

FORMA P.03 Rev. 0 15-05-99

# M.E.G.A.

CLIENTE  
Customer  
Client

PROVEEDORA DE MATERIALES ANKER  
SA DE CV  
ALFONSO REYES 4030 NTE.  
COL. DEL NTE. MONTERREY, N.L.

CERTIFICATO N. 580983  
Certificato N. 580983  
Foglio 3  
Sheet 3  
Feuille 3  
DATA / Date 23/09/11  
COMMESSA 92487  
Job N. 92487  
Confirmation de commande

**CERTIFICATO DI COLLAUDO**  
**TEST CERTIFICATE**  
**CERTIFICAT DE CONTROLE**

COMPANY  
WITH QUALITY SYSTEM  
CERTIFIED BY DNV  
ISO 9001

ORDINE  
Purchase order  
246  
Commande

PROVA Test Epreuve	MATERIALE Material / Matière	COLATA Heat / Coulee	C %	Si %	Mn %	S %	P %	Cr %	Ni %	Mo %	Ti %	Ca %	V %	Al %	CE %
PLRU	ASTM A105/05	09/78809	0.200 --->	0.190 Nb% = 0.001	0.900	0.009 B % = 0.000	0.011	0.100 Sn% = 0.008	0.060	0.010	0.023	0.140	0.025	0.024	0.390 CEs% = 0.350
PNXX	ASTM A105/05	09/79536	0.195 --->	0.210 Nb% = 0.002	0.890	0.006 B % = 0.000	0.009	0.110 Sn% = 0.008	0.060	0.010	0.021	0.160	0.018	0.027	0.385 CEs% = 0.3433
PTBF	ASTM A105/05	6351-09	0.194 --->	0.230 Nb% = 0.001	0.950	0.007 N % = 0.010	0.006	0.070 Sn% = 0.008	0.120	0.036	0.000	0.120	0.002	0.024	0.389 CEs% = 0.3523
PTRR	ASTM A105/05	0835652/08	0.175 --->	0.195 Nb% = 0.0024	1.060	0.007 B % = 0.000	0.013	0.105 Sn% = 0.008	0.016	0.004	0.000	0.023	0.003	0.033	0.376 CEs% = 0.3517
PTSF	ASTM A105/05	09/77579	0.195 --->	0.210 Nb% = 0.001	0.890	0.010 B % = 0.000	0.011	0.130 Sn% = 0.008	0.070	0.010	0.018	0.170	0.020	0.026	0.391 CEs% = 0.3433
PWLN	ASTM A105/09	09/79375	0.190 --->	0.210 Nb% = 0.001	0.890	0.010 B % = 0.000	0.014	0.110 Sn% = 0.009	0.060	0.010	0.021	0.180	0.016	0.028	0.381 CEs% = 0.3383

PROVA Test Epreuve	PROVISTA Test specimen / Epreuvevêtte		SMEVAMENTO MPa ±	SOTTURA MPa ±	ALLUNGAMENTO % ±	CONTRAZIONE % ±	DUREZZA HB	PIEGA Bend test	SCHIACC. Flatt. Test	RESILLENZA Impact test / Resilience			
	SEZIONE Section / Sect.	LUNGHEZZA Length / Longueur								Yield strength Limite d'élasticité	Tensile strength Rupture	Elongation Allongement	Reduction of area Striction
PLRU	1	30.6	25.0	299.0	528.0	32.2	69.5	146-149	J		KV	0 60-58-52	
PNXX	1	121.5	50.0	373.1	535.2	28.0	79.7	143-146	J		KV	0 108-138-152	
PTBF	1	30.6	25.0	305.0	528.0	32.8	69.5	146-152	J		KV	0 38-42-44	
PTRR	1	30.6	25.0	303.0	522.0	32.2	68.9	137-149	J		KV	0 42-44-44	
PTSF	1	60.1	35.0	303.0	522.0	32.1	69.2	143-146	J		KV	0 40-44-42	
PWLN	1	30.6	25.0	303.0	524.0	31.3	68.2	143-149	J		KV	0 36-48-46	

PROVA Test Epreuve NOTE / Remarks / Notes EN10204/3.1

PLRU	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.10766.MEGA/I*569153MEGA
PNXX	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.19874.RIVA*566929MEGA*
PTBF	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.10693.MEGA/I*567591MEGA
PTRR	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.10824.MEGA/I*569705MEGA*
PTSF	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.10748.MEGA/I*569159MEGA
PWLN	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.10886.MEGA/I*570934MEGA

PROVA Test Epreuve	POS. Item Pos.	QUANTITÀ Quantity Quantité	CODICE CLIENTE Customer code Code client	DESCRIZIONE / Description / Description	VISUAL AND DIMENSIONAL
PLRU	079	200	6712007	TEE S. 6000 NPT A/SA105N 3/4	OK
PNXX	080	200	6724010	COUPLING S. 6000 SW A/SA105N 1	OK
PTBF	006	700	50012	90 DEG. ELBOW S. 3000 NPT A/SA105N 1.1/4	OK
PTRR	016	1240	52007	TEE S. 3000 NPT A/SA105N 3/4	OK
PTSF	019	27	52015	TEE S. 3000 NPT A/SA105N 1.1/2	OK
PWLN	005	468	50010	90 DEG. ELBOW S. 3000 NPT A/SA105N 1	OK

