

REPORT N.	TC-019212-16-0001	Issued on	31/01/2017	Customer	PROVEEDORA DE MATERIALES ANGER SA DE CV, AV ADOLFO LOPEZ MATEOS 150, COL LAGRANGE, SAN NICOLAS DE LOS GARZA, N.L. - 66490, MEXICO	Job n. / Com. n.	19212	Page n. / Pagina n.	1 of 8
Revision	0	Revised on		Client		Purchase order and project/Ordine e progetto	7902		
Revisione		According to	EN 10204:2004 UNI EN 10204:2005	Type	3.1				
Revisione		In accordo a		DESCRIPTION / DESCRIZIONE					

Test Prova	Item Pos.	Qty Q.tà	Customer code Codice cliente	Material Materiale	Heat Colata	Product Prodotto
SCTF	1	1000		A/SA105-14	228290	90 DEG. ELBOW S. 3000 NPT A/SA105N 1/4
JUAX	8	298		A/SA105-14	13/77967	45 DEG. ELBOW S. 3000 NPT A/SA105N 1
ZNAA	8	502		A/SA105-14	431807	45 DEG. ELBOW S. 3000 NPT A/SA105N 1
ZNAN	10	1020	*	A/SA105-14	244302	TEE S. 3000 NPT A/SA105N 1/2
VNNX	13	600		A/SA105-14	15/75888	TEE S. 3000 NPT A/SA105N 1.1/4

HEAT TREATMENT DATA AND REFERENCES TO OTHER CERTIFICATES / Detagli di trattamento termico e riferimenti ad altri certificati

SCTF MATERIAL PRODUCED BY ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. CERT.000453.EVASI*

JUAX MATERIAL PRODUCED BY ELECT. FURNACE-NORMALIZED AT 880 C COOLED IN STILL AIR. CERT.FC-004682-13-0021.MEGA/CERT.923.MEGA*

ZNAA MATERIAL PRODUCED BY ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. CERT.000500.EVASI*

ZNAN MATERIAL PRODUCED BY ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. CERT.000490.EVASI*

VNNX MATERIAL PRODUCED BY ELECT. FURNACE-NORMALIZED AT 880 C COOLED IN STILL AIR. CERT.FC-005405-15-0002.MEGA/CERT.2256.MEGA*

Test Prova	Loc. Preso a	Orient. Direz.	Specimen / Provino		Yield strength Snerv. [Mpa]	Tensile strength Rottura [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] Plega Schiacc.	Hardness Durezza
			A [mm]	L [mm]											
SCTF	T/2	LONG	Round	60.300	35.000	367.600	523.800	39.700	70.500	10x10x55	0	163-147-185	--	--	HBW 146-150
JUAX	T/2	LONG	Round	30.500	25.000	276.400	522.500	38.500	65.300	10x10x55	0	79-97-77	--	--	HBW 148-152
ZNAA	T/2	LONG	Round	30.800	25.000	319.000	518.000	33.900	65.900	10x10x55	-10	65-50-47	--	--	HBW 145-148
ZNAN	T/2	LONG	Round	121.500	50.000	314.200	489.200	34.600	71.800	10x10x55	-10	177-194-181	85-90-85	1.83-1.95-1.84	HBW 148-149
VNNX	T/2	LONG	Round	59.500	35.000	306.300	494.200	31.800	62.300	10x10x55	0	106-114-123	--	--	HBW 140-145

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 [%]
SCTF	0.1600	0.1840	1.0230	0.0040	0.0070	0.0940	0.1440	0.0370	0.1600	0.0030	0.0310	0.00016	0.0010	0.0119	0.0100	0.0018	0.3775							
JUAX	0.1950	0.2500	1.0100	0.0030	0.0150	0.1500	0.0800	0.0100	0.0200	0.1900	0.0020	0.0280	0.00025	0.0010	0.0096	0.0090	0.0016	0.4137						
ZNAA	0.1550	0.2200	1.0000	0.0020	0.0090	0.2000	0.0800	0.0200	0.0020	0.1100	0.0030	0.0190	0.00009	0.0040	0.0051	0.0070	0.0014	0.3789						
ZNAN	0.1640	0.2000	1.0270	0.0030	0.0070	0.1190	0.0910	0.0160	0.0120	0.0830	0.0030	0.0230	0.00015	0.0010	0.0088	0.0050	0.0016	0.3743						
VNNX	0.1850	0.1700	1.0500	0.0010	0.0090	0.0900	0.0700	0.0100	0.0150	0.1400	0.0020	0.0250	0.00018	0.0030	0.0099	0.0100	0.0018	0.0003	0.3944					

