

MEGA

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. 593136 FOLGIO 1
Certificato N. Sheet
Certificat N. Feuille

DATA / Date 06/05/13

CERTIFICATO DI COLLAUDO
TEST CERTIFICATE
CERTIFICAT DE CONTROLE

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DNV
ISO 9001

ORDINE 301
Purchase order
Commande

COMMESSA 10356
Job N.
Confirmation de commande

| PROVA Test Epreuve | MATERIALE Material / Matiere | COLATA Heat / Coulee | C % | Si % | Mn % | S % | P % | Cr % | Ni % | Mo % | Ti % | Cu % | V % | Al % | CE % |
|--------------------------|---------------------------------|-------------------------|---------------|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------|-------|-------|-------|-------|-------|------------------------|
| UFFS | ASTM A105/09 | 10/70761 | 0.180 ---> | 0.220 Nb % = 0.001 | 0.870 B % = 0.000 | 0.010 S % = 0.000 | 0.011 Sn % = 0.010 | 0.130 Sn % = 0.010 | 0.060 | 0.010 | 0.015 | 0.220 | 0.020 | 0.021 | 0.375 CE % = 0.325 |
| UHDR | ASTM A105/10 | P3111135731 | 0.180 ---> | 0.170 Nb % = 0.0017 | 1.060 B % = 0.0001 | 0.003 S % = 0.0003 | 0.015 Sn % = 0.000 | 0.115 Sn % = 0.000 | 0.016 | 0.004 | 0.000 | 0.023 | 0.003 | 0.031 | 0.383 CE % = 0.3567 |
| UHRU | ASTM A105/11 | 3167-12 | 0.193 ---> | 0.180 Nb % = 0.003 | 0.930 B % = 0.0003 | 0.005 S % = 0.0003 | 0.004 Sn % = 0.006 | 0.140 Sn % = 0.006 | 0.100 | 0.076 | 0.001 | 0.080 | 0.003 | 0.020 | 0.403 CE % = 0.348 |
| UICF | ASTM A105/10 | 08/74331 | 0.195 ---> | 0.210 Nb % = 0.000 | 0.990 B % = 0.000 | 0.020 S % = 0.000 | 0.020 Sn % = 0.009 | 0.100 Sn % = 0.009 | 0.050 | 0.010 | 0.010 | 0.200 | 0.002 | 0.024 | 0.399 CE % = 0.360 |
| UIFR | ASTM A105/10 | 09/79220 | 0.200 ---> | 0.220 Nb % = 0.002 | 0.880 B % = 0.000 | 0.005 S % = 0.000 | 0.012 Sn % = 0.009 | 0.110 Sn % = 0.009 | 0.060 | 0.010 | 0.021 | 0.180 | 0.015 | 0.025 | 0.389 CE % = 0.3467 |
| UJXD | ASTM A105/11 | 12/72080 | 0.180 ---> | 0.240 Nb % = 0.001 | 0.900 B % = 0.000 | 0.008 S % = 0.000 | 0.015 Sn % = 0.010 | 0.190 Sn % = 0.010 | 0.060 | 0.010 | 0.020 | 0.180 | 0.018 | 0.026 | 0.389 CE % = 0.330 |

| PROVA Test Epreuve | PROVETTA Test specimen / Epreuveville | | SNERVAMENTO MPa z Yield strength Limite d'elasticite | ROTTURA MPa z Tensile strength Rupture | ALLUNGAMENTO % z Elongation Allongement | CONTRAZIONE % z Reduction of area Striction | DUREZZA HB Hardness Durete | PIEGA Bend test Pilage | SCHIACC. Flat. test Aplastiss. | RESILIENZA Impact test / Resilience | | | |
|--------------------------|--|--------------------------------|---|---|--|--|-------------------------------------|------------------------------|--------------------------------------|--|--------------|--------------------|--------------------------|
| | SEZIONE Section / Sect. | LUNGHEZZA Length / Longueur | | | | | | | | UNITA' MIS. UM | TIPO Type | T. °C Test temp | VALORE / Value / Donnees |
| UFFS | 1 | 31.1 | 25.0 | 309.0 | 494.0 | 34.4 | 68.0 | 143-156 | | J | KV | 0 | 106-120-122 |
| UHDR | 1 | 30.7 | 25.0 | 286.9 | 493.5 | 37.3 | 62.6 | 145-149 | | J | KV | 0 | 131-129-120 |
| UHRU | 1 | 30.3 | 25.0 | 330.1 | 559.6 | 35.8 | 68.2 | 155-157 | | J | KV | 0 | 45-32-35 |
| UICF | 1 | 30.6 | 25.0 | 329.0 | 543.0 | 29.9 | 67.5 | 158-165 | | J | KV | 0 | 50-62-60 |
| UIFR | 1 | 30.7 | 25.0 | 325.8 | 503.2 | 34.8 | 61.1 | 144-146 | | J | KV | 0 | 96-77-64 |
| UJXD | 1 | 30.2 | 25.0 | 286.0 | 502.3 | 40.5 | 58.4 | 150-152 | | J | KV | 0 | 171-124-138 |