NOTE / Remarks / Notes

MATERIAL ACCORDING TO NACE MR0175/2003

ENTE UFFICIALE DI COLLAUDO  
Inspection Authority  
Service Inspection Officiel

CAPO COLLAUDO  
Chief Inspection DPT  
Responsable Assurance qualité

DOC. CERT. M.E.G.A.  
Simone Mattioli

FORMA PRIMA Ed. 01/05/2009

# M.E.G.A.

CLIENTE  
Customer  
Client

PROVEEDORA DE MATERIALES ANGER  
SA DE CV. AV ADOLFO LOPEZ  
MATEOS 150, COL LAGRANGE,  
SAN NICOLAS DE LOS GARZA, N.L.

CERTIFICATO N. 586344 Foglio 3  
Certificate N. Sheet  
Certificat N. Feuille

DATA / Date 18/05/12

COMMESSA 95504  
Job N.  
Confirmation de commande

CERTIFICATO DI COLLAUDO  
TEST CERTIFICATE  
CERTIFICAT DE CONTROLE

COMPANY  
WITH QUALITY SYSTEM  
CERTIFIED BY DNV  
= ISO 9001 =

ORDINE 257  
Purchase order  
Commande

PROVA Test Epreuve	MATERIALE Material / Matiere	EDIZIONE Test / Double	C%	SI%	Mn%	S%	P%	Cr%	Mo%	Ni%	Al%	Cu%	V%	Al%	CE%
UBLF	ASTM A105/09	P3111135731	0.180	0.170	1.060	0.003	0.015	00.11	00.01	0.004	0.000	0.023	0.003	0.031	0.383
			--->	Nb% = 0.0017	B % = 0.0001									CEs = 0.3567	
ULBB	ASTM A105/10	IT-27093	0.190	0.220	0.890	0.010	0.009	00.06	00.11	0.010	0.002	0.250	0.001	0.034	0.376
			--->	Nb% = 0.003	N % = 0.000			Sn% = 0.010	B % = 0.0002					CEs = 0.3338	
UHXC	ASTM A105/10	10/74261	0.180	0.200	0.940	0.009	0.014	00.15	00.07	0.020	0.015	0.160	0.017	0.028	0.389
			--->	Nb% = 0.003	B % = 0.000			Sn% = 0.008						CEs = 0.3367	
UKDA	ASTM A105/10	10/74261	0.180	0.200	0.940	0.009	0.014	00.15	00.07	0.020	0.015	0.160	0.017	0.028	0.389
			--->	Nb% = 0.003	B % = 0.000			Sn% = 0.008						CEs = 0.3367	
UZBA	ASTM A105/10	P4111147366	0.180	0.210	1.070	0.005	0.015	00.12	00.04	0.008	0.000	0.185	0.005	0.026	0.400
			--->	Nb% = 0.0034	B % = 0.0002									CEs = 0.3583	
UZBX	ASTM A105/10	P4111147368	0.180	0.235	1.070	0.006	0.012	00.12	00.02	0.001	0.000	0.042	0.003	0.030	0.388
			--->	Nb% = 0.0016	B % = 0.0001									CEs = 0.3583	

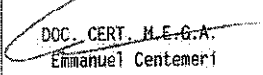
PROVA Test Epreuve	PROVEDETTA Test specimen / Epreuve		SNERVAMENTO MPa Yield strength Limite d'elasticite	ROTTURA MPa Tensile strength Rupture	ALLUNGAMENTO % Elongation Allongement	CONTRAZIONE % Reduction of area Striction	DUREZZA HV Hardness Durete	PIEDA Bend test Pliage	SCHIACO Flat. test Aplatiss.	RESILLENZA Impact test / Resilience			
	SEZIONE Section / Sect.	LUNGHEZZA Length / Longueur								UNITA' MIS. UM Type	T. °C Test temp	VALORE / Value / Donnees	
URLF	1	124.1	50.0	299.4	494.0	35.8	70.7	141-143		J	KV	0	184-186-188
ULBB	1	122.8	50.0	370.3	542.2	30.4	65.3	165-170		J	KV	0	144-153-172
UHXC	1	30.6	25.0	301.0	523.0	31.3	68.9	149-152		J	KV	0	46-56-58
UKDA	1	30.6	25.0	311.0	534.0	29.2	66.8	149-156		J	KV	0	46-56-58
UZBA	1	30.9	25.0	309.5	518.5	37.1	67.5	144-146		J	KV	0	122-131-146
UZBX	1	30.5	25.0	290.8	493.1	32.9	68.4	143-147		J	KV	0	129-96-97

PROVA Test Epreuve NOTE / Remarks / Notes EN10204-2004/3.1

FORMA Shape / Forme : 1 =  2 =

UBLF	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.2011-100000021386.LUCCHINI*576654MEGA*
ULBB	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.AS10808.96 LEALI*578516*MEGA*
UHXC	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.11811.MEGA/I*581947MEGA
UKDA	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.11744.MEGA/I*581606MEGA
UZBA	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.11987.MEGA/I*584099MEGA
UZBX	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.11840.MEGA/I*582548MEGA