REMARKS / Note

1: MATERIAL ACCORDING TO NACE MR0175/ISO 15156-1-2-3 Ed.2009

2: MATERIAL ACCORDING TO ASME Sect. II Part. A 2015 Edition.

3: FULLY KILLED STEEL, FINE GRAIN TREATED.

Additional elements: 'ZNAA': Co 0,0070 Ca 0,0010 As 0,0050 Sb 0,0010 |

Quality inspector representative Riccardo Scottetti

Form QC-01-01 Rev. 0 2013-03-15

REPORT N.	TC-019212-16-0001	Issued on	31/01/2017	Customer	PROVEEDORA DE MATERIALES ANGER SA DE CV, AV ADOLFO LOPEZ MATEOS 150, COL LAGRANGE, SAN NICOLAS DE LOS GARZA, N.L. - 66490, MEXICO	Job n. / Com. n.	19212	Page n./ Pagina n.	2 of 8
Rapporto N.		Revised on		Cliente		Purchase order and project/Ordine e progetto			
Revision	0	According to	EN 10204:2004	Type	3.1				
Revisione		In accordo a	UNI EN 10204:2005	Tipo					

Test Prova	Item Pos.	Qty Q.tà	Customer code Codice cliente	Material Materiale	Heat Colata	Product Prodotto	DESCRIPTION / DESCRIZIONE																			
							HEAT TREATMENT DATA AND REFERENCES TO OTHER CERTIFICATES / Dettagli di trattamento termico e riferimenti ad altri certificati																			
ZNCB	15	500		A/SA105-14	238884	TEE S. 3000 NPT A/SA105N 2	RAW AND FORGING MATERIAL CERTIFICATES / Certificati di acciaieria/forgia																			
YRUC	17	1000	*	A/SA105-14	15/75960	UNION S. 3000 NPT A/SA105N 1/2 male	CERT. 2016/0010191.FEAT*																			
YRUC	17	1000	*	A/SA105-14	15/75960	UNION S. 3000 NPT A/SA105N 1/2 female	CERT. 2016/0010192.FEAT*																			
YRUC	17	1000	*	A/SA105-14	15/75960	UNION S. 3000 NPT A/SA105N 1/2 nut	CERT. 2016/0010206.FEAT*																			
JBAX	20	2100		A/SA105-14	13/75629	COUPLING S. 3000 NPT A/SA105N 1/4	CERT. 15875.RIVA*																			
Test Prova	HEAT TREATMENT DATA AND REFERENCES TO OTHER CERTIFICATES / Dettagli di trattamento termico e riferimenti ad altri certificati																									
ZNCB	MATERIAL PRODUCED BY ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.																									
YRUC	MATERIAL PRODUCED BY ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.																									
YRUC	MATERIAL PRODUCED BY ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.																									
YRUC	MATERIAL PRODUCED BY ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.																									
JBAX	MATERIAL PRODUCED BY ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.																									
Test Prova	Test loc.	Orient. Direz.	TENSILE TEST AT ROOM TEMPERATURE / Trazione a temperatura ambiente											CVN (KV) / Prova di resilienza												
			Specimen / Provino	Yield strength Snerv. [Mpa]	Tensile strength Rottura [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] Piegia Schiacc.	Hardness Durezza												
			Shape A [mm] 2 L [mm]	Min:	Min:	Min:	Min:	Min:																		
ZNCB	T/2	LONG	Round 122.700	50.000	308.000	495.500	34.200	69.500	10x10x55	-10	85-100-63	40-50-35	1.02-1.15-0.85	HBW 146-147												
YRUC	T/2	LONG	Round 124.900	50.000	349.600	546.400	31.500	70.300	10x10x55	-1	160-183-165	75-90-80	1.74-1.88-1.79	HBW 160-162												
YRUC	T/2	LONG	Round 124.900	50.000	349.600	546.400	31.500	70.300	10x10x55	-1	160-183-165	75-90-80	1.74-1.88-1.79	HBW 160-162												
YRUC	T/2	LONG	Round 124.900	50.000	349.600	546.400	31.500	70.300	10x10x55	-1	160-183-165	75-90-80	1.74-1.88-1.79	HBW 160-162												
JBAX	T/2	LONG	Round 30.300	25.000	384.100	555.400	40.900	69.300	10x10x55	0	153-182-174	--	--	HBW 160-162												
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 [%]		
ZNCB	0.1650	0.2200	0.9500	0.0020	0.0120	0.2000	0.1100	0.0200	0.1500	0.0050	0.0170	0.00009	0.0020	0.0040	0.0080	0.0014										
YRUC	0.1900	0.2300	1.0100	0.0030	0.0140	0.1700	0.0600	0.0100	0.1700	0.0010	0.0250	0.00018	0.0020	0.0095	0.0110	0.0017										
YRUC	0.1900	0.2300	1.0100	0.0030	0.0140	0.1700	0.0600	0.0100	0.1700	0.0010	0.0250	0.00018	0.0020	0.0095	0.0110	0.0017										
YRUC	0.1900	0.2300	1.0100	0.0030	0.0140	0.1700	0.0600	0.0100	0.1700	0.0010	0.0250	0.00018	0.0020	0.0095	0.0110	0.0017										
JBAX	0.1900	0.2300	0.9400	0.0070	0.0150	0.1200	0.0500	0.0100	0.1400	0.0030	0.0260	0.0030	0.0030	0.0080												

