAL CERTIFICATES Certificati di acciaieria/forgia
AAKW	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.		CERT.023319.RODACCIAI*
ZNAC	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.		CERT.000419.EVASI*
ZNCA	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.		CERT.000562.EVASI*
JLNF	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.		CERT.580.RIVA*
YUFS	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.		CERT.000392.EVASI*

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 <sup>2</sup> ]	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]		
AAKW	T/2	LONG	Round	122.600	50.000	338.900	551.100	35.100	68.200	10x10x55	-10	124-124-152	--	--		HBW 152-152
ZNAC	T/2	LONG	Round	30.100	25.000	296.500	491.200	35.200	68.700	10x10x55	-1	160-181-182	80-90-90	1.77-1.90-1.90		HBW 156-159
ZNCA	T/2	LONG	Round	123.100	50.000	310.000	514.000	35.000	75.000	10x10x55	-10	144-49-93	65-30-50	1.48-0.48-0.88		HBW 149-151
JLNF	T/2	TRANS	Round	60.300	35.000	301.200	496.200	32.600	62.100	10x10x55	-1	66-74-55	--	--		HBW 143-149
YUFS	T/2	LONG	Round	30.400	25.000	304.100	490.100	36.200	65.100	10x10x55	-1	230-225-211	100-100-100	2.22-2.21-2.17		HBW 150-153

Test Prova	C [%]	Si [%]	Mn [%]	S [%]	P [%]	Cr [%]	Ni [%]	Mo [%]	Ti [%]	Cu [%]	V [%]	Al [%]	H [%]	Nb [%]	N [%]	Sn [%]	O [%]	B [%]	Fe [%]	Zr [%]	CE <sup>A</sup> [%]	PREN <sup>B</sup> [%]	X fact. <sup>C</sup> [%]	J fact. <sup>D</sup> [%]	
AAKW	0.2000	0.2300	0.9500	0.0210	0.0100	0.1000	0.0600	0.0300		0.0700	0.0020	0.0210										0.3933			
ZNAC	0.1540	0.1890	1.0190	0.0060	0.0090	0.1210	0.1290	0.0280	0.0130	0.1740	0.0040	0.0220	0.00014	0.0200	0.0111	0.0070	0.0016					0.3746			
ZNCA	0.1760	0.2000	0.9600	0.0020	0.0120	0.2000	0.0500	0.0100	0.0010	0.1100	0.0050	0.0150	0.00014	0.0010	0.0063	0.0050	0.0014					0.3896			
JLNF	0.1800	0.2300	0.8700	0.0080	0.0100	0.0900	0.0800	0.0200	0.0170	0.1800	0.0160	0.0250		0.0010		0.0080						0.3675			
YUFS	0.1540	0.1890	1.0190	0.0060	0.0090	0.1210	0.1290	0.0280	0.0130	0.1740	0.0040	0.0220	0.00014	0.0200	0.0111	0.0070	0.0016					0.3746			

REMARKS / Note	
1: MATERIAL ACCORDING TO NACE MR0175/ISO 15156-1-2-3 Ed.2015 2: MATERIAL ACCORDING TO ASME Sect. II Part. A 2015 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: 'ZNCA': As 0,0040 Sb 0,0010	Riccardo Scorsetti 

<b>REPORT N.</b> Rapporto N.	<b>TC-019212-16-0004</b>	<b>Issued on</b> Revised on	<b>20/04/2017</b>	<b>Customer</b> 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	<b>Job n. / Com. n.</b> <b>19212</b>	<b>Page n. / Pagina n.</b> 3 of 5
<b>Revision</b> Revisione	<b>0</b>	<b>According to</b> In accordo a	<b>EN 10204:2004</b> <b>UNI EN 10204:2005</b>	<b>Type</b> Tipo	<b>3.1</b>	<b>Purchase order and project/Ordine e progetto</b> <b>7902</b>	

**DESCRIPTION / DESCRIZIONE**

Test Prova	Item Pos.	Qty Q.tà	Customer code Codice cliente	Material Materiale	Heat Colata	Product Prodotto
ZUDA	57	2250	*	A/SA105-14	15/77276	90 DEG. ELBOW S. 3000 SW A/SA105N 3/4
ZNDA	58	5520	*	A/SA105-14	245948	90 DEG. ELBOW S. 3000 SW A/SA105N 1
AABT	61	2400	*	A/SA105-14	245697	90 DEG. ELBOW S. 3000 SW A/SA105N 2
ZXXX	61	1600	*	A/SA105-14	16/79079	90 DEG. ELBOW S. 3000 SW A/SA105N 2
ZLUS	62	200	*	A/SA105-14	15/77273	90 DEG. ELBOW S. 3000 SW A/SA105N 2.1/2