PROVA Test Epreuve	POS. Item Pos.	QUANTITA' Quantity Quantite	CODICE CLIENTE Customer code Code client	DESCRIZIONE / Description / Description	VISUAL AND DIMENSIONAL
UBLF	055	30		CAP S. 3000 NPT A/SA105N 2.1/2	OK
ULBB	069	3000		HEX. HEAD PLUG NPT A/SA105N 1/4	OK
UHXC	079	2200		90 DEG. ELBOW S. 3000 SW A/SA105N 3/4	OK
UKDA	079	1900		90 DEG. ELBOW S. 3000 SW A/SA105N 3/4	OK
UZBA	083	1500		90 DEG. ELBOW S. 3000 SW A/SA105N 2	OK
UZBX	088	600		45 DEG. ELBOW S. 3000 SW A/SA105N 2	OK

NOTE / Remarks / Notes			ENFE UFFICIALE DI COLLAUDO Inspection Authority Service Inspection Official	CAPO COLLAUDO Chief Inspection DPT Responsable assurance qualite
MATERIAL ACCORDING TO MACE MR0175 / ISO 15156-1-2-3 Ed.2009			 DOC. CERT. M.E.G.A. Emmanuel Centemeri	

FORM PRG/REV. 0 15/05/2005

# M.E.G.A.

CLIENTE  
Customer:  
Client: **PROVEEDORA DE MATERIALES ANGER**  
SA DE CV, AV ADOLFO LOPEZ  
MATEOS 150, COL LAGRANGE,  
SAN NICOLAS DE LOS GARZA, N.L.

CERTIFICATO N. 588306 **FOLIO 1**  
Certificata N. Sheet  
Certificat N. Feuille  
DATA / Date **03/09/12**

**CERTIFICATO DI COLLAUDO**  
**TEST CERTIFICATE**  
**CERTIFICAT DE CONTROLE**

COMPANY  
WITH QUALITY SYSTEM  
CERTIFIED BY DNV  
**ISO 9001**

ORDINE  
Purchase order  
Commande **257**

COMMESSA  
Job N.  
Confirmation de commande **95504**

PROVA Test Epreuve	MATERIALE Material / Matière	COLATA Heat / Coulee	C %	Si %	Mn %	S %	P %	Cr %	Ni %	Mo %	Ti %	Cu %	V %	Al %	CE %
UXFT	ASTM A105/10	11/77092	0.180 -->	0.210 Nb% = 0.001	0.850 0.001	0.008	0.012	00.12 Sn% = 0.011	00.05 0.011	0.010 B % = 0.000	0.016	0.180	0.016	0.020 CEs = 0.3217	0.366
PLDA	ASTM A105/05	04/77593	0.185 -->	0.200 Nb% = 0.001	0.920	0.023	0.015	00.09 Sn% = 0.008	00.05 0.008	0.010	0.007	0.140	0.003	0.005 CEs = 2.000	0.371
UFAS	ASTM A105/09	55957/01	0.210 -->	0.230 Nb% = 0.001	0.980	0.008	0.015	00.16 As% = 0.001	00.10	0.031 N % = 0.0089	0.015	0.100	0.001	0.014 B % = 0.000 CEs = 0.3733	0.420
UNND	ASTM A105/10	710706	0.120 -->	0.190 Nb% = 0.002	0.940	0.003	0.014	00.09	00.12	0.020 B % = 0.000	0.000	0.160	0.002	0.000 CEs = 0.317	0.317
UJCL	ASTM A105/10	11/78477	0.195 -->	0.240 Nb% = 0.001	0.910	0.010	0.011	00.14 Sn% = 0.009	00.05	0.010	0.023	0.150	0.017	0.022 B % = 0.000 CEs = 0.3467	0.393
PLDD	ASTM A105/05	08/74333	0.195 -->	0.250 Nb% = 0.000	0.980	0.009	0.014	00.11 B % = 0.000	00.05	0.010	0.017	0.180	0.002	0.017 CEs = 0.3583	0.398

PROVA Test Epreuve	PROVETTA Test specimen / Epreuvette		SNERVAMENTO MPa Yield strength Limite d'élasticité	ROTTURA MPa Tensile strength Rupture	ALLUNGAMENTO % Elongation Allongement	CONTRAZIONE % Reduction of area Striction	DUREZZA HB Hardness Dureté	PIEGA Bend test Pliage	SCHIACO. Flat. test Aplattiss.	RESILLENZA Impact test / Résilience			
	SEZIONE Spoolin / Sizer	LUNDEZZA Length / Longueur								UNITÀ MIS. UM	TIPU Type	T. °C Test temp	VALORE / Value / Donnée
UXFT	1	30.6 25.0	318.2	532.4	30.2	68.4	150-155			J	KV	0	96-82-74
PLDA	1	30.6 25.0	321.0	537.0	32.3	67.1	155-160			J	KV	0	48-50-54
UFAS	1	30.6 25.0	327.0	541.0	29.3	67.7	153-159			J	KV	0	48-60-58
UNND	1	59.4 35.0	329.5	501.1	40.2	71.4	150-152			J	KV	0	218-209-217
UJCL	1	58.2 35.0	355.2	539.1	36.8	66.5	148-146			J	KV	0	138-139-161
PLDD	1	30.6 25.0	339.0	542.0	28.3	64.1	163-170			J	KV	0	60-62-58