REMARKS / Note

- MATERIAL ACCORDING TO NACE MR0175/ISO 15156-1-2-3 Ed.2009
- MATERIAL ACCORDING TO ASME Sect. II Part. A 2015 Edition.
- FULLY KILLED STEEL, FINE GRAIN TREATED.

Additional elements:	ZNCB: As 0,0070 Sb 0,0010
Quality inspector representative	Ricardo Scottetti
Inspector control quality	

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

REPORT N. Rapporto N.	TC-019212-16-0001	Issued on Revised on	31/01/2017	Customer Cliente	PROVEDORA DE MATERIALES ANGER SA DE CV, AV ADOLFO LOPEZ MATEOS 150, COL LAGRANGE, SAN NICOLAS DE LOS GARZA, N.L. - 66490, MEXICO	Job n. / Com. n.	19212	Page n./ Pagina n.	3 of 8
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	7902		

Test Prova	Item Pos.	Qty Q.tà	Customer code Codice cliente	Material Materiale	Heat Colata	Product Prodotto	DESCRIPTION / DESCRIZIONE																			
							HEAT TREATMENT DATA AND REFERENCES TO OTHER CERTIFICATES / Dettagli di trattamento termico e riferimenti ad altri certificati																			
YABC	21	2000		A/SA105-14	14/79164	COUPLING S. 3000 NPT A/SA105N 3/8	RAW AND FORGING MATERIAL CERTIFICATES / Certificati di acciaieria/forgia																			
YTCD	27	300		A/SA105-14	15/75879	CAP S. 3000 NPT A/SA105N 1/2	CERT.28528, RIVA*(VACUUM DEGASSED STEEL)																			
YUSA	28	800	*	A/SA105-14	15/76767	CAP S. 3000 NPT A/SA105N 3/4	CERT.43431, RIVA*(VACUUM DEGASSED STEEL)																			
YTBS	29	500		A/SA105-14	15/75956	CAP S. 3000 NPT A/SA105N 1	CERT.48358, RIVA*(VACUUM DEGASSED STEEL)																			
YTCC	33	1000	*	A/SA105-14	BA5746	BUSHING M/F NPT A/SA105N 3/4x1/2	CERT.42267, RIVA*(VACUUM DEGASSED STEEL)																			
Test Prova	HEAT TREATMENT DATA AND REFERENCES TO OTHER CERTIFICATES / Dettagli di trattamento termico e riferimenti ad altri certificati																									
YABC	MATERIAL PRODUCED BY ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.																									
YTCD	MATERIAL PRODUCED BY ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.																									
YUSA	MATERIAL PRODUCED BY ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.																									
YTBS	MATERIAL PRODUCED BY ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.																									
YTCC	MATERIAL PRODUCED BY ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.																									