Test Prova	HEAT TREATMENT DATA Dettagli di trattamento termico	COUNTRY OF MELT Provenienza	RAW AND FORGING MATERIAL CERTIFICATES Certificati di acciaieria/forgia
ZUDA	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 880 C COOLED IN STILL AIR.		CERTFC-005479-15-0022.MEGA/CERT.3381.MEGA*
ZNDA	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.		CERT.000651.EVASI*
AABT	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.		CERT.000107.EVASI*
ZXXX	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 880 C COOLED IN STILL AIR.		CERT.FC-005509-15-0014.MEGA/CERT.3483.MEGA*
ZLUS	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 880 C COOLED IN STILL AIR.		CERT.FC-005611-16-0019.MEGA/CERT.2879.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	Tensile strength	Elongation	Red. Of Area	Dimens.	T	Abs. Energy	Shear A	Lat Exp		
			Shape Forma	A Sez.[mm <sup>2</sup> ]	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]		
ZUDA	T/2	TRANS	Round	31.100	25.000	347.500	535.200	29.700	66.500	10x10x55	-10	49-31-46	30-20-30	0.73-0.56-0.70	HBW 157-158	
ZNDA	T/2	LONG	Round	120.800	50.000	335.400	504.500	35.500	73.500	10x10x55	-10	201-169-177	95-80-80	2.13-1.73-1.89	HBW 145-147	
AABT	T/2	TRANS	Round	59.700	35.000	317.100	512.900	32.700	71.000	10x10x55	-29	120-139-124	60-70-60	1.44-1.53-1.46	HBW 153-154	
ZXXX	T/2	TRANS	Round	60.700	35.000	295.300	500.000	30.300	59.800	10x10x55	-29	31-32-33	20-20-20	0.56-0.60-0.61	HBW 146-148	
ZLUS	T/2	LONG	Round	121.600	50.000	289.400	495.700	31.000	77.500	10x10x55	-1	80-95-101	50-60-60	0.91-1.00-1.05	HBW 140-143	

Test Prova	C [%]	Si [%]	Mn [%]	S [%]	P [%]	Cr [%]	Ni [%]	Mo [%]	Ti [%]	Cu [%]	V [%]	Al [%]	H [%]	Nb [%]	N [%]	Sn [%]	O [%]	B [%]	Fe [%]	Zr [%]	CE <sup>A</sup> [%]	PREN <sup>B</sup> [%]	X fact. <sup>C</sup> [%]	J fact. <sup>D</sup> [%]
ZUDA	0.1800	0.2500	1.0500	0.0070	0.0140	0.1300	0.0700	0.0100	0.0150	0.1800	0.0020	0.0250	0.00020	0.0010	0.0093	0.0090	0.0019					0.4000		
ZNDA	0.1650	0.2100	1.0010	0.0050	0.0120	0.1310	0.1010	0.0170	0.0110	0.1330	0.0040	0.0280	0.00015	0.0050	0.0077	0.0070	0.0018					0.3778		
AABT	0.1650	0.1790	1.0360	0.0050	0.0090	0.1300	0.1020	0.0130	0.0080	0.1770	0.0040	0.0230	0.00015	0.0010	0.0089	0.0070	0.0015					0.3856		
ZXXX	0.1900	0.2500	1.0300	0.0070	0.0150	0.1400	0.0600	0.0100	0.0180	0.1900	0.0020	0.0270	0.00018	0.0020	0.0096	0.0100	0.0016					0.4087		
ZLUS	0.1900	0.2000	1.0300	0.0040	0.0140	0.1200	0.0600	0.0100	0.0160	0.1900	0.0020	0.0250	0.00019	0.0010	0.0099	0.0090	0.0018					0.4047		

**REMARKS / Note**

1: MATERIAL ACCORDING TO NACE MR0175/ISO 15156-1-2-3 Ed.2015  
 2: MATERIAL ACCORDING TO ASME Sect. II Part. A 2015 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:**

<b>REPORT N.</b> Rapporto N.	<b>TC-019212-16-0004</b>	<b>Issued on</b> Revised on	<b>20/04/2017</b>	<b>Customer</b> 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	<b>Job n. / Com. n.</b> <b>19212</b>	<b>Page n. / Pagina n.</b> 4 of 5
<b>Revision</b> Revisione	<b>0</b>	<b>According to</b> In accordo a	<b>EN 10204:2004</b> <b>UNI EN 10204:2005</b>	<b>Type</b> Tipo	<b>3.1</b>	<b>Purchase order and project/Ordine e progetto</b> <b>7902</b>	