PROVA Test Epreuve **NOTE / Remarks / Notes** EN10204-2005/3.1

FORMA Shape / Forms : 1 =  2 =

UXFT	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.292+312.EVASI*581180MEGA
PLDA	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.10086.FEAT*564384 MEGA
UFAS	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.10054+10055.MET.LOMBARDA*576474MEGA
UNND	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.11/11792.TENARIS*578712MEGA*
UJCL	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.33702.RIVA*581179MEGA*
PLDD	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.10169.METALMECCANICA LOMBARDA*566925MEGA*

PROVA Test Epreuve	POS. Item Pos.	QUANTITÀ Quantity Quantité	CODICE CLIENTE Customer code Code client	DESCRIZIONE / Description / Description	VISUAL AND DIMENSIONAL
UXFT	018	880		TEE S. 3000 NPT A/SA105N 1/2	OK
PLDA	024	5000		UNION S. 3000 NPT A/SA105N 1/2	nut OK
UFAS	024	10000		UNION S. 3000 NPT A/SA105N 1/2	male+female OK
UNND	046	500		HALF COUPLING S. 3000 NPT A/SA105N 1.1/2	OK
UJCL	051	1000		CAP S. 3000 NPT A/SA105N 1	OK
PLDD	060	2000		BUSHING M/F NPT A/SA105N 1x1/2	OK

NOTE / Remarks / Notes

ENTE UFFICIALE DI COLLAUDO  
Inspection Authority  
Service Inspection Official

CAPO COLLAUDO  
Inspection DT  
Responsable Assurance qualité

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

BOC, CERT. M.E.G.A.  
Emmanuel Centemeri

FORMA PACC. Rev. 0 15-05-2009

# M.E.G.A.

CLIENTE  
Customer  
Client

PROVEEDORA DE MATERIALES ANGER  
SA DE CV, AV ADOLFO LOPEZ  
MATEOS 150, COL LAGRANGE,  
SAN NICOLAS DE LOS GARZA, N.L.

CERTIFICATO N. 592409 FOLIO 1  
Certificate N. Sheet  
Certifikat N. Feuille

DATA / Date 28/03/13

**CERTIFICATO DI COLLAUDO**  
**TEST CERTIFICATE**  
**CERTIFICAT DE CONTROLE**

COMPANY  
WITH QUALITY SYSTEM  
CERTIFIED BY DNV  
ISO 9001

ORDINE  
Purchase order  
Commandes 263

COMMESSA 98254  
Job N.  
Confirmation de commande

PROVA Test Epreuve	MATERIALE Material / Matière	COLATA Heat / Oualée	C %	Si %	Mn %	S %	P %	Cr %	Ni %	Mo %	Ti %	Cu %	Al %	AT %	CE %
VFRA	ASTM A105/11	P3111135731	0.180	0.170	1.060	0.003	0.015	00.11	00.01	0.004	0.000	0.023	0.003	0.031	0.383
			--->	Nb% = 0.0017	B % = 0.0001	Sn% = 0.000								CEs = 0.3567	
VLBS	ASTM A105/11	11/79089	0.195	0.190	0.880	0.010	0.015	00.12	00.06	0.010	0.020	0.160	0.015	0.025	0.385
			--->	Nb% = 0.001	B % = 0.000	Sn% = 0.009								CEs = 0.3417	
UHFS	ASTM A105/10	823-11	0.188	0.170	0.970	0.004	0.004	00.08	00.12	0.035	0.000	0.100	0.002	0.020	0.387
			--->	Nb% = 0.002	B % = 0.000	Sn% = 0.006				N % = 0.0092		02% = 0.0039		CEs = 0.3497	
VRBT	ASTM A105/11	2865-11	0.192	0.160	0.940	0.006	0.007	00.09	00.13	0.037	0.000	0.150	0.002	0.024	0.393
			--->	Nb% = 0.002	B % = 0.000	Sn% = 0.007				N % = 0.0085				CEs = 0.3487	
VNUR	ASTM A105/11	11/79682	0.180	0.230	0.860	0.010	0.010	00.08	00.04	0.010	0.018	0.110	0.017	0.023	0.354
			--->	Nb% = 0.001	B % = 0.000	Sn% = 0.007								CEs = 0.3233	
JCTD	ASTM A105/12	P4121241115	0.185	0.230	1.050	0.003	0.014	00.16	00.03	0.007	0.000	0.094	0.003	0.031	0.403
			--->	Nb% = 0.0024	B % = 0.0002	Sn% = 0.000								CEs = 0.360	