Test Prova	loc. Preso a	Orient. Direz.	TENSILE TEST AT ROOM TEMPERATURE / Trazione a temperatura ambiente													CVN (KV) / Prova di resilienza										
			Specimen / Provino	Yield strength Snerv. [Mpa]	Tensile strength Rottura [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												
			Shape Forma	A [mm ²] Sezione	L [mm] Lungh.	Min:	Min:																			
YABC	T/2	LONG	Round	122.700	50.000	403.200	546.200	35.000	69.500	10x10x55	0	174-169-173	--	--	HBW 158-163											
YTCD	T/2	LONG	Round	122.900	50.000	389.400	552.700	34.900	71.200	10x10x55	0	194-184-188	--	--	HBW 153-156											
YUSA	T/2	LONG	Round	123.700	50.000	336.300	516.400	37.900	68.100	10x10x55	0	200-199-208	--	--	HBW 153-155											
YTBS	T/2	LONG	Round	122.300	50.000	386.800	552.300	38.400	72.900	10x10x55	0	201-190-177	--	--	HBW 165-168											
YTCC	T/2	LONG	Round	122.600	50.000	348.800	552.200	40.200	66.400	10x10x55	-1	142-148-166	--	--	HBW 163-166											
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 [%]		
YABC	0.2000	0.1900	0.9500	0.0090	0.0150	0.1500	0.0800	0.0100	0.0190	0.2000	0.0030	0.0290	0.00022	0.0020	0.0087	0.0110	0.0020					0.4095				
YTCD	0.1850	0.2200	1.0400	0.0030	0.0140	0.1100	0.0600	0.0100	0.0180	0.2000	0.0020	0.0250	0.00018	0.0010	0.0094	0.0100	0.0013					0.4000				
YUSA	0.1850	0.2000	1.0500	0.0030	0.0100	0.0800	0.0500	0.0100	0.0180	0.1200	0.0020	0.0250	0.00016	0.0020	0.0097	0.0080	0.0016	0.0003					0.3897			
YTBS	0.1900	0.2400	1.0800	0.0060	0.0130	0.1200	0.0600	0.0100	0.0210	0.1500	0.0010	0.0280	0.00019	0.0010	0.0095	0.0090	0.0018					0.4102				
YTCC	0.1900	0.2000	0.9600	0.0210	0.0120	0.1100	0.0800	0.0200	0.1100	0.0020	0.0210											0.3890				

REMARKS / Note

- MATERIAL ACCORDING TO NACE MR0175/ISO 15156-1-2-3 Ed.2009
- MATERIAL ACCORDING TO ASME Sect. II Part. A 2015 Edition.
- FULLY KILLED STEEL, FINE GRAIN TREATED.

Additional elements:	YTBS: Ca 0.0007
Quality inspector representative	Riccardo Scottetti
Inspector control quality	

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

REPORT N. TC-019212-16-0001	Issued on 31/01/2017	Customer PROVEEDORA DE MATERIALES ANGER SA DE CV, AV ADOLFO LOPEZ MATEOS 150, COL LAGRANGE, SAN NICOLAS DE LOS GARZA, N.L. - 66490, MEXICO	Job n. / Com. n. 19212	Page n. / Pagina n. 5 of 8
Revision 0	Revised on EN 10204:2004 UNI EN 10204:2005	Client	Purchase order and project/Ordine e progetto 7902	
Revisione	According to In accordo a	Type 3.1		