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

FORMA Shape / Forme : 1 = Ø 2 = □

| | | |
|------|---|--|
| UFFS | ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. | /CERT.11337.MEGA/I*576777MEGA |
| UHDR | ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. | /CERT.11854.MEGA/I*582981MEGA |
| UHRU | ELECT. FURNACE-NORMALIZED AT 920 C COOLED IN STILL AIR. | /CERT.639.CARLOTTO*587004MEGA |
| UICF | ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. | /CERT.10297*10298.METALMECCANICA LOMABRDA*583383MEGA |
| UIFR | ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. | /CERT.11944.MEGA/I*583962MEGA |
| UJXD | ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. | /CERT.12437.MEGA/I*588933MEGA |

| PROVA Test Epreuve | POS. Item Pos. | QUANTITA' Quantity Quantite | CODICE CLIENTE Customer code Code client | DESCRIZIONE / Description / Description | VISUAL AND DIMENSIONAL |
|--------------------------|----------------------|-----------------------------------|--|---|---------------------------|
| UFFS | 103 | 3 | * | TEE S. 3000 SW A/SA105N 1.1/4 | OK |
| UHDR | 103 | 76 | * | TEE S. 3000 SW A/SA105N 1.1/4 | OK |
| UHRU | 030 | 90 | | TEE S. 3000 NPT A/SA105N 3 | OK |
| UICF | 034 | 5400 | * | UNION S. 3000 NPT A/SA105N 3/4 | male+female OK |
| UIFR | 003 | 1200 | | 90 DEG. ELBOW S. 3000 NPT A/SA105N 1/2 | OK |
| UJXD | 003 | 2000 | | 90 DEG. ELBOW S. 3000 NPT A/SA105N 1/2 | OK |

| NOTE / Remarks / Notes | ENTE UFFICIALE DI COLLAUDO Inspection Authority Service Inspection Official | CAPO COLLAUDO Chief Inspection DPT Responsabile assurance-qualite |
|--|---|---|
| MATERIAL ACCORDING TO NACE HR0175 / ISO 15156-1-2-3 Ed.2009 | | DOC. CERT. M.E.G.A. Emmanuel Centemeri |

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, AV ADOLFO LOPEZ
 MATEOS 150, COL LAGRANGE,
 SAN NICOLAS DE LOS GARZA, N.L.

CERTIFICAZIONE 593136 **FOGLIO** 2
 Certificate N. Sheet
 Certificat N. Feuille
DATA / Date 06/05/13

ORDINE 301
 Purchase order
 Commande

COMMESSA 10356
 Job N.
 Confirmation de commande

| PROVA Test Epreuve | MATERIALE Material / Matière | COLATA Heat / Cooled | C% | Si% | Mn% | S% | P% | Cr% | Ni% | Mo% | Ti% | Cu% | V% | Al% | CE% | | | |
|--------------------------|---|---------------------------------------|--|---|--------------------------------|--------------------|--------------------|--|--|-------------|---|--------------------------|----|---|-----|--|--|--|
| PROVA Test Epreuve | PROVETTA Test specimen / Epreuveville | SNERVAMENTO MPa z | ROTTURA MPa z | ALLUNGAMENTO % z | CONTRAZIONE % z | DUREZZA HB | PRESA Bend test | SCHERCC. Flat. test | RESILLENZA Impact test / Résilience | | | | | | | | | |
| | SEZIONE / Sect. LUNGHEZZA / Longueur | Yield strength Limite d'élasticité | Tensile strength Rupture | Elongation Allongement | Reduction of area Striction | Hardness Dureté | Phage | Apertus. | UNITÀ MIS. UM | TPO Type | T. °C Test temp | VALORE / Value / Données | | | | | | |
| PROVA Test Epreuve | NOTE / Remarks / Notes | | | | | | | FORMA Shape / Forme : 1 = <input type="checkbox"/> 2 = <input type="checkbox"/> | | | THIS CERTIFICATE INCLUDES N. 10 SHEETS. | | | | | | | |
| PROVA Test Epreuve | POS. Item Pos. | QUANTITÀ Quantity Quantité | CODICE CLIENTE Customer code Code client | DESCRIZIONE / Description / Description | | | | | | | | | | | | | | |
| | | | | Dimensional check for 45 and 90 deg elbows-tees-crosses-full and half couplings-caps-square-hexagonal and round plugs-hexagonal and flush bushings according to ASME B.16.11 (Threads according to ANSI/ASME B1.20.1) Outlets:ASME B.31.1 & B.31.3 & MSS-SP-97 Seamless swage nipples:BS3799-74 or MSS SP95-86 Flanged olets according to: ASME B.31.1 & B.31.3 & B.16.5 Unions: BS 3799 or MSS-SP-83 Seamless pipe nipples : 836.10-95 or 36.19-85 Material according to : ASTM last Edition (2011 Books) ASME II 2010 ED. Add.2011 The chemical and mechanical values shown on this are correct copy of mill test certificate issued by the steel mill, or by the laboratory which has determined it. Manufacturer approved with certificate n.75/2002/MUC by TUV (certification BODY N.0036) to issue certificate of specific product control in accordance with "PRESSURE EQUIPMENT DIRECTIVE" 97/23/EC (PED) annex 1, paragraph 4.3. Equipments used: Tensile test GALDABINI QUASAR 250 serial VA06 / Impact test CERMAC JB-W500 serial 04031 / Hardness test Wolpert Dia Testor ZRC serial n.8900298/0001 / Chemical analysis spectrometer BAIRD DV4 serial P017 (ASTM E415 and E1086). Marking according to MSS SP25 Tensile specimens with gage length equal to 4D has been used. FLANGED NIPOLET: when not specified in description length = 150mm | | | | | | | | | | | | | | |
| | | | | NOTE / Remarks / Notes | | | | | | | ENTE UFFICIALE DI COLLAUDO Inspection Authority Service Inspection Office | | | CAPO COLLAUDO Chief Inspector Responsable assurance qualité | | | | |
| | MATERIAL ACCORDING TO NACE MR0175 / ISO 15156-1-2-3 Ed.2009 | | | | | | | | | | DOC. ZERT. M.E.G.A. Emanuele Centemeri | | | | | | | |