PROVA Test Epreuve	PROVETTA Test specimen / Epreuve		SNERVAMENTO MPa	ROTTURA MPa	ALLUNGAMENTO %	CONTRAZIONE %	DUREZZA HB	PIEGA Bond test	SCHIACO. Flat. test	RESILLENZA Impact test / Résilience				
	SEZIONE Spoon / Sect.	LUNGHEZZA Length / Longueur								Yield strength Limite d'élasticité	Tensile strength Rupture	Elongation Allongement	Reduction of area Striction	Hardness Dureté
VFRA	1	30.3	25.0	285.9	498.0	41.0	71.6	143-145			J	KV	0	216-210-175
VLBS	1	31.3	25.0	353.8	526.6	37.5	65.7	151-153			J	KV	0	95-114-100
UHFS	1	30.7	25.0	325.6	540.7	36.2	64.6	150-154	OK		J	KV	0	86-61-66
VRBT	1	30.2	25.0	428.0	502.2	39.7	66.2	150-152			J	KV	0	125-114-109
VNUR	1	30.3	25.0	286.5	489.7	35.4	64.7	139-141			J	KV	0	54-49-64
JCTD	1	124.5	50.0	300.1	489.2	39.2	72.5	148-150			J	KV	0	188-135-117

PROVA Test Epreuve	NOTE / Remarks / Notes	EN10204-2005/3.1	FORMA Shape / Forme : 1 = <input checked="" type="checkbox"/> 2 = <input type="checkbox"/>
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VFRA	ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.12216.MEGA/I*586765MEGA
VLBS	ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.233+254+273.EVASI*587499MEGA
UHFS	ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.11941.MEGA/I*583842MEGA
VRBT	ELECT.FURNACE-NORMALIZED AT 880 C COOLED IN STILL AIR.	/CERT.12493.MEGA/I*589694MEGA
VNUR	ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.12348.MEGA/I*587814MEGA
JCTD	ELECT.FURNACE-NORMALIZED AT 880 C COOLED IN STILL AIR.	/CERT.12725.MEGA/I*592246MEGA

PROVA Test Epreuve	POS. Item Pos.	QUANTITÀ Quantity Quantité	CODICE CLIENTE Customer code Code client	DESCRIZIONE / Description / Description	VISUAL AND DIMENSIONAL
VFRA	004	2790		90 DEG. ELBOW S. 3000 NPT A/SA105N 3/4	OK
VLBS	004	480		90 DEG. ELBOW S. 3000 NPT A/SA105N 3/4	OK
UHFS	006	371		90 DEG. ELBOW S. 3000 NPT A/SA105N 1.1/4	OK
VRBT	006	717		90 DEG. ELBOW S. 3000 NPT A/SA105N 1.1/4	OK
VNUR	014	504		45 DEG. ELBOW S. 3000 NPT A/SA105N 1.1/2	OK
JCTD	024	600		TEE S. 3000 NPT A/SA105N 2	OK

NOTE / Remarks / Notes	ENTE UFFICIALE DI COLLAUDO Inspection Authority Service Inspection Official	CAPO COLLAUDO Chief Inspection DPT Responsable assurance qualité
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MATERIAL ACCORDING TO NACE MR0175 / ISO 15156-1-2-3 Ed.2009	DOC. CERT. M.E.G.A. Emmanuel Centeneri
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# M.E.G.A.

CLIENTE  
Customer  
Client

PROVEEDORA DE MATERIALES ANGER  
SA DE CV, AV ADOLFO LOPEZ  
MATEOS 150, COL. LAGRANGE,  
SAN NICOLAS DE LOS GARZA, N.L.

CERTIFICATO N.  
Certificate N.  
Certificat N.  
593059  
FOLIO  
Sheet  
Foglio  
4  
DATA / Date  
02/05/13

CERTIFICATO DI COLLAUDO  
TEST CERTIFICATE  
CERTIFICAT DE CONTROLE

COMPANY  
WITH QUALITY SYSTEM  
CERTIFIED BY DNV  
ISO 9001

ORDINE  
Purchase order  
Comanda  
301

CONSEGNA  
Job N.  
Confirmation de commandes  
10356

PROVA Test Epreuve	MATERIALE Material / Matière	COLATA Heat / Fonderie	C %	SI %	Mn %	S %	P %	Cr %	Ni %	Mo %	Ti %	Co %	V %	Al %	CE %
ULSR	ASTM A105/09	8487-10	0.193 -->	0.180 Nb % = 0.002	1.060	0.008 N % = 0.010	0.010	00.07 Sn % = 0.009	00.18 B % = 0.000	0.050	0.000	0.150	0.002	0.020	0.416
FCXS	ASTM A105/02	15747	0.217 -->	0.230 Nb % = 0.001	0.950	0.002 B % = 0.000	0.014	00.11 S % = 0.000	00.15	0.020	0.004	0.110	0.004	0.019	0.419
PHSN	ASTM A105/09	08/74332	0.185 -->	0.220 Nb % = 0.000	1.000	0.013 B % = 0.000	0.012	00.09 Sn % = 0.008	00.05	0.010	0.010	0.180	0.002	0.021	0.387
UICF	ASTM A105/10	08/74331	0.195 -->	0.210 Nb % = 0.000	0.990	0.020 B % = 0.000	0.020	00.10 Sn % = 0.009	00.05	0.010	0.010	0.200	0.002	0.024	0.399
PHSL	ASTM A105/09	AD1211	0.195 -->	0.280 Nb % = 0.000	0.980	0.006 B % = 0.000	0.008	00.09	00.11	0.030	0.000	0.120	0.002	0.028	0.398
UHSR	ASTM A105/11	03870	0.205 -->	0.240 Nb % = 0.001	0.900	0.002 B % = 0.0001	0.005	00.12 Sn % = 0.001	00.11	0.020	0.002	0.150	0.002	0.020	0.400

PROVA Test Epreuve	PROVETTA Test specimen / Éprouvette		SHEARIMENTO MPa z	ROTTURA MPa z	ALLUNGAMENTO % z	CONTRAZIONE % z	DUREZZA HB	PIEGA Bend test	SCHIACC. Flat. test	RESILIENZA Impact test / Résilience			
	SEZIONE Stator / Sect.	LUNGHEZZA Length / Longueur								VALORE / Value / Donnée	TIPO Type	VALORE / Value / Donnée	
ULSR	1	123.3	50.0	281.4	524.4	33.8	67.9	144-148	OK	J	KV	0	30-30-22
FCXS	1	30.6	25.0	343.0	544.0	29.1	64.0	161-167		J	KV	0	46-50-42
PHSN	1	30.6	25.0	315.0	540.0	29.5	66.9	143-156		J	KV	0	56-42-50
UICF	1	30.6	25.0	329.0	543.0	29.9	67.5	158-165		J	KV	0	50-62-60
PHSL	1	30.6	25.0	303.0	527.0	32.2	69.5	143-149		J	KV	0	34-46-44
UHSR	1	30.6	25.0	302.0	524.0	32.2	68.8	146-152		J	KV	0	40-52-50

PROVA / Test / Epreuve: EN10204-2005/3.1  
 FORMA / Shape / Forme: 1 =  2 =

ULSR ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.11255.MEGA/I\*575710MEGA  
 FCXS ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.10261+10260.04 MET.LOMB.\*247523 MEGA\*  
 PHSN ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.10153+10154+10155.MET.LOMBARDA\*573643MEGA\*  
 UICF ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.10297\*10298.METALMECCANICA LOMABRDA\*583383MEGA  
 PHSL ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.10189+10187+10193+10194.MET.LOMBARDA\*573643MEGA\*  
 UHSR ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.10129+10128.METALMECCANICA LOMBARDA\*586802MEGA

PROVA Test Epreuve	POS. Item Pos.	QUANTITÀ Quantity Quantité	CODICE CLIENTE Customer code Code client	DESCRIZIONE / Description / Description	VISUAL AND DIMENSIONAL
ULSR	029	40		TEE S. 3000 NPT A/SA105N 2.1/2	OK
FCXS	034	27	*	UNION S. 3000 NPT A/SA105N 3/4	female OK
PHSN	034	3064	*	UNION S. 3000 NPT A/SA105N 3/4	male+nut OK
UICF	034	5009	*	UNION S. 3000 NPT A/SA105N 3/4	male+female OK
PHSL	035	3400	*	UNION S. 3000 NPT A/SA105N 1	male+nut OK
UHSR	035	2000	*	UNION S. 3000 NPT A/SA105N 1	male+female OK

NOTE / Remarks / Notes

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

ENTE UFFICIALE DI COLLAUDO  
Inspection Authority  
Service Inspection Official

CAPO COLLAUDO  
Chief Inspection DPT  
Responsable assurance qualité

DOC. CERT. M.E.G.A.  
Emanuele Centemeri

FORMA N. 0 15-05-2005

# M.E.G.A.

CLIENTE  
Customer  
Client

PROVEEDORA DE MATERIALES ANKER  
SA DE CV, AV ADOLFO LOPEZ  
MATEOS 150, COL LAGRANGE.  
SAN NICOLAS DE LOS GARZA, N.L.

CERTIFICATO N. 592977 FOLIO 1  
Certificate N. 592977 Sheet 1  
Certificat N. 592977 Feuille 1  
DATA / Date 23/04/13

CERTIFICATO DI COLLAUDO  
TEST CERTIFICATE  
CERTIFICAT DE CONTROLE

COMPANY  
WITH QUALITY SYSTEM  
CERTIFIED BY DNV  
ISO 9001

ORDINE  
Purchase order  
Commande 301

COMMESA  
Job N. 10356  
Confirmation de commande

PROVA Test Epreuve	MATERIALE Material / Matière	COLATA Heat / Couée	C %	Si %	Mn %	S %	P %	Cr %	Ni %	Mo %	Ti %	Cu %	V %	Al %	CE %
PRNB	ASTM A105/09	0834830/08	0.200	0.280	1.060	0.007	0.010	00.13	00.02	0.015	0.000	0.040	0.004	0.042	0.410
			--->	Nb% = 0.0024										CEs = 0.3767	
UKCF	ASTM A105/10	202148	0.156	0.182	1.049	0.002	0.009	00.11	00.15	0.030	0.000	0.182	0.001	0.031	0.381
			--->	Nb% = 0.001	As% = 0.009	Sn% = 0.009								CEs = 0.3308	
URXF	ASTM A105/10	10/73859	0.185	0.230	0.880	0.003	0.010	00.15	00.05	0.010	0.018	0.170	0.019	0.028	0.382
			--->	Nb% = 0.002	B % = 0.000	Sn% = 0.009								CEs = 0.3317	
V CXN	ASTM A105/11	12/70001	0.200	0.240	0.920	0.003	0.014	00.08	00.05	0.010	0.020	0.140	0.020	0.028	0.387
			--->	Nb% = 0.002	B % = 0.000	Sn% = 0.010								CEs = 0.3533	
VFTN	ASTM A105/11	12/31764	0.200	0.210	0.940	0.009	0.009	00.10	00.06	0.010	0.017	0.110	0.010	0.024	0.391
			--->	Nb% = 0.001	B % = 0.000	Sn% = 0.006								CEs = 0.3567	
V TTS	ASTM A105/11	12/72941	0.180	0.210	0.900	0.008	0.012	00.11	00.05	0.020	0.016	0.180	0.024	0.025	0.376
			--->	Nb% = 0.002	B % = 0.000	Sn% = 0.010								CEs = 0.330	

PROVA Test Epreuve	PROVETTA Test specimen / Eproutette		SCHIARIMENTO MPa ≥ Yield strength Limite d'élasticité	ROTTURA MPa ≥ Tensile strength Rupture	ALLUNGAMENTO % ≥ Elongation Allongement	CONTRAZIONE % ≥ Reduction of area Striction	DUREZZA HB Hardness Dureté	PIEGA Bend test Plage	SCHIACCI. Flat. test Aplattiss.	RESILLENZA Impact test / Résilience			
	SEZIONE Section / Sect.	LUNGHEZZA Length / Longueur								UNITÀ MIS. UM Unit	TIPO Type	T °C Test temp	VALORE / Value / Données
PRNB	30.6	25.0	303.0	523.0	32.3	69.2	143-146			J	KV	0	44-34-40
UKCF	30.6	25.0	301.0	523.0	32.2	68.9	143-149			J	KV	0	36-48-46
URXF	30.7	25.0	317.5	526.0	34.8	62.4	145-149			J	KV	0	47-38-69
V CXN	30.9	25.0	309.0	519.5	35.7	61.3	144-146			J	KV	0	76-77-126
VFTN	30.5	25.0	276.5	500.6	41.2	74.0	146-148			J	KV	0	89-113-83
V TTS	30.4	25.0	287.5	490.1	36.9	61.5	143-145			J	KV	0	82-86-93

PROVA Test Epreuve NOTE / Remarks / Notes EN10204-2005/3.1

FORMA Shape / Forme : 1 = Ø 2 = □

PRNB	ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.		/CERT.11017.MEGA/I*573340MEGA	
UKCF	ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.		/CERT.11686.MEGA/I*580723MEGA	
URXF	ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.		/CERT.11861.MEGA/I*582981MEGA	
V CXN	ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.		/CERT.12153.MEGA/I*586197MEGA	
VFTN	ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.		/CERT.12502.MEGA/I*589778MEGA	
V TTS	ELECT.FURNACE-NORMALIZED AT 880 C COOLED IN STILL AIR.		/CERT.12692.MEGA/I*591643MEGA	

PROVA Test Epreuve	POS. Item Pos.	QUANTITÀ Quantity Quantité	CODICE CLIENTE Customer code Code client	DESCRIZIONE / Description / Description	VISUAL AND DIMENSIONAL
PRNB	002	631	*	90 DEG. ELBOW S. 3000 NPT A/SA105N 3/8	OK
UKCF	002	2700	*	90 DEG. ELBOW S. 3000 NPT A/SA105N 3/8	OK
URXF	005	720	*	90 DEG. ELBOW S. 3000 NPT A/SA105N 1	OK
V CXN	005	660	*	90 DEG. ELBOW S. 3000 NPT A/SA105N 1	OK
VFTN	005	120	*	90 DEG. ELBOW S. 3000 NPT A/SA105N 1	OK
V TTS	007	800		90 DEG. ELBOW S. 3000 NPT A/SA105N 1.1/2	OK

NOTE / Remarks / Notes

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

ENTE UFFICIALE DI COLLAUDO  
Inspection Authority  
Service Inspection Official

CAPO COLLAUDO  
Chief-Inspector/IST  
Responsable assurance qualité

DOC. CERT. M.E.G.A.  
Emmanuel Centemeri

FORMA - FINE - Rev. 01 - 15-06-2009

# M.E.G.A.

CLIENTE  
Customer  
Client

PROVEEDORA DE MATERIALES ANGER  
SA DE CV, AV ADOLFO LOPEZ  
MATEOS 150, COL LAGRANGE,  
SAN NICOLAS DE LOS GARZA, N.L.