Test Prova	Item Pos.	Qty Q.tà	Customer code Codice cliente	Material Materiale	Heat Colata	Product Prodotto	DESCRIPTION / DESCRIZIONE																		
							HEAT TREATMENT DATA AND REFERENCES TO OTHER CERTIFICATES / Dettagli di trattamento termico e riferimenti ad altri certificati																		
Test Prova	Loc. Preso a	Orient. Direz.	Specimen / Provino Shape Forma	A [mm ²] Sezione	L [mm] Lungh.	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]	Bend [B] Flatt. [F] Piega Schiacc.	Hardness Durezza									
1BLD	T/2	LONG	Round	122.600	50.000	400.000	550.000	29.000	63.000	10x10x55	0	46-48-54	--	--		HBW 156-160									
ZNAS	T/2	LONG	Round	121.400	50.000	306.200	487.800	34.400	73.100	10x10x55	-10	182-153-167	85-75-80	1.89-1.69-1.79		HBW 148-149									
YRAX	T/2	LONG	Round	125.100	50.000	308.400	506.100	33.100	66.300	10x10x55	-1	60-76-69	--	--		HBW 150-151									
YUDU	T/2	LONG	Round	61.000	35.000	293.400	490.300	33.400	63.500	10x10x55	-1	86-142-111	45-70-55	1.12-1.60-1.36		HBW 141-144									
YTLL	T/2	LONG	Round	29.800	25.000	329.900	502.800	24.700	47.800	10x10x55	-10	71-88-69	35-45-35	0.95-1.12-0.93		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 ^A [%]	PREN ^B [%]	X fact. ^C [%]	J fact. ^D [%]	
1BLD	0.2100	0.2680	0.9510	0.0100	0.0200	0.1230	0.0100	0.0050	0.0160	<0.0800															
ZNAS	0.1640	0.2000	1.0270	0.0030	0.0070	0.1190	0.0910	0.0160	0.0120	0.0830	0.0030	0.0230	0.00015	0.0010	0.0088	0.0050	0.0016								
YRAX	0.1800	0.1900	1.0500	0.0070	0.0150	0.1100	0.0500	0.0100	0.0150	0.1500	0.0030	0.0200	0.00020	0.0010	0.0100	0.0080	0.0018								
YUDU	0.1680	0.1900	0.9800	0.0020	0.0060	0.2100	0.0800	0.0200	0.0020	0.1100	0.0040	0.0190	0.00009	0.0030	0.0057	0.0080	0.0014								
YTLL	0.2000	0.2100	0.9700	0.0030	0.0130	0.1100	0.0400	0.0200	0.0200	0.1400	0.0030	0.0340	0.00019	0.0020	0.0089	0.0100	0.0011								

REMARKS / Note

- MATERIAL ACCORDING TO NACE MR0175/ISO 15156-1-2-3 Ed.2009
- MATERIAL ACCORDING TO ASME Sect. II Part. A 2015 Edition.
- FULLY KILLED STEEL, FINE GRAIN TREATED.

Additional elements:	'YUDU': Co 0,0060 Ca 0,0010 As 0,0040 Sb 0,0010
Quality inspector representative	Riccardo Scottetti
Inspector control quality	

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

REPORT N. TC-019212-16-0001	Issued on 31/01/2017	Customer PROVEDDORA DE MATERIALES ANGER	Job n. / Com. n. 19212	Page n. / Pagina n. 6 of 8
Rapporto N.	Revised on	SA DE CV, AV ADOLFO LOPEZ	Purchase order and project/Ordine e progetto	
Revision 0	According to EN 10204:2004	MATEOS 150, COL LAGRANGE,	7902	
Revisione	In accordo a UNI EN 10204:2005	SAN NICOLAS DE LOS GARZA, N.L. - 66490, MEXICO		
	Type 3.1			