**DESCRIPTION / DESCRIZIONE**

Test Prova	Item Pos.	Qty Q.tà	Customer code Codice cliente	Material Materiale	Heat Colata	Product Prodotto
YLNF	65	510		A/SA105-14	P3131335943	45 DEG. ELBOW S. 3000 SW A/SA105N 1.1/2
ZFTT	66	504		A/SA105-14	15/75885	45 DEG. ELBOW S. 3000 SW A/SA105N 2
ZNDC	69	1500		A/SA105-14	245950	TEE S. 3000 SW A/SA105N 1
JCDC	77	1020		A/SA105-14	113004	COUPLING S. 3000 SW A/SA105N 1.1/2

Test Prova	HEAT TREATMENT DATA Dettagli di trattamento termico	COUNTRY OF MELT Provenienza	RAW AND FORGING MATERIAL CERTIFICATES Certificati di acciaieria/forgia
YLNF	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 880 C COOLED IN STILL AIR.		CERT.FC-005509-15-0003.MEGA/CERT.2345.MEGA*
ZFTT	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 880 C COOLED IN STILL AIR.		CERT.FC-005494-15-0003.MEGA/CERT.2659.MEGA*
ZNDC	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.		CERT.000030.EVASI*
JCDC	MATERIAL PRODUCED BY ELECT.FURNACE-NORMALIZED AT 920 C COOLED IN STILL AIR.		CERT.318036/1.TUBOS REUNIDOS*

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 <sup>2</sup> ]	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]		
YLNF	T/2	TRANS	Round	31.000	25.000	288.100	490.300	35.200	72.600	10x10x55	0	153-145-150	--	--		HBW 142-143
ZFTT	T/2	TRANS	Round	60.300	35.000	270.100	488.200	31.400	60.900	10x10x55	-1	101-104-91	55-55-50	1.24-1.27-1.16		HBW 144-147
ZNDC	T/2	TRANS	Round	31.100	25.000	290.700	492.800	31.800	70.400	10x10x55	-10	112-116-120	55-60-60	1.38-1.39-1.44		HBW 150-152
JCDC	T/2	LONG	Round	30.900	25.000	336.100	522.800	40.400	71.600	10x10x55	-1	186-163-161	--	--		HBW 152-154

Test Prova	C [%]	Si [%]	Mn [%]	S [%]	P [%]	Cr [%]	Ni [%]	Mo [%]	Ti [%]	Cu [%]	V [%]	Al [%]	H [%]	Nb [%]	N [%]	Sn [%]	O [%]	B [%]	Fe [%]	Zr [%]	CE <sup>A</sup> [%]	PREN <sup>B</sup> [%]	X fact. <sup>C</sup> [%]	J fact. <sup>D</sup> [%]	
YLNF	0.1750	0.1900	1.0400	0.0060	0.0150	0.1500	0.0170	0.0080		0.0210	0.0030	0.0310	0.00019	0.0030	0.0065		0.0020	0.0003				0.3830			
ZFTT	0.1850	0.2100	1.0500	0.0080	0.0090	0.1200	0.0900	0.0100	0.0180	0.1400	0.0010	0.0250	0.00019	0.0020	0.0094	0.0090	0.0015					0.4015			
ZNDC	0.1730	0.1890	1.0500	0.0040	0.0120	0.1310	0.1150	0.0170	0.0150	0.1880	0.0040	0.0330	0.00015	0.0010		0.0080	0.0016					0.3986			
JCDC	0.1700	0.2400	0.8300	0.0039	0.0080	0.1100	0.1060	0.0374		0.1731	0.0013			0.0002				0.0001				0.3566			

**REMARKS / Note**

- 1: MATERIAL ACCORDING TO NACE MR0175/ISO 15156-1-2-3 Ed.2015
- 2: MATERIAL ACCORDING TO ASME Sect. II Part. A 2015 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:**

<b>REPORT N.</b> Rapporto N.	<b>TC-019212-16-0004</b>	<b>Issued on</b> Revised on	<b>20/04/2017</b>	<b>Customer</b> 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	<b>Job n. / Com. n.</b> <b>19212</b>	<b>Page n. / Pagina n.</b> <b>5 of 5</b>
<b>Revision</b> Revisione	<b>0</b>	<b>According to</b> In accordo a	<b>EN 10204:2004</b> <b>UNI EN 10204:2005</b>	<b>Type</b> Tipo	<b>3.1</b>	<b>Purchase order and project/Ordine e progetto</b> <b>7902</b>	

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 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. 2007, B.31.3 Ed. 2010 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. 2007, B.31.3 Ed. 2010 and B.16.5 Ed. 2009
- 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 97/23/EC (PED) Annex 1, Paragraph 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

The product are manufactured in Italy.

<b>Quality inspector representative</b>	Riccardo Scorsetti
Ispettore controllo qualità	