CERTIFICATO N. 592977 FOLIO 2  
Certificate N. Sheet  
Certificat N. Feuille

DATA / Date 23/04/13

CERTIFICATO DI COLLAUDO  
TEST CERTIFICATE  
CERTIFICAT DE CONTROLE

COMPANY  
WITH QUALITY SYSTEM  
CERTIFIED BY DNV  
ISO 9001

ORDINE  
Purchase order  
Commande 301

COMMESSA  
Job N.  
Confirmation de commande 10356

PROVA Test Epreuve	MATERIALE Material / Matière	COLATA Heat / Coudée	C %	SI %	Mn %	S %	P %	Cr %	Mo %	Ti %	Cu %	V %	Al %	CE %	
NNCX	ASTM A105/05	005094	0.160	0.210	1.200	0.003	0.008	00.10	00.08	0.020	0.000	0.090	0.001	0.000	0.395
			--->	Nb % = 0.006	N % = 0.000									CEs = 0.360	
UDSS	ASTM A105/10	11/35257	0.220	0.230	0.960	0.013	0.016	00.14	00.07	0.010	0.009	0.180	0.000	0.010	0.426
			--->	Nb % = 0.000	B % = 0.000	Sn % = 0.015								CEs = 0.380	
VTSS	ASTM A105/11	12/72372	0.190	0.220	0.880	0.009	0.015	00.10	00.04	0.010	0.019	0.160	0.017	0.026	0.375
			--->	Nb % = 0.002	B % = 0.000	Sn % = 0.009								CEs = 0.3367	
VNBX	ASTM A105/11	12/31598	0.195	0.230	0.970	0.010	0.013	00.08	00.03	0.010	0.020	0.110	0.020	0.024	0.387
			--->	Nb % = 0.001	B % = 0.000	Sn % = 0.006								CEs = 0.3567	
VNFD	ASTM A105/11	12/70055	0.195	0.200	0.970	0.005	0.013	00.09	00.04	0.010	0.019	0.130	0.001	0.027	0.388
			--->	Nb % = 0.002	B % = 0.000	Sn % = 0.008	N % = 0.0099							CEs = 0.3567	
UHRL	ASTM A105/11	14092	0.180	0.220	0.920	0.005	0.007	00.16	00.22	0.070	0.000	0.260	0.002	0.020	0.411
			--->	Nb % = 0.001	B % = 0.000	Sn % = 0.012								CEs = 0.3333	

PROVA Test Epreuve	PROVETTA Test specimen / Epreuve		SMEZZAMENTO MPa ≥ Yield strength Limite d'élasticité	ROTTURA MPa ≥ Tensile strength Rupture	ALLUNGAMENTO % ≥ Elongation Allongement	CONTRAZIONE % ≥ Reduction of area Striction	DUREZZA HB Hardness Dureté	PIEGA Bend test Pliage	SCHIACC. Flatt. test Aplattiss.	RESILLENZA Impact test / Résilience			
	SEZIONE Section / Sect.	LUNGHEZZA Length / Longueur								UNITA' MIS. UM UNIT	TIPO Type	T. °C Test temp	VALORE / Value / Donnée
NNCX	1	122.6	50.0	288.0	31.1	67.6	142-158			J	KV	0	48-52-58
UDSS	1	25.8	25.0	303.6	30.8	51.4	147-149			J	KV	0	54-42-46
VTSS	1	60.3	35.0	303.9	36.3	62.7	148-150			J	KV	0	69-63-105
VNBX	1	122.6	50.0	354.0	30.0	52.0	149-156			J	KV	0	88-92-96
VNFD	1	121.0	50.0	306.3	33.0	63.7	148-150			J	KV	0	71-66-59
UHRL	1	60.4	35.0	289.6	38.1	65.9	148-150			J	KV	0	124-105-89

PROVA Test Epreuve NOTE / Remarks / Notes EN10204-2005/3.1

\* FORMA Shape / Forme : 1 =  2 =

NNCX	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.627969.06 ASFO*535583 MEGA*	
UDSS	ELECT. FURNACE-NORMALIZED AT 920 C COOLED IN STILL AIR. /CERT.260+284.CARLOTTO*578403MEGA	
VTSS	ELECT. FURNACE-NORMALIZED AT 880 C COOLED IN STILL AIR. /CERT.12672.MEGA/I*591431MEGA	
VNBX	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.12303.MEGA/I*587499MEGA	
VNFD	ELECT. FURNACE-NORMALIZED AT 920 C COOLED IN STILL AIR. /CERT.933+942.CARLOTTO*588659MEGA	
UHRL	ELECT. FURNACE-NORMALIZED AT 920 C COOLED IN STILL AIR. /CERT.285.CARLOTTO*586197MEGA	

PROVA Test Epreuve	POS. Item Pos.	QUANTITA' Quantity Quantité	CODICE CLIENTE Customer code Code client	DESCRIZIONE / Description / Description	VISUAL AND DIMENSIONAL
NNCX	008	281	*	90 DEG. ELBOW S. 3000 NPT A/SA105N 2.	OK
UDSS	008	39	*	90 DEG. ELBOW S. 3000 NPT A/SA105N 2	OK
VTSS	008	280	*	90 DEG. ELBOW S. 3000 NPT A/SA105N 2	OK
VNBX	010	168	*	90 DEG. ELBOW S. 3000 NPT A/SA105N 3	OK
VNFD	010	162	*	90 DEG. ELBOW S. 3000 NPT A/SA105N 3	OK
UHRL	011	39	*	90 DEG. ELBOW S. 3000 NPT A/SA105N 4	OK

NOTE / Remarks / Notes

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

ENTE UFFICIALE DI COLLAUDO  
Inspection Authority  
Service Inspection Official

CAPO COLLAUDO  
Chief Inspection Dept.  
Responsable assurance qualité

DOC. CERT. M.E.G.A.  
Emmanuel Centemeri