Test Prova	Item Pos.	Qty Q.tà	Customer code Codice cliente	Material Materiale	Heat Colata	Product Prodotto	DESCRIPTION / DESCRIZIONE																		
							HEAT TREATMENT DATA AND REFERENCES TO OTHER CERTIFICATES / Dettagli di trattamento termico e riferimenti ad altri certificati																		
YUCX	64	520		A/SA105-14	237928	45 DEG. ELBOW S. 3000 SW A/SA105N 1	RAW AND FORGING MATERIAL CERTIFICATES / Certificati di acciaieria/forgia																		
YNNX	70	1000		A/SA105-14	15/75888	TEE S. 3000 SW A/SA105N 1.1/2	CERT.000223 EVASI*																		
SDAL	73	500	*	A/SA105-14	231752	UNION S. 3000 SW A/SA105N 1.1/4 male	CERT.FC-005405-15-0002.MEGA/CERT.2256.MEGA*																		
SDAL	73	500	*	A/SA105-14	231752	UNION S. 3000 SW A/SA105N 1.1/4 female	CERT.000182 EVASI*																		
JIUF	73	500	*	A/SA105-14	13/76057	UNION S. 3000 SW A/SA105N 1.1/4 nut	CERT.000174.EVASI*																		
TENSILE TEST AT ROOM TEMPERATURE / Trazione a temperatura ambiente																									
Test Prova	Loc. Preso a	Orient. Direz.	Specimen / Provino		Yield strength Snerv. [Mpa]	Tensile strength Rottura [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										
			Shape Forma	A [mm] Sezione												L [mm] Lungh.	Min:	Min:	Min:	Min:	Min:	Min:	Min:	Min:	Min:
YUCX	T/2	LONG	Round	30.600	25.000	321.100	491.600	34.200	66.300	10x10x55	-1	55-62-66	30-30-35	0.60-0.62-0.64	HBW 155-160										
YNNX	T/2	LONG	Round	59.500	35.000	306.300	494.200	31.800	62.300	10x10x55	0	106-114-123	--	--	HBW 140-145										
SDAL	T/2	LONG	Round	30.400	25.000	315.100	542.600	34.800	65.200	10x10x55	0	75-71-60	--	--	HBW 145-149										
SDAL	T/2	LONG	Round	30.400	25.000	315.100	542.600	34.800	65.200	10x10x55	0	75-71-60	--	--	HBW 145-149										
JIUF	T/2	LONG	Round	30.600	25.000	320.000	539.000	29.100	66.900	10x10x55	0	48-58-60	--	--	HBW 151-161										
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 [%]	
YUCX	0.1660	0.1850	1.0420	0.0020	0.0070	0.0710	0.1050	0.0150		0.1360	0.0050	0.0260	0.00015	0.0020	0.0077	0.0070	0.0018				0.3739				
YNNX	0.1850	0.1700	1.0500	0.0010	0.0090	0.0900	0.0700	0.0100	0.0150	0.1400	0.0020	0.0250	0.00018	0.0030	0.0099	0.0100	0.0018	0.0003			0.3944				
SDAL	0.1660	0.1850	1.0210	0.0020	0.0090	0.1080	0.2050	0.0360		0.1650	0.0040	0.0280	0.00014	0.0040	0.0108	0.0080	0.0018				0.3904				
SDAL	0.1660	0.1850	1.0210	0.0020	0.0090	0.1080	0.2050	0.0360		0.1650	0.0040	0.0280	0.00014	0.0040	0.0108	0.0080	0.0018				0.3904				
JIUF	0.1800	0.2100	0.8500	0.0100	0.0140	0.1500	0.0600	0.0100	0.0160	0.1800	0.0210	0.0220	0.0010	0.0010	0.0080						0.3738				

REMARKS / Note

- MATERIAL ACCORDING TO NACE MR0175/ISO 15156-1-2-3 Ed.2009
- MATERIAL ACCORDING TO ASME Sect. II Part. A 2015 Edition.
- FULLY KILLED STEEL, FINE GRAIN TREATED.

Additional elements: 'SDAL': As 0.0060	Quality inspector representative	Ricardo Scottetti
	Ispettore controllo qualità	

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

REPORT N.	TC-019212-16-0001	Issued on	31/01/2017	Customer	PROVEEDORA DE MATERIALES ANGER SA DE CV, AV ADOLFO LOPEZ MATEOS 150, COL LAGRANGE, SAN NICOLAS DE LOS GARZA, N.L. - 66490, MEXICO	Job n. / Com. n.	19212	Page n./ Pagina n.	7 of 8
Rapporto N.		Revised on		Cliente		Purchase order and project/Ordine e progetto			
Revision	0	According to	EN 10204:2004	Type	3.1				
Revisione		In accordo a	UNI EN 10204:2005	Tipo					

