

FORM P.M.C. Rev. 0 15-05-2003

# M.E.G.A.

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

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

CLIENTE  
 Customer  
 Client

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

ORDINE  
 Purchase order  
 Commanda 257

CERTIFICATO N. 581662 POGGIO 3  
 Certificate N. Sheet  
 Certificat N. Feuille

DATA / Date 18/10/11

COMMESSA 95504  
 Job N.  
 Confirmation de commande

| PROVA<br>Test<br>Epreuve | MATERIALE<br>Material / Matière | COLATA<br>Heat / Coudée | C %          | Si %                 | Mn %  | S %   | P %   | Cr %                                | Ni %  | Mo %  | Ti %  | Cu %  | V %   | Al %                  | CE %  |
|--------------------------|---------------------------------|-------------------------|--------------|----------------------|-------|-------|-------|-------------------------------------|-------|-------|-------|-------|-------|-----------------------|-------|
| UDSC                     | ASTM A105/10                    | 11/34245                | 0.200<br>--> | 0.220<br>Nb% = 0.002 | 0.980 | 0.008 | 0.008 | 00.07<br>Sn% = 0.007                | 00.05 | 0.010 | 0.017 | 0.120 | 0.013 | 0.026<br>CEs = 0.3633 | 0.393 |
| UARB                     | ASTM A105/09                    | 10/74409                | 0.180<br>--> | 0.210<br>Nb% = 0.002 | 0.890 | 0.009 | 0.013 | 00.12<br>B % = 0.000<br>Sn% = 0.011 | 00.06 | 0.020 | 0.020 | 0.180 | 0.017 | 0.029<br>CEs = 0.3283 | 0.375 |
| UNLD                     | ASTM A105/10                    | 202147                  | 0.172<br>--> | 0.177<br>Nb% = 0.001 | 1.045 | 0.003 | 0.010 | 00.12<br>As% = 0.006                | 00.14 | 0.036 | 0.000 | 0.195 | 0.001 | 0.029<br>CEs = 0.3462 | 0.400 |
| UAUD                     | ASTM A105/09                    | 1T-49672                | 0.160<br>--> | 0.330<br>Nb% = 0.000 | 1.010 | 0.007 | 0.010 | 00.07                               | 00.07 | 0.010 | 0.000 | 0.120 | 0.002 | 0.020<br>CEs = 0.3283 | 0.357 |
| URXN                     | ASTM A105/10                    | 202148                  | 0.156<br>--> | 0.182<br>Nb% = 0.001 | 1.049 | 0.002 | 0.009 | 00.11                               | 00.15 | 0.030 | 0.000 | 0.182 | 0.001 | 0.031<br>CEs = 0.3308 | 0.381 |
| URSU                     | ASTM A105/10                    | 10/73991                | 0.190<br>--> | 0.250<br>Nb% = 0.002 | 0.920 | 0.010 | 0.012 | 00.11<br>Sn% = 0.010                | 00.05 | 0.010 | 0.015 | 0.150 | 0.020 | 0.021<br>CEs = 0.3433 | 0.384 |

| PROVA<br>Test<br>Epreuve | PROVETTA<br>Test specimen / Eprocuvette |                                | SNERVAMENTO<br>MPa z<br>Yield strength<br>Limite d'élasticité | ROTTURA<br>MPa z<br>Tensile strength<br>Rupture | ALLUNGAMENTO<br>% z<br>Elongation<br>Allongement | CONTRAZIONE<br>% z<br>Reduction of area<br>Striction | DUREZZA<br>HB<br>Hardness<br>Dureté | PIEGA<br>Bend test<br>Pliage | SCHIACCI.<br>Flat. test<br>Aplattiss. | RESILLENZA<br>Impact test / Résilience |              |                    |                         |             |
|--------------------------|---|--------------------------------|---|---|--|--|-------------------------------------|------------------------------|---------------------------------------|--|--------------|--------------------|-------------------------|-------------|
|                          | SEZIONE<br>Section / Sost.              | LUNGHEZZA<br>Length / Longueur |   |   |  |  |                                     |                              |                                       | UNITÀ MIS.<br>UM                       | TIPO<br>Type | T. °C<br>Test temp | VALORE / Value / Donnée |             |
| UDSC                     | 1                                       | 25.5                           | 25.0  | 300.2   | 498.0  | 29.5   | 52.0                                | 140-144                      |                                       |  | J            | KV                 | 0                       | 83-90-90    |
| UARB                     | 1                                       | 122.7                          | 50.0  | 323.4   | 507.8  | 32.4   | 64.9                                | 146-144                      |                                       |  | J            | KV                 | 0                       | 160-164-150 |
| UNLD                     | 1                                       | 61.0                           | 35.0  | 327.0   | 515.6  | 33.7   | 68.0                                | 156-158                      |                                       |  | J            | KV                 | 0                       | 95-98-68    |
| UAUD                     | 1                                       | 122.7                          | 50.0  | 361.0   | 506.4  | 36.6   | 71.3                                | 154-160                      |                                       |  | J            | KV                 | 0                       | 180-180-174 |
| URXN                     | 1                                       | 30.6                           | 25.0  | 306.9   | 521.7  | 31.8   | 70.5                                | 152-156                      |                                       |  | J            | KV                 | 0                       | 45-52-60    |
| URSU                     | 1                                       | 30.4                           | 25.0  | 334.5   | 527.5  | 35.4   | 73.4                                | 151-155                      |                                       |  | J            | KV                 | 0                       | 88-74-84    |

PROVA Test Epreuve NOTE / Remarks / Notes EN10204/3.1

|      |   |
|------|---|
| UDSC | ELECT. FURNACE-NORMALIZED AT 920 C COOLED IN STILL AIR. /CERT.274+284.CARLOTTO*578403MEGA   |
| UARB | ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.40393.RIVA*574947MEGA*        |
| UNLD | ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.152500.ACC.VENETE*578712MEGA* |
| UAUD | ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.AS18765/11.LEALI*575471MEGA*  |
| URXN | ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.11656.MEGA/I*580320MEGA       |
| URSU | ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.11569.MEGA/I*579599MEGA       |

| PROVA<br>Test<br>Epreuve | PDS.<br>Item<br>Pos. | QUANTITÀ<br>Quantity<br>Quantité | CODICE CLIENTE<br>Customer code<br>Code client | DESCRIZIONE / Description / Déscription | VISUAL AND<br>DIMENSIONAL |
|--------------------------|----------------------|----------------------------------|--|---|---------------------------|
| UDSC                     | 023                  | 100                              |  | TEE S. 3000 NPT A/SA105N 3              | OK                        |
| UARB                     | 035                  | 5250                             |  | COUPLING S. 3000 NPT A/SA105N 1         | OK                        |
| UNLD                     | 044                  | 1000                             |  | HALF COUPLING S. 3000 NPT A/SA105N 1    | OK                        |
| UAUD                     | 050                  | 1000                             |  | CAP S. 3000 NPT A/SA105N 3/4            | OK                        |
| URXN                     | 079                  | 3750                             |  | 90 DEG. ELBOW S. 3000 SW A/SA105N 3/4   | OK                        |
| URSU                     | 083                  | 500                              |  | 90 DEG. ELBOW S. 3000 SW A/SA105N 2     | OK                        |

NOTE / Remarks / Notes ENTE UFFICIALE DI COLLAUDO Inspection Authority Service Inspection Office! CAPO COLLAUDO Chief Inspection DPT Responsable assurance qualité

MATERIAL ACCORDING TO NACE MRO175 / ISO 15156-1/2/3 Ed.2003 MATERIAL ACCORDING TO NACE MRO103/2007 DOC. CERT. M.E.G.A. Emmanuel Contemeri