Test Prova	Item Pos.	Qty Qtà	Customer code Codice cliente	Material Materiale	Heat Colata	Product Prodotto	DESCRIPTION / DESCRIZIONE	
ZAXD	75	2000		A/SA105-14	16/78536		COUPLING S. 3000 SW A/SA105N 1	
JAUD	76	585	*	A/SA105-14	111788		COUPLING S. 3000 SW A/SA105N 1.1/4	
JCCX	76	415	*	A/SA105-14	113004		COUPLING S. 3000 SW A/SA105N 1.1/4	

Test Prova	Test loc.	Orient. Direz.	Specimen / Provino	Yield strength Snerv. [Mpa]	Tensile strength Rottura [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] Plega Schiacc.	Hardness Durezza
ZAXD	T/2	LONG	Round 124.900	50.000	381.100	546.600	32.400	67.700	10x10x55	-1	150-169-172	75-85-85	1.66-1.80-1.81	HBW 164-167
JAUD	T/2	LONG	Round 30.500	25.000	319.400	517.300	38.800	71.300	10x10x55	0	189-139-125	--	--	HBW 170-172
JCCX	T/2	LONG	Round 30.300	25.000	298.000	510.900	38.900	72.300	10x10x55	0	158-208-162	--	--	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 [%]	REMARKS / Note		
ZAXD	0.2000	0.2100	0.9900	0.0100	0.0150	0.1200	0.0700	0.0100	0.0160	0.1900	0.0020	0.0250	0.00017	0.0020	0.0095	0.0100	0.0012										
JAUD	0.1800	0.2600	0.8300	0.0031	0.0140	0.0770	0.0750	0.0210		0.1810	0.0020			0.0010													
JCCX	0.1700	0.2400	0.8300	0.0039	0.0080	0.1100	0.1060	0.0374		0.1731	0.0013			0.0002													

<p>1: MATERIAL ACCORDING TO NACE MR0175/ISO 15156-1-2-3 Ed.2009</p> <p>2: MATERIAL ACCORDING TO ASME Sect. II Part. A 2015 Edition.</p> <p>3: FULLY KILLED STEEL, FINE GRAIN TREATED.</p>																								
<p>Additional elements:</p>																								
<p>Quality inspector representative</p>										<p>Riccardo Scotsetti</p>														

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

M.E.G.A. S.p.A. - Via Dalla Chiesa, 3 - 24020 Scanzorosciate (Bergamo) - Italy - VAT IT 00210060166 - Ph. +39 035 661280 / 661199 - Fax +39 035 665535 - E-mail inspection@mega-fittings.com

INSPECTION CERTIFICATE

Certificato di ispezione



REPORT N. Rapporto N.	TC-019212-16-0001	Issued on Revised on	31/01/2017	Customer Cliente	PROVEEDORA DE MATERIALES ANGER SA DE CV, AV ADOLFO LOPEZ MATEOS 150, COL LAGRANGE, SAN NICOLAS DE LOS GARZA, N.L. - 66490, MEXICO	Job n. / Com. n.	19212	Page n./ Pagina n.	8 of 8
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	7902		

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.

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 ASME B.16.11; threads in accordance with ANSI/ASME B1.20.1.
 - Outlet branches are manufactured in accordance with: ASME B.31.1, B.31.3 and MSS-SP-97
 - Seamless swage nipples are manufactured in accordance with: BS3799-74 or MSS SP95-86
 - Seamless pipe nipples are manufactured in accordance with: B36.10-95 or B36.19-85
 - Flanged outlet branches are manufactured in accordance with: ASME B.31.1, B.31.3 and B.16.5
 - Unions are manufactured in accordance with: BS 3799 or MSS SP-83
- 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 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. 1
 - Impact test Cermac JB-W500 serial No. 04031 – Procedure MAC-04 Rev. 1
 - Brinell Hardness test Wolpert Dia Testor 2RC serial No. 8900298/0001 – Procedure MAC-05 Rev. 1
 - Rockwell Hardness test EMCO Test DJ10 Serial No. 255 - Procedure MAC-06 Rev. 1
 - Chemical analysis spectrometer Baird DV4 serial No. P017 (ASTM E415 and E1086) – Procedure QC-07 Rev. 0
- The product are manufactured in Italy.

Quality inspector representative	Riccardo Scorsetti
Ispettore controllo